

# RIIO-T3

## Environmental Action Plan



**National Grid Electricity  
Transmission's Business Plan**

December 2024

## Purpose of this Annex

This document sets out our Environmental Action Plan (EAP) and the role we play in supporting the low carbon energy transition. The document includes insights on our track record, the key opportunities and challenges ahead, how we plan to address these through our RIIO-T3 commitments and details of our specific initiatives aligned to the requirements of Ofgem.

The initiatives in our EAP have been built from analysis of the potential environmental impacts of our network without intervention and assessment of options that identify the value for money in reducing our environmental impact. Our major initiatives are described in more detail in associated Engineering Justification Papers.

## How to navigate this Annex

The table below provides a short summary of each section and where information requested in the Business Plan Guidance has been provided.

Section	Detail	BPG reference <sup>1</sup>
1	<b>Executive Summary</b>	
2	<b>The role we play in supporting the low carbon energy transition</b> – our role as a responsible business including alignment to wider business planning plus the challenges and opportunities we face.	4.50
3	<b>Our RIIO-T2 environmental track record</b> – our strong performance to date in RIIO-T2 and forecast against our commitments.	4.57, 4.60
4	<b>A sustainable network in RIIO-T3</b> – our EAP and commitments for RIIO-T3 plus potential environmental impact without intervention.	4.50 – 4.60
5	<b>Our investment plan</b> – summary of planned investments to meet environmental commitments and carbon reduction initiatives	4.49, 4.55
6	<b>Developing our environmental action plan</b> – methodology used in EAP development and analysis of options that consider value-for-money, trade-offs, and the views of our stakeholders and customers	4.50, 4.53, 4.55, 4.56
7	<b>Conclusion</b>	
Appendix A	<b>Biodiversity Net Gain (BNG) and wider environmental and social benefits Strategy</b> – additional detail on our BNG approach including investment drivers, optioneering, funding and uncertainty	4.58
Appendix B	<b>Summary of stakeholder feedback</b> – summarises the range of internal and external stakeholder input that has informed our plan	4.50, 4.54
Appendix C	<b>Industry benchmarking</b> –how we have conducted industry benchmarking to ensure our plan is ambitious and reasonable	
Appendix D	<b>Sustainability frameworks and standards</b> – the list of frameworks and standards that we reviewed in the development of this EAP	
Appendix E	<b>Ofgem’s EAP Minimum Requirements</b> – how our plan covers all Ofgem’s minimum requirements	4.53 – 4.59

<sup>1</sup> These are the BPG requirements relevant to this Annex. These requirements may also be addressed in other business plan submission documents.

Section	Detail	BPG reference <sup>1</sup>
Appendix F	<b>EAP targets optioneering</b> – options considered for target setting	4,50, 4.55 – 4.59
Appendix G	<b>Environmental Risks Analysis</b> – our approach to environmental risk and summary tables	

## Our RIIO-T3 objectives and commitments

Our plan is anchored around three ambitions, each underpinned by clear objectives, commitments and success measures for the RIIO-T3 period. These allow us to target stretching levels of performance and track progress. The specific ambitions, objectives and commitments that are most relevant to this annex are shown below:

	<b>Our Plan Objectives</b>	<b>Our Commitments: We will:</b>	<b>Success Measure / Target</b>
B4	Play a leading role in accelerating net zero and driving a nature positive future, including by reducing our own emissions and environmental impact	<p>B4.1 ▶ Reduce our own carbon emissions: Deliver scope 1, 2 and 3 emissions reductions in line with a 1.5-degree Science Based Target (SBT)</p> <p>B4.2 ▶ Ensure that 80% of our supply chain have formally committed to the same SBT as us</p> <p>B4.3 ▶ Drive sustainable operations through reduction of SF6 emissions, energy use in our operational estate, and fleet vehicle emissions</p> <p>B4.4 ▶ Deliver our construction projects as low carbon intensity as possible, as set out in our Low Carbon Infrastructure Roadmap and Invest in carbon compensation projects, that also deliver social and/or nature benefits from constructing our infrastructure</p> <p>B4.5 ▶ Reduce emissions across our corporate property office estate in pursuit of our net zero ambition</p> <p>B4.6 ▶ Improve our circular economy maturity levels, reduce waste and recycle/re-use more content in construction</p> <p>B4.7 ▶ Deliver Biodiversity Net Gain (Net Biodiversity Benefit in Wales) alongside wider environmental and societal benefits</p> <p>B4.8 ▶ Seek to deliver marine improvements for projects impacting the marine environment and work with grantors to deliver nature connectivity.</p> <p>B4.9 ▶ Disclose our nature-related risks and opportunities, and work with other transmission owners and common supply chain to manage nature and ecological risks</p> <p>B4.10 ▶ Assess our water footprint and work with industry and our supply chain to identify opportunities to improve water use and minimise wastewater generation</p> <p>B4.11 ▶ Build on our certified environmental management system to reduce oil contamination risk through improved asset management and using alternatives to oil filled installations where viable</p>	<p>▶ 50% reduction in scope 1 and 2 emissions from a 2018/19 baseline</p> <p>▶ Contribute to the National Grid Group Scope 3 emissions reduction target of 37.5% from 2018/19 baseline by 2033</p> <p>▶ 80% of our supply chain partners committed to a Science-Based emission reduction target by 2031</p> <p>▶ 50% reduction in SF6 emissions by 2030 from a 2018/19 baseline</p> <p>▶ 20% reduction in substation energy use by 2031</p> <p>▶ 100% zero emission fleet purchases for light duty vehicles by 2031</p> <p>▶ 50% low-emission concrete by 2030</p> <p>▶ 50% low emission steel by 2030</p> <p>▶ Phase out of diesel generators by 2028 and work towards electrification plan by 2035</p> <p>▶ Net zero offices as per the UK Green Building Council (UKGBC pathway)</p> <p>▶ Achieve "engaged" level in BS8001</p> <p>▶ Zero avoidable waste in construction by 2030</p> <p>▶ 10% recycled / reused content in major construction projects by 2031</p> <p>▶ 10% or greater Biodiversity Net Gain alongside wider environmental and societal benefits for all developments requiring formal planning or consenting</p> <p>▶ 10% or greater biodiversity enhancement for voluntary non-statutory construction projects plus wider environmental and societal benefits</p> <p>▶ Develop a marine enhancement and restoration strategy</p> <p>▶ Enablement of Local Nature Recovery Strategies (LNRS)</p> <p>▶ Annual Report on progress</p> <p>▶ Work with supply chain to set reduction targets</p> <p>▶ Improved understanding of m<sup>3</sup> footprint across the value chain</p> <p>▶ Certified ISO 14001 Management System</p>

# Contents

<b>1 Executive Summary</b>	<b>6</b>
<b>2 The role we play in supporting the low carbon energy transition</b>	<b>8</b>
2.1 Our RIIO-T3 business plan	8
2.2 Our approach to responsible business	8
2.3 Delivering a fair transition	9
2.4 The challenges and opportunities for the low-carbon energy transition	9
2.5 Our commitment to the United Nations Sustainable Development Goals	11
<b>3 Our RIIO-T2 environmental track record</b>	<b>15</b>
3.1 Net zero carbon	15
3.2 Sustainable use of resources	19
3.3 Nature positive	19
3.4 Leadership for change	20
<b>4 A sustainable network in RIIO-T3</b>	<b>22</b>
4.1 Our Vision	22
4.2 Our strategic framework	22
4.3 Our environmental priorities	24
4.4 Potential environmental impacts in RIIO-3 without intervention	40
4.5 Social sustainability and our communities	43
4.6 A step change from RIIO-T2 to RIIO-T3	47
4.7 Benefits, outcomes and deliverables	48
4.8 There are a number of dependencies to achieving our targets	49
4.9 Reporting progress against our commitments	49
4.10 Long-term targets, beyond the RIIO-3 period	50
<b>5 Our investment plan</b>	<b>52</b>
5.1 Environmental sustainability RIIO-T3 costs	52
5.2 Our initiatives	53
<b>6 Developing our environmental action plan</b>	<b>57</b>
6.1 A comprehensive review of the significant environmental impacts of our network	57
6.2 Ofgem baseline expectations	59
6.3 An assessment of the external landscape	61
6.4 Benchmarking and alignment to global frameworks	66
6.5 Collaboration with other transmission networks	69
6.6 Target optioneering	68
<b>7 Conclusion</b>	<b>70</b>
<b>Appendix A - Biodiversity Net Gain (BNG) and wider environmental and social benefits Strategy</b>	<b>71</b>
<b>Appendix B - Summary of stakeholder feedback</b>	<b>85</b>
<b>Appendix C - Industry benchmarking</b>	<b>92</b>
<b>Appendix D - Sustainability frameworks and standards</b>	<b>97</b>
<b>Appendix E - Ofgem's EAP Minimum Requirements</b>	<b>99</b>
<b>Appendix F - EAP targets optioneering</b>	<b>110</b>
<b>Appendix G - Environmental Risks Analysis</b>	<b>127</b>

## List of figures

Figure 1 Delivering our vision through our strategic priorities	9
Figure 2 United Nations Sustainable Development Goals	12
Figure 3 2021-2026 Environmental Action Plan	15
Figure 4 FY24 Annual Environmental Report Highlights	15
Figure 5 Scope 1 and 2 business carbon footprint (excluding transmission losses)	16
Figure 6 FY24 Scope 1 and 2 emissions (excluding losses) breakdown	16
Figure 7 Number of commercial vehicles replaced with ZEVs (cumulative)	17
Figure 8 Scope 3 emissions breakdown (tCO <sub>2</sub> e)	18
Figure 9 Enhancement of non-operational land (%)	19
Figure 10 RIIO-T3 EAP framework.	23
Figure 11 RIIO-T3 scopes 1, 2 emissions trajectories (excluding losses)	25
Figure 12 Types of IIG available in transmission and GWP	27
Figure 13 SF6 emissions trajectory without intervention	41
Figure 14 Social sustainability framework	43
Figure 15 Types of compensation projects considered	45
Figure 16 External dependencies	49
Figure 17 RIIO-T2 Annual Environmental Reports	50
Figure 18 Our proposed environmental sustainability RIIO-T3 costs	52
Figure 19 Carbon forecast for construction programme based on baseline and pipeline view	56
Figure 20 Environmental Action Plan methodology	57
Figure 21 NGET environmental aspects lifecycle and areas of control	57
Figure 22 NGET's highest impact/ highest risk environmental impacts	57
Figure 23 NGET's highest impact/ highest opportunity environmental impacts	58
Figure 24 Ofgem EAP minimum requirements	60
Figure 25 summarises the electricity network outcomes that the public prioritises.	61
Figure 26 UK public electricity network priorities	62
Figure 27 EAP stakeholder engagement process	64
Figure 28 Public priorities for a modern electricity network	74
Figure 29 Environmental net gain delivery pathways	79
Figure 30 Organisations commitments to net zero	92
Figure 31 Organisations' commitments to nature and BNG	93
Figure 32 Organisations' commitments to resources and waste management	95
Figure 33 Current understanding of maturity levels	99
*Figure 34 Risk Score Matrix	130

## List of tables

Table 1 Our contribution to the UN Sustainable Development Goals	13
Table 2 Our transmission losses performance	17
Table 3 Resource and waste performance	19
Table 4 Incident and oil top up performance	19
Table 5 Low-carbon construction breakdown of costs	55
Table 6 Environmental consultations	64
Table 7 Acting on ISG feedback.	65
Table 8 UK transmission owner sectoral commitments	67
Table 9 Environmental Action Plan trade-offs	69
Table 10 options consideration	77
Table 11 Summary of stakeholder engagement channels and feedback	85
Table 12 list of frameworks and standards that we reviewed in the development of this EAP.	97
Table 13 NGET's maturity levels against Ofgem's minimum expectation	100
Table 14 Optioneering summary	110
Table 15 Environmental Risk Analysis	127

In preparing our proposed Environmental Action Plan, we have worked with *Sustainability First*, as a respected third-party NGO, to provide a sense check of our proposals.

# 1. Executive Summary

## Our role

At National Grid Electricity Transmission (NGET), our role as a responsible business is at the heart of everything we do. We need to build a future-ready transmission network that will serve society, protect the environment and underpin sustainable economic growth for decades to come. Whilst doing this we must operate in a sustainable way.

This means reducing our own carbon emissions and making a positive impact to nature and the environment, which means going further than just reducing our direct environmental impacts. It is the right thing to do – for society, the environment, and our business. Our consumer research tells us that protecting and improving wildlife and natural environments is one of the top five priorities<sup>2</sup>.

We have a strong track record. We were among the first transmission networks to build the UK's first SF<sub>6</sub> free 400kV gas insulated busbar in 2017 at Sellindge. We delivered the world's largest earth friendly concrete pour at our London Power Tunnels (LPT2) project. Our work with our Stakeholder Advisory Group in biodiversity net gain and targeted conservation actions has been recognised by David Attenborough.

## Our approach

This annex sets out our approach to making a positive contribution to nature and minimising our environmental impacts. It also sets out the specific environmental targets we intend to achieve by 2030/31.

Sustainability will remain at the front and centre of our operations. The changes we are proposing to our Environmental Action Plan in RIIO-T3 will support the energy transition in a way that achieves **sustainable operations** and **contributes to a nature positive future**, whilst being **respectful of planetary boundaries**.

Our plan builds on the step change we have made during the RIIO-T2 period and the foundations of our ISO14001 accredited environmental management system. Our plan responds to the accelerating global environmental agenda, UK net zero targets, legislative requirements and stakeholder expectations.

To deliver our Environmental Action Plan (EAP) **we will be seeking funding to invest £588.4m over the RIIO-T3 period**<sup>3</sup>. These costs are embedded within our business plan submission to deliver our environmental and sustainability goals. Our responsible approach to business will benefit current and future consumers by reducing greenhouse gas emissions and enhancing the natural environment whilst supporting the local communities that are impacted by our work.

Our EAP focuses on three environmental priorities: **Net zero, nature positive** and **one planet living**.

**Net zero:** We are supporting long-term, national decarbonisation goals, while continuing to manage our business and supply chain emissions responsibly. To decarbonise our own operations, we have set a Science-Based Target (SBT) in line with keeping global warming to 1.5 degrees. This means we are committing to a 50% reduction in our scope one and two emissions from a 2018-19 baseline.

Alongside decarbonising our direct operations, we will also work more closely with our supply chain to influence their stance and commitments to the environment. By setting standards and stretching goals, we can directly influence how manufacturers, suppliers, constructors, and service providers respond and make changes to their operations. We are committed that 80 per cent of our supply chain partners (by emissions) will have set their own Science-Based emission reduction target by 2031. We will also use our scale and role at the heart of the energy industry to influence the development and uptake of low-carbon alternatives to construction resources such as concrete, steel and diesel.

**Nature positive:** To respond to the global biodiversity crisis, we are taking a proactive approach to the way we manage our land and the impact of our activities on the natural environment.

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<sup>2</sup> Yonder Consulting, "Priority energy transition outcomes" quantitative survey, November 2023

<sup>3</sup> Excludes Biodiversity Net Gain (BNG) costs

Biodiversity Net Gain (BNG) is a development approach that can contribute to halting and reversing biodiversity loss by leaving the natural environment in a measurably better state than before. We will use our mandatory 10 per cent BNG requirements as a catalyst to deliver wider environmental and societal benefits, working with strategic partners and communities to deliver large-scale actions aligned to nature recovery strategies.

There is increasing recognition of the need for greater action to restore the marine environment in the face of a continued decline in marine biodiversity. This is important for us in RIIO-T3 as we will be increasing our offshore grid four-fold. In the next five years we will look at marine enhancement and restoration as a new priority. Our aim will be to protect species and habitats where they currently exist and to remove any pressures to allow natural recovery where a feature has been lost or damaged before active restoration is considered.

**One planet living:** To contribute to limiting pollution and better managing the use of Earth's finite resources, we are altering our approach to the consumption of resources.

Current electricity transmission construction practices involve large amounts of steel, concrete and copper conductor. Replacing traditional construction materials with more sustainable choices and embedding circular design principles at design and in procurement strategies can help deliver a more resource-efficient future. We will continue to fund innovative new technologies – such as new composite conductors which are less affected by sagging and can reduce the number of steel pylons we need to build on new transmission lines.

We have built a strong foundation. We have two asset refurbishment centres and two oil management units which reduce waste and enable reuse, through the refurbishment and reconditioning of equipment and oil. We will continue to explore further opportunities for circularity and build on this deep in-house capability. We will continue to explore further opportunities for circularity.

As well as managing our environmental risks, we will take actions to reduce the potential for risk in the first place. For example: evolving our approach to landfill diversion and recycling targets to focus on eliminating avoidable waste, material management and circular economy; and turning to cleaner alternatives to oil where available and using reconditioning innovations.

## Conclusion

In this EAP we make a number of commitments to protect and enhance the environment across three priority areas, building on our strong track record. Our plan reflects our stakeholders' priorities and is realistic in view of the growth and transformation required in our network to accelerate the connection of renewable energy.

Our plan is aligned to international action and ambitions by reflecting the United Nations Sustainable Development Goals. We will review our plan every year, as we have in the last five years. We will continue to refine and improve our EAP if there are new policy changes, or if the science tells us we need to act faster, aligned with our core purpose of building the future net zero network.



## 2. The role we play in supporting the low carbon energy transition

At National Grid, our vision is to be at the heart of a clean, fair, and affordable energy future.

Creating a clean, fair, and affordable energy future is what society demands and what we demand of ourselves. It's the right thing to do for our people and business, our customers, and the future of the planet.

- Clean, because we have a critical role to play in tackling climate change, leading the way to net zero.
- Fair, because we want to enable the energy transition for all, making sure that no one gets left behind.
- Affordable, because everyone should be able to pay for all their essential energy needs.

### 2.1. Our RIIO-T3 business plan

The UK Government has set ambitious targets to make Britain a clean energy superpower and to decarbonise the power sector by 2030. This is an unprecedented transformation of our energy system and will require an accelerated effort across government and the private sector.

Our RIIO-T3 Business Plan sets out the essential next steps towards that future. On average, we are more than doubling the capacity of connections delivered for our customers per year across RIIO-T2 compared to RIIO-T1, and we expect to more than double this rate again in RIIO-T3. This will enable greater connectivity of renewable energy and supporting the decarbonisation of transport and heat.

**Our ambitions for RIIO-T3: Deliver the transmission network needed for Great Britain's future growth and decarbonisation, and do the right thing for our consumers, communities and the environment**

- The new supergrid will require interconnected network infrastructure in new places – both onshore and under the sea.
- 35GW of generation capacity will be connected compared to 15GW in RIIO-T2.
- 60 major new network expansion projects identified by the National Energy System Operator (NESO) many of which are currently progressing at pace.

**Our objective for RIIO-T3: Play a leading role in accelerating net zero and driving a nature positive future, including by reducing our own emissions and environmental impact**

National Grid's role as a responsible business also means we have a responsibility to maximise the environmental and social value created through our delivery of new infrastructure to leave a positive legacy for our communities that will help them to thrive and support a sustainable future.

The priorities and targets we have proposed in section 4 of this Annex will ensure that we deliver on our ambition to deliver the new supergrid required to support the UK government's ambition in a way that maximises environmental and social value and leaves a positive legacy.

### 2.2. Our approach to responsible business

Sustainability is at the heart of National Grid's business strategy, as evidenced by our overarching commitment to enabling a decarbonised energy network. However, our consumers and the public expect us to make this transition in a responsible manner. They are looking for high standards of sustainability, and employees want to work for businesses with a high quality of work and a clear moral purpose. We ensure our vision is incorporated in all that we do at every level.

Refreshed in 2023, this starts with our Group [Responsible Business Charter](#) (RBC) which outlines our commitments to responsible business across three pillars: our environment, our customers and communities, and our people.

**Figure 1 Delivering our vision through our strategic priorities**



These fundamentals are embedded within our strategic priorities (see figure 1 above). These serve as the framework through which we develop our transformation plans and performance contracts. Our transformation plans define our long-term goals, critical initiatives, and change roadmaps for each of our businesses. Our performance contracts set out the annual outcomes for transformation initiatives and business-as-usual goals for our businesses and functions. Performance contracts are used to align team and individual objectives, so that there is clear line of sight between the work of each individual and our strategic priorities.

At National Grid, we apply responsible business as a principle through our values every day, by **doing the right thing, finding a better way, and making it happen.**

### 2.3. Delivering a fair transition

Whilst we work to achieve net zero and deliver a clean and affordable future energy system, we must also work to deliver that fairly, equitably, and 'justly'. We must do this whilst still considering: our role in developing, operating, and maintaining critical national infrastructure, the complexities of what fairness means to different communities and the risks associated with leaving people and communities behind.

Historically, different communities have been affected by the energy industry differently. As we make this transition to clean energy, we know new infrastructure will have an impact on communities, and that consumers in vulnerable situations will need support along the way.

We believe that we have a responsibility to help society share in the benefits of a fair transition to a net zero future, whether that is helping people in education today to become the energy problem-solvers of tomorrow, supporting consumers to use energy more efficiently, or tackling climate change by targeting net zero for our own emissions by 2050.

### 2.4. The challenges and opportunities for the low-carbon energy transition

Clean power generation is front-and-centre of the UK's strategy to reach net zero by 2050. Burning fossil fuels to create electricity has long been a major contributor in the emission of greenhouse gases (GHGs) into our atmosphere. As renewable energy sources emit low or no carbon emissions, they are vital in the race to tackle climate change.

There are huge opportunities & challenges ahead. The scale of the transformation required in our network and business requires big change. If done responsibly, the transition offers immense

opportunities: emissions reductions, economic growth, job creation, energy security, lower bills. It will help the UK keep its place in the world stage and will deliver a complete system transformation and a lasting legacy for present and future generations.

However, if done irresponsibly, we risk species loss, ecosystem collapse, and our efforts to mitigate climate change may end up damaging nature and delivering unintended consequences to communities. We must learn lessons from past energy transitions, such as the transition from coal-fire powered plants where it had a significant impact on workers and communities. There is a plethora of opportunities, but also numerous challenges ahead. Below we outline some of the challenges and opportunities that the low-carbon energy transition (LCET) presents to our business.

## 2.4.1. Challenges of the low carbon transition

### 2.4.1.1. Progress towards reaching net zero in the UK

The Climate Change Committee (CCC) 2024 has assessed that the UK Government is off-track to reach its 2030 emissions target. The new Government has an opportunity to course-correct, but it will need to be done as a matter of urgency to make up for lost time. The UK will now need to see ambitious action not just in the energy sector, but also across transport, buildings, and industry.

As the transition to a clean energy future progresses, we recognise the importance of companies like ours in making carbon reductions, not just through the connection of clean energy, but across our operations and the way we design and construct new infrastructure. Net zero targets are unachievable without decarbonisation of materials supply chains and infrastructure delivery.

### 2.4.1.2. Lack of support for new infrastructure

Our electricity networks need to be fit for the future; carrying more clean energy from where it's generated to where it's needed. To connect clean energy that's generated offshore, new transmission lines will be needed to bring it inland to be used by homes and businesses. In the UK, The Great Grid Upgrade is helping to connect more clean, affordable energy to homes and businesses across England and Wales, in the largest overhaul of the electricity grid in generations.

We are mindful of the critical role that local communities play in hosting net zero infrastructure. Communities can experience disruption and wide-ranging impacts including, but not limited to, visual impacts when hosting new transmission infrastructure. This can contribute towards opposition to projects and project delays. We must bring the public and communities along with us throughout this journey.

One of the biggest challenges we face is making communities active and willing participants in the energy transition. We are deeply committed to engaging and consulting on our projects but, more than that, to ensuring that local communities are appropriately recognised for the role they play in delivering the energy transition for the benefit of all.

### 2.4.1.3. Accelerating the energy transition in a way that doesn't harm the environment

The transition for a more sustainable, net zero future needs to happen fast in an environmentally responsible way. This responsibility is taken seriously at National Grid. We recognise our duty to create transmission infrastructure that will become a lasting legacy for the generations to come and at Group level, our Environmental Operations Policy sets out our commitments for environmental sustainability.

We have an Environmental Management System (EMS), certified to ISO14001:2015, that provides us with the framework to:

- Manage our environmental impacts.
- Meet the requirements of applicable regulations, and
- Assist in the continual improvement of our environmental performance.

All our EAP commitments are embedded within our EMS to ensure they are achieved at a practical level by having the right procedures and trained staff to operate them.

## 2.4.2. Opportunities of the low carbon energy transition

#### 2.4.2.1. Sustainability is good business

We see the value in operating in an environmentally responsible way. By embedding sustainability in our business strategy and using it as a lens to guide the way we do business, we are driving more efficient performance and future-proofing our organisation within a changing environmental and social landscape.

Successful businesses often have sound environmental practices. A study by McKinsey (2023) shows that outperformance in environmental, social and governance seems to boost outperformance. Companies that achieve better growth and profitability than their peers while improving sustainability and Environmental, Social, Governance (ESG) strategies, outgrow their peers in growth and profit and exceed them in shareholder returns.

At National Grid, the work we do matters. We're driven by a clear mission to move the energy sector forward and lead the transformation towards a greener future. We need people who are passionate about tackling the climate crisis to join us on our journey to achieve the UK's ambition to be net zero by 2050. We know sustainability attracts and engages top talent, achieves better growth and will make us a more profitable organisation.

#### 2.4.2.2. Supporting wider supply chain decarbonisation

Collaboration is essential to scale transformation to net zero by 2050. Actions across the value chain are required to achieve maximum impact; there is no single action which will meet the challenge in isolation. Our plan is ambitious, and we are dependent on our supply chain to deliver core aspects of our plan. We must work in collaboration with our supply chain to support them and bring them along on this journey with us, ensuring that smaller suppliers are not left behind. Supply chain can also provide innovation and provide global best practice.

We will continue to be a partner of the Supply Chain Sustainability School to facilitate this. To enable this transition of our supply chain, we will require increased resources within supply chain management in our businesses. Please see Annex A03: Workforce and Supply-Chain Resilience Strategy for further information.

Sound carbon management practices are a key component of the evaluation we carry out when assessing the contractors, we work with. They are essential for us to improve our scope 3 emissions and we work with them to achieve carbon reduction targets on all our construction projects. Chairing a bi-monthly Contractors Sustainability Forum helps to keep our supply chain informed and engaged with a consistent approach in achieving our mutual carbon goals.

#### 2.4.2.3. Innovating for a clean energy transition

The transition to clean energy is one of the biggest challenges of our generation, and its unprecedented nature means that innovative solutions and new ways of thinking are crucial for it to be delivered successfully.

Our Innovation Strategy helps us support the transition to net zero for society and become a responsible net zero organisation. We have a unique opportunity to drive change through our supply chains. By setting standards and stretching goals, we can directly influence how manufacturers, suppliers, constructors, and service providers respond, including making core changes to their own way of doing business. Our desire to influence the supply chain for a more sustainable future is evidenced by our policy to reduce the emissions associated with our SF<sub>6</sub> inventory and the drive to influence the use of low carbon alternatives to construction resources, such as concrete, steel and diesel.

In RIIO-T3 we will explore highly novel sustainability approaches, such as Graphene Enhanced Concrete. This has the potential to accelerate speed of delivery on construction projects by a considerable amount due to the 1-day curing time, vs 28 days required for conventional concrete, and reducing carbon by up to 25%. Our Innovation Annex (A09) provides further examples of the type of innovations we will be stimulating and showcases case studies of deployed innovation, sets out our RIIO-T3 plans and funding request, and outlines our approach to deliver on our innovation commitments.

### 2.5. Our commitment to the United Nations Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognise that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

The SDGs provide a global framework for delivering improvements in all areas of sustainability by 2030. We support the UN SDGs which are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity.







**Figure 2 United Nations Sustainable Development Goals**

# SUSTAINABLE DEVELOPMENT GOALS



Table 1 below presents the 7 out of the 17 SDGs, where our activities and programmes are most relevant to the delivery of these global goals and make a strong contribution towards our responsible business commitments.

**Table 1 Our contribution to the UN Sustainable Development Goals**

Goal	Target
<p><b>Goal 6. Ensure availability and sustainable management of water and sanitation for all</b></p>	<p>6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.</p> <p>6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.</p>
	
<p><b>Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all</b></p>	<p>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.</p> <p>7.3 By 2030, double the global rate of improvement in energy efficiency.</p>
	
<p><b>Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</b></p>	<p>9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.</p>
	
<p><b>Goal 12. Ensure sustainable consumption and production patterns</b></p>	<p>12.2 By 2030, achieve the sustainable management and efficient use of natural resources.</p> <p>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.</p>
	
<p><b>Goal 13. Take urgent action to combat climate change and its impacts</b></p>	<p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.</p>
	
<p><b>Goal 14. Conserve and sustainability use the oceans, seas and marine resources</b></p>	<p>14.3 Minimise and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.</p>
	<p>14.A Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.</p>

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**Goal****Target**

**Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**



15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

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### 3. Our RIIO-T2 environmental track record

In 2021, we published our [2021-2026 Environmental Action Plan](#) (EAP), outlining our vision and commitments for environment and sustainability improvement to 2026. To date, it has been our handbook to reduce our carbon emissions, reduce our resource use, improve our natural environment, and demonstrate leadership for change.



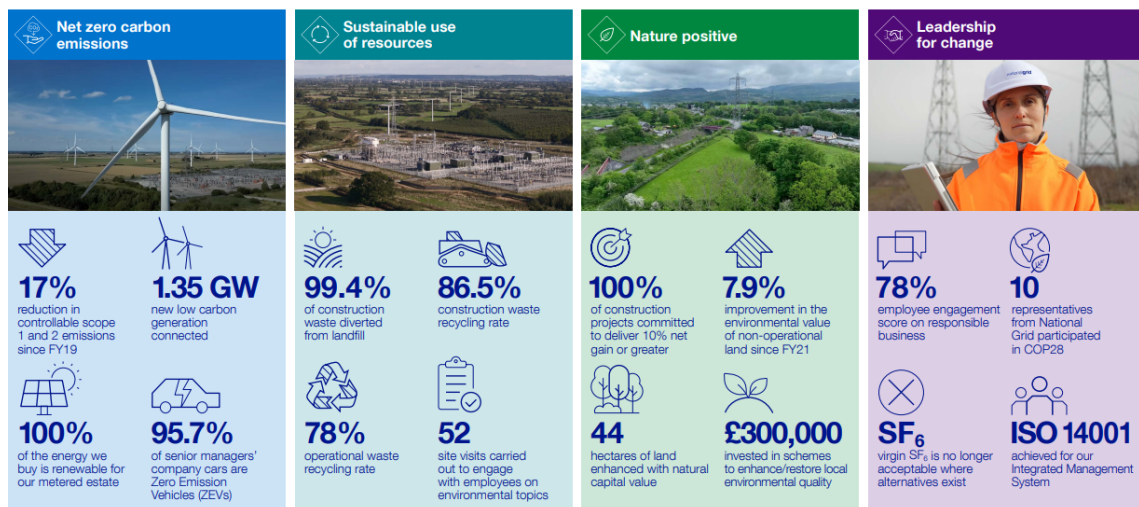
**Figure 3 2021-2026 Environmental Action Plan**

We are delighted with the performance we have achieved to date and the outcomes we are delivering for the environment and our communities. However, it hasn't always been a linear road. We've faced some challenges and some setbacks along the way.

As of 2024, we are on track to deliver all our commitments by 2026. But it's a long and ambitious path, and we know there is more work to be done on all fronts. We are firmly focused on achieving all our commitments and making the right long-term investments that support the sustainability of our business for decades to come. We produce annual environmental reports to communicate progress against our EAP. Below are some of our highlights from third [Annual Environmental Report](#) (AER).

Our Annual Environmental Report goes through a robust internal assurance process. In the final year of RIIO-T2 we will work with a third party to provide further assurance to our stakeholders that we have delivered on our commitments.

**Figure 4 FY24 Annual Environmental Report Highlights**



#### 3.1. Net zero carbon

We are supporting long-term, national decarbonisation goals, while continuing to manage our own environmental performance responsibly.

To decarbonise our own operations, we have a Science-Based Target (SBT) in line with keeping global warming to 1.5 degrees:

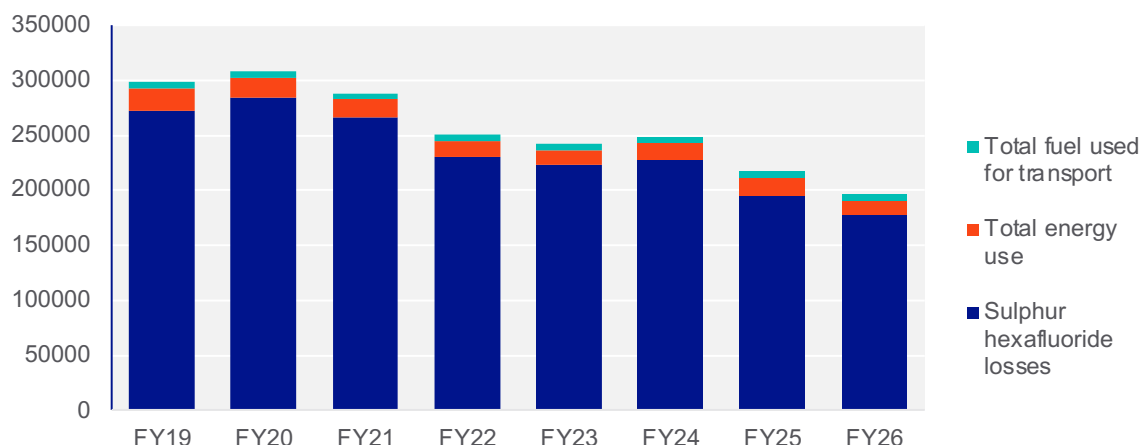
- Our short-term target is to reduce our controllable scope 1 and 2 emissions (excluding transmission losses) by 34% by 2026 from a FY19 baseline.
- Our medium-term target is to achieve 50% reduction in scope 1 and 2 emissions from a FY19 baseline by 2030.
- Our long-term target is to reach net zero by 2050, limiting our use of offsetting to get there.



NGET's Science Based Targets contributes to National Grid's Group Science Based Targets, also in line with keeping global warming to 1.5 degrees.

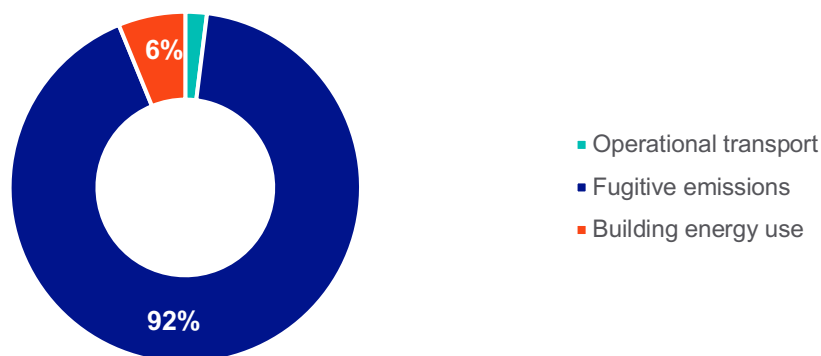
In FY24 our scope 1<sup>4</sup> and 2<sup>5</sup> emissions totalled 248,482 tonnes TCO2e (excluding emissions from electricity line losses, which we have little or no direct control over). This represents a 17% reduction from our 2018/19 baseline. While this is lower than our annual reduction target of 20.4%, we know that emissions reductions will not be linear and figure 5 shows our performance from baseline and where we expect to be at the end of this price control period.

**Figure 5 Scope 1 and 2 business carbon footprint (excluding transmission losses)**



Our biggest contributor to climate change under our direct control is leakage of sulphur hexafluoride (SF<sub>6</sub>), a very potent greenhouse gas used as an effective insulating gas in high-voltage equipment. Excluding transmission losses, SF<sub>6</sub> accounts for 92% of our scope 1 and 2 emissions. Building energy use and operational transport account for the remaining 8%. We are committed to reducing Scope 1 SF<sub>6</sub> emissions from our operations by 50% by 2030 and since 2019 we stated will no longer install SF<sub>6</sub> where there is a commercial, technical and time viable alternative.

**Figure 6 FY24 Scope 1 and 2 emissions (excluding losses) breakdown**



FY24 was a challenging year in pursuit of our target to reduce SF<sub>6</sub> emissions. Whilst a number of the top 20 leaking assets were repaired, system access constraints prevented the repairs from being completed until the second half of the year and therefore the full benefit was not reflected in the full-year emissions.

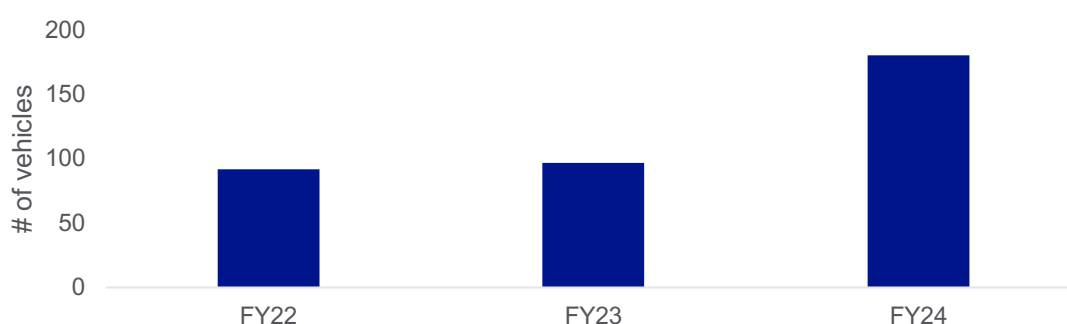
<sup>4</sup> Scope 1 emissions are greenhouse gas (GHG) emissions that a company directly generates from sources it owns or controls. For NGET, this relates to SF<sub>6</sub> emissions, operational fleet, and fuel combustion.

<sup>5</sup> Scope 2 are emissions that a company causes indirectly and come from where the energy it purchases and uses is produced. For example, the emissions caused when generating the electricity that we use in our buildings would fall into this category, as well as transmission losses.

Additionally, we saw an overall increase in SF<sub>6</sub> leakage across the network which also reduced the overall impact of the repairs which were undertaken. With FY24 repairs continuing to benefit overall emissions reduction, and SF<sub>6</sub> abatement work already planned for next year, we expect FY25 to demonstrate a significant improvement and realign us to our Science Based Target pathway.

The remaining source of scope 1 emissions (2%) are from operational transport, which decreased by 7% from FY23. We have a Group-wide commitment to move to a 100% electric fleet by 2030 for our light-duty vehicles, and an associated EAP target to replace 60% of our commercial fleet by 2026. At the end of 2022/23, we had replaced 22% of the fleet, just below our target of 27%. We have experienced some challenges regarding 30 vehicles not being able to enter operations due to a voltage battery issue. The vehicles are currently at the build centre waiting on a manufacture recall. We will be purchasing 160 vehicles in FY25 from a different manufacturer that have slightly improved range. We remain confident in achieving the 60% target by 2026.

**Figure 7 Number of commercial vehicles replaced with ZEVs (cumulative)**



The majority of our Scope 2 emissions are due to energy losses on our network. Electricity network losses occur when transferring energy across our transmission and distribution systems. They are a measure of the difference between the amount of electrical energy entering and leaving a network and occur for several reasons, predominantly due to the energy used by network equipment (e.g., transformers, overhead lines and cables), when transporting energy for consumption. Energy losses from overhead Transmission lines can increase as the distance to move energy between supply (generation) and demand (customer use) increases. The emissions occurring due to these losses are calculated using the average carbon intensity of electricity across the electricity system. The trajectory to 2030 is not expected to be linear as emissions from line losses are subject to annual volatility. This year we saw a 5.8% reduction in UK Electricity Transmission emissions from FY23.

**Table 2 Our transmission losses performance**

Transmission losses	FY22	FY23	FY24
Annual losses (TWh)	5.429	6.719	5.932
Share of total electricity (%)	2.08	2.51	2.35
CO2 emissions (TCO2e)	1,152,795	1,299,340	1,228,468

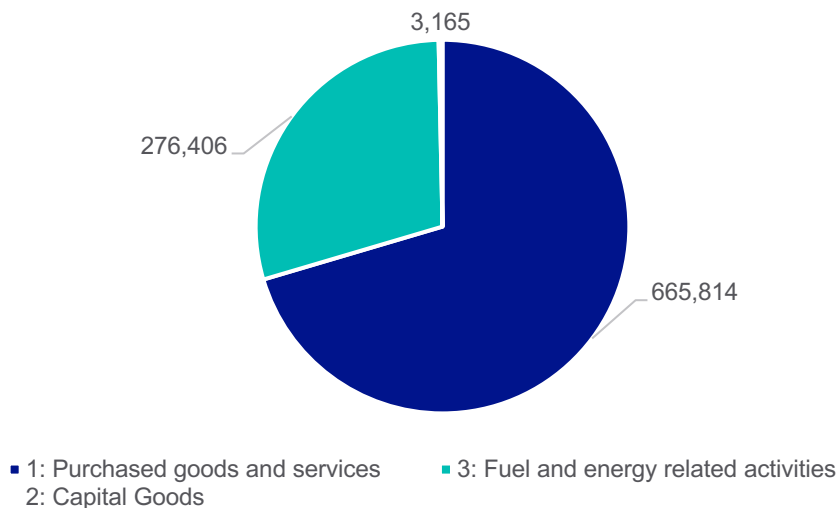
Our Scope 2 emissions otherwise relate to electricity usage at operational and office sites. These have increased by 20.4% from FY23, partly due to improvements made in data classification in our substation estate. As part of a substation energy efficiency programme and in line with our UK Energy Savings Opportunities Scheme (ESOS) requirements, 130 energy audits were completed in FY24, identifying measures that will realise further reductions of electricity use towards the start of RIIO-T3. These opportunities include upgrading lighting and controls, heating systems, and renewable energy options.

Cutting the carbon emissions associated with energy usage is not only about using less energy but also ensuring that the energy used is increasingly supplied from low carbon or renewable sources. From October 2023, we put a Power Purchase Agreement (PPA) in place to ensure we buy 100% renewable energy, including both electricity for our metered estate. Our electricity is being generated

at Moray East, an offshore wind farm in Scotland. In the first six months, we saved an estimated 2,542 tCO<sub>2</sub>e.

As we build the new electricity networks of the future, we have a huge responsibility to cut carbon emissions, innovate and set new standards for the infrastructure industry. Our scope 3<sup>6</sup> emissions totalled 945,385 tCO<sub>2</sub>e in FY24 – this is 39% of our total carbon footprint (scope 1, 2 and 3). Our most material scope 3 categories are: Purchased goods and service, Capital goods and Fuel-and energy-related activities. Figure 8 provides the emissions breakdown.

**Figure 8 Scope 3 emissions breakdown (tCO<sub>2</sub>e)**



In 2021, we committed to achieve carbon-neutrality across all our construction projects. Since we set our target, the language, and maturity of the sector with regards to low carbon construction has evolved significantly. Stakeholders have fed back that carbon neutrality is not the right terminology as the compensation we will be delivering during this regulatory period will not be fully realised by 2026. Based on the feedback from carbon experts, we will update the language of our target to better reflect what we are doing in early 2025.

Three years on, we maintain a reduction first approach, prioritising reducing emissions as much as is feasibly possible. We are always looking for more sustainable ways of working and in April 2023, the world's largest ever pour of sustainable, cement-free concrete (736m<sup>3</sup>) was used to fill the base of a 55m-deep tunnel drive shaft at National Grid's Hurst Substation in South London.

In FY24, we mandated the use of low carbon concrete (defined as Low Carbon Concrete Group (LCCG) rating grade B or above for structural concrete and A or above for non-structural) on all new projects. We are one of the first client organisations to adopt this industry-wide benchmarking system, published as part of the Institution of Civil Engineers (ICE's) overall route map to decarbonising concrete.

However, due to the high carbon intensity of some of the materials we use, we will need to compensate for residual emissions. Our compensation approach is to invest in projects in the UK that not only deliver carbon benefits but also wider benefits to nature and communities. For example, we are investing in the development of woodlands across England and supporting energy efficiency activities in low-income housing. This approach is sustainable and supports long-term carbon abatement.

<sup>6</sup> Scope 3 emissions are indirect greenhouse gas emissions that occur from activities in a company's value chain that are not owned or controlled by the company.

### 3.2. Sustainable use of resources

We are prioritising ways to improve our recycling rates, reduce our avoidable waste and ensure as much of our waste is diverted from landfill as possible. This is essential to preserving the Earth's natural resources. In 2024, we had 99.4% landfill diversion rate from our construction projects and 86.5% of it was recycled. We've committed to generating less waste and recycling more of the waste we do produce. We recycled 78.1% of our operational waste in FY24, in addition to achieving a recycling rate of 53.5% at our offices in FY24 and a waste reduction of 33% compared with a FY20 baseline.

**Table 3 Resource and waste performance**

Resource and waste performance	FY22	FY23	FY24
Construction landfill diversion rate (%)	99.6	99.8	99.4
Construction recycling rate (%)	78	71.6	86.5
Operational recycling rate (%)	52.8	52.8	78.1
Office recycling rate (%)	53	43.4	53.5

Since 2017, we have been undertaking a bi-annual self-assessment against ISO20400 guidance for Sustainable Procurement to assess our approach to embedding sustainability into our procurement function. In line with our latest assessment in 2023, we have developed a 3-yr strategy plan to further empower our procurement team to embed sustainability into sourcing activities by enhancing our sustainability processes, policies and procedures.

In 2022, we did our first gap analysis to the BS:8001 circular economy standard to understand the adoption of the principles of circular economy within our business. This determined that the business is currently at 'Level 1 – Basic'. In FY24, we reviewed our gap analysis again and the outcomes of the BS 8001 Circular Economy Standard were socialised with internal stakeholders and an ambition has been agreed, which we will be using for our RIIO-T3 Environmental Action Plan proposal.

Our aim is to maintain our high standards of oil containment and pollution management. We are actively working to prevent pollution that may result from our activities and continually improve our environmental management system to protect the environment and reduce risks of environmental incidents. We regularly visit our operational sites to ensure that we continually maintain our high standards of oil containment and pollution management and to develop effective relationships between our site based operational and environmental colleagues.

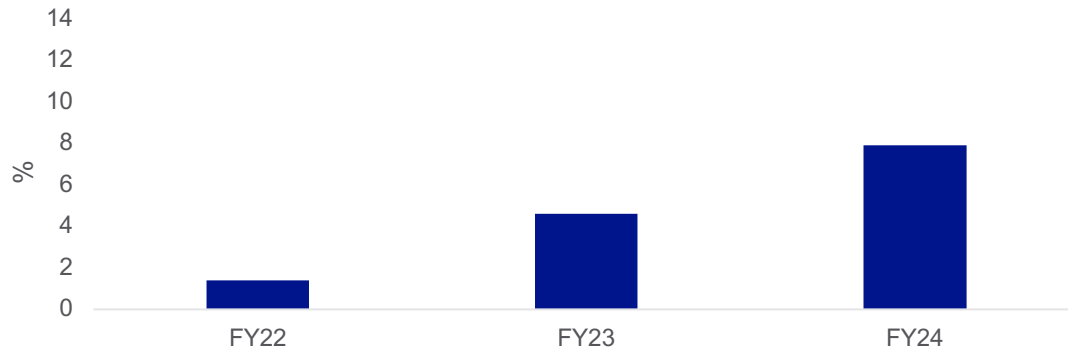
**Table 4 Incident and oil top up performance**

Incidents and leaks and spills	FY22	FY23	FY24
Environmental incidents (# reported to the EA)	3	3	1
Environmental incidents (other pollution)	9	11	9
Transformer oil top ups (litres)	748,037	689,237	667,206
	12,718.0		
Cable oil top us (litres)	0	5,864.00	7,459.00

### 3.3. Nature positive

We are responding to the global biodiversity crisis by having a proactive approach to the way we manage our land. We have committed to improve the environmental value of our non-operational land by at least 10% by 2026. In the last three years we have enhanced this by 7.9% (see Figure 9). Some of these initiatives include enhanced woodland restoration, creation of wildflower meadows and investing in environmental education, developing opportunities for young people to engage and connect with nature, increasing social value.

**Figure 9 Enhancement of non-operational land (%)**



We have a duty to ensure that our construction projects will not only deliver a greener future but also avoid as much environmental harm as possible and deliver a positive outcome for biodiversity and local communities. To do this, we apply the principles and tools of Biodiversity Net Gain (BNG) to underpin and inform our actions and deliver wider environmental benefits. This approach sets out to leave natural environments in a better condition prior to development. During RIIO-T2, all our construction projects that have an impact on the natural environment have developed plans that will deliver a measurable improvement to biodiversity by at least 10% and we are targeting even greater gains as we develop our approach in partnership with other organisations.

Via the Kunming-Montreal Global Biodiversity Framework (GBF) adopted in Dec 2022 at COP15, new requirements for businesses were agreed requiring transnational businesses to monitor, assess and disclose their risks and dependencies on biodiversity across operations, supply chain and portfolios and act to progressively reduce negative impacts. As a direct response to the GBF, together with Scottish and Southern Electricity Networks (SSEN) and Scottish Power Energy Networks (SPEN), we launched a call via the Engineering Innovation Centre (EIC), for innovators to better understand nature-based risks and dependencies within our supply chains and develop a new and innovative approach for transmission networks. Work is now underway to better understand our biodiversity risks, impacts and dependencies across our supply chains, using data from across the sector with our winning bidder, Accenture.

### 3.4. Leadership for change

We aim to show leadership in our sector, and one of the areas where we have shown this is around finding alternatives to SF<sub>6</sub>. Alternative technology is rapidly evolving and benefits from the use of alternative gases with much lower carbon impact than SF<sub>6</sub>. Together with the other Transmission Owners in Great Britain, we are leading the way on implementing alternative technologies to SF<sub>6</sub> – all of which have at least 100 times lower carbon impact than equivalent SF<sub>6</sub> filled equipment. We adopt SF<sub>6</sub>-free technology as soon as it becomes available in a bid to move away from SF<sub>6</sub> as rapidly as possible. All our new 132kV equipment is now SF<sub>6</sub>-free and we were among the first transmission utilities to adopt fully SF<sub>6</sub>-free gas-insulated 400kV switchgear for our Bengeworth Road and Harker substation projects.

In 2019, we introduced a new policy to mandate the use of alternative technology to SF<sub>6</sub> where it is technically and commercially viable. In 2024, we updated our policy so that the procurement of virgin SF<sub>6</sub>, either directly or as a sub-item of a larger project, is no longer acceptable unless reclaimed (recycled) SF<sub>6</sub> is unavailable. We are engaging with the external market to reduce reliance on virgin SF<sub>6</sub>.



#### 400kV

We are amongst the first to adopt 400kV fully SF<sub>6</sub>-free gas-insulated switchgear



#### Reducing

reliance on virgin SF<sub>6</sub>



#### Supporting

the use of reclaimed/recycled SF<sub>6</sub>

It is important our senior leadership take accountability for our environmental performance and a workforce that is engaged on environmental issues and collaborates with key stakeholders to drive performance.

We have also demonstrated our leadership as a Principal Partner of COP26, the world's most significant summit on climate change, which was hosted in the UK in November 2021. National Grid was also the Official EV Charger Provider for the Birmingham 2022 Commonwealth Games, supporting the ambition of making this event the most sustainable Commonwealth Games in history.

Last but not least, we use an environmental management system to both understand and manage our environmental responsibilities. For several years, we have had an externally certified ISO14001 environmental management system. More recently, we have incorporated this within an Integrated Management System along with Health, Safety & Quality to ensure there is consistency in accordance with good practice, satisfying the requirements and expectations of its stakeholders and customers and improving the overall management of our business.

**Our environmental performance in RIIO-T2 has been strong and provides confidence that we will meet our commitments in RIIO-T3.**



## 4. A sustainable network in RIIO-T3

By connecting renewable energy sources and expanding the grid, we are making history to enable the low-carbon energy transition. The £35bn investment we will deliver during the next price control period and beyond is critical to turning the UK's net zero ambitions into reality.

At the same time, the network we are building and the way in which it is built must also be sustainable. Globally, we stand at a critical juncture that demands action. The world is experiencing environmental crises such as exceeding 1.5°C global warming, habitat and biodiversity loss and extinction, and the over consumption of resources. Business operations and across the value chain need to accelerate progress and impact to deliver the UN Sustainable Development Goals 2030 Agenda and beyond. Now is the time for our network and sector to go beyond responding and complying – to champion a transformative, positive trajectory to meet these global goals.

The changes we are proposing to our Environmental Action Plan in RIIO-T3 will support the energy transition in a way that enables **a net zero, nature positive future, and manages the limits of earth ecosystems**.

### 4.1. Our Vision

Our company's vision is **to be at the heart of a clean, fair, and affordable energy future**.

Our environmental vision is to build a sustainable electricity network, which makes a positive contribution to the environment. The delivery of net zero infrastructure coexists with environmental stewardship, delivering a lasting legacy for present and future generations.

### 4.2. Our strategic framework

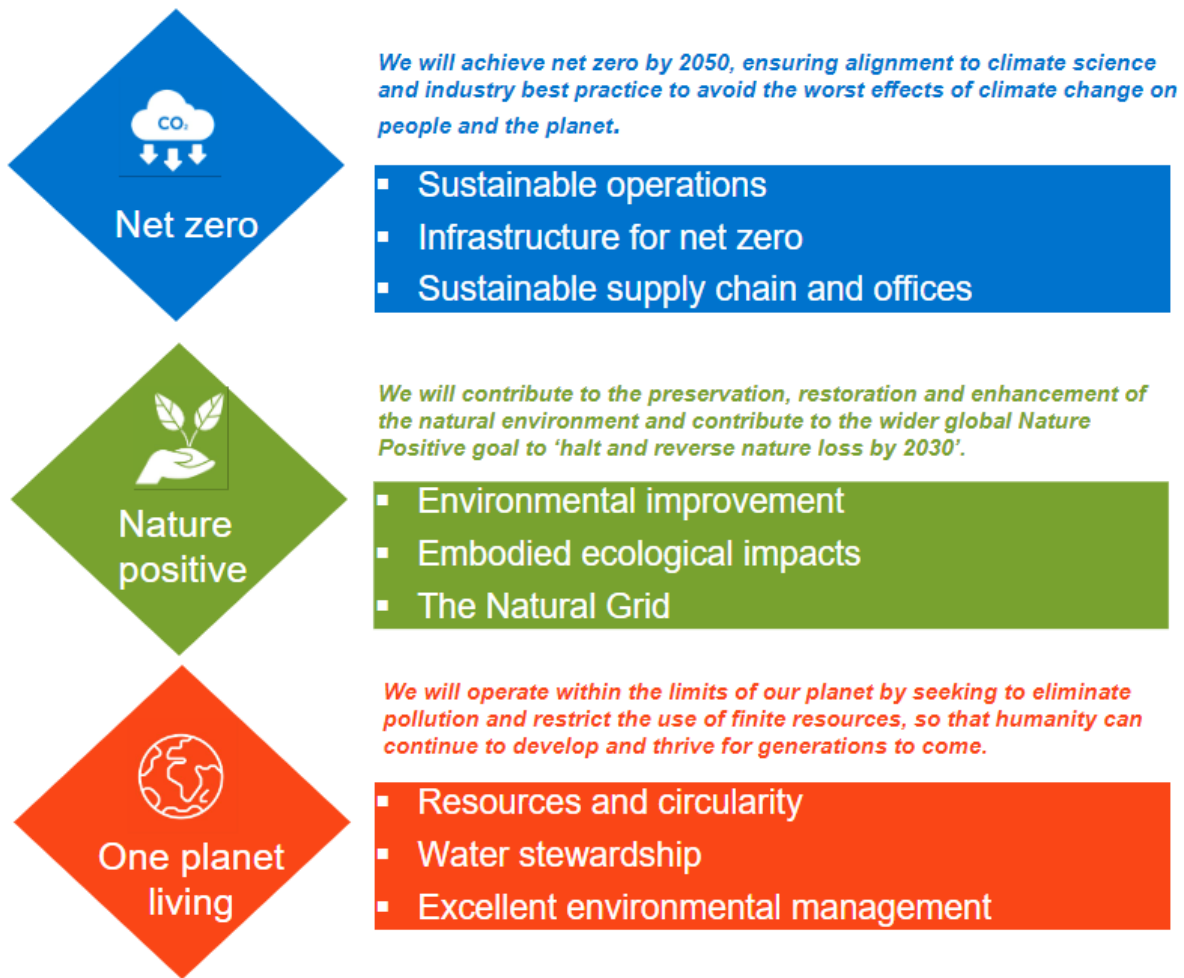
Our proposed Environmental Action Plan for RIIO-T3 focuses on the areas where we can make the greatest contribution to a more sustainable future. It responds to – and is driven by – the environmental and social issues which are most significant for our stakeholders and our business.

**We will focus on three environmental priorities: Net Zero, Nature Positive and One Planet Living.**

In Chapter 6, we describe our methodology for developing our EAP. We followed a process of recognising our most material environmental issues, understanding what is considered best practice by industry, carried out widespread internal and external engagement and reviewed our track record to date to understand what we could realistically achieve by 2031 in a way that was most cost-effective to consumers. Figure 10 outlines our RIIO-T3 EAP framework and section 4.3 of this chapter covers our priorities to deliver against that framework.

Compared to the four focus areas we had in RIIO-T2, we are not including a focus area on leadership as we consider that sustainability should be fully engrained in how we operate, with engaged leaders and an engaged workforce that collaborates and leads externally. However, these are important enabling factors to ensure that our EAP is successfully achieved in RIIO-T3, particularly at a time of fast pace and growth.

Figure 10 RIIO-T3 EAP framework.





### 4.3. Our environmental priorities

In this section, we describe our priorities to deliver a more sustainable electricity network for England and Wales by 2031. Appendix F outlines the optioneering we carried out to define the proposed RIIO-T3 targets, with the justification and an explanation of some of the trade-offs considered in our decision. We also acknowledge that our ability to deliver on these priorities are dependent on many external factors. We outline some of these dependencies in section 4.8 and have caveated some of our targets with a 'where is technically, commercially and time viable alternative'.

#### 4.3.1. Net zero

**We will achieve net zero by 2050, ensuring alignment to climate science and industry best practice to avoid the worst effects of climate change on people and the planet.**

##### A) Sustainable operations



By 2031, we will:

- Deliver scope 1, 2 and 3 emissions reductions in line with a 1.5°C degrees aligned Science Based Target.
- Achieve 50% reduction in SF<sub>6</sub> emissions by 2030 from 2018/19 baseline, and we will no longer install SF<sub>6</sub> where there is a technically, commercially and time viable alternative.
- Ensure 100% of our fleet purchases for light duty vehicles will be Zero Emissions Vehicles (ZEVs).
- Deliver a 20% energy efficiency improvement in our substation estate from a 2022/2023 baseline.
- Power our substations with diesel-free, cleaner alternatives, where there is a commercial, technical and timely available alternative.
- Implement a strategy to efficiently manage both technical and non-technical energy losses on our network.

##### B) Infrastructure for net zero



By 2031, we will:

- Enable the connection of 35GW of generation capacity, supporting the UK towards Net Zero and the UKs 2030 target to connect 50GW of offshore wind.
- Deliver our construction projects as low carbon intensity as possible, as set out in our Low Carbon Infrastructure Roadmap.
- Invest in carbon compensation projects that also deliver social and/or nature benefits from constructing our infrastructure.

##### C) Sustainable supply chains and offices



By 2031,

- 80% of our suppliers (by emissions) will have formally committed to set a Science Based Target.
- Reduce emissions across our corporate property office estate in pursuit of our net zero ambition.

#### 4.3.1.1. A) Sustainable operations

##### Deliver scope 1, 2 and 3 emissions reductions in line with a 1.5 °C aligned Science Based Target

Climate change is one of the greatest challenges facing society. To avert the worst impacts, the world needs to transition to net zero by 2050. To decarbonise our own operations, we have an accredited Science-Based Target (SBT) in line with limiting global warming to 1.5 degrees.

Our long-term target is to reach net zero by 2050, limiting our use of offsetting<sup>7</sup> to get there. We realise the need for action this decade and have worked with the Science Based Targets initiative (SBTi) to align our near-term targets to their 1.5°C pathway and the ambition of the Paris Agreement by 2030. Our emissions reduction targets were verified by the Science Based Targets initiative (SBTi) in 2022.

Our medium-term target is to achieve 50% reduction in scope 1 and 2 emissions from a FY19 baseline (including transmission losses). Losses are largely out of our control, and we have aimed to have scenarios where we achieve the 50% reduction target in the areas that are in our control. This includes SF<sub>6</sub>, fuel used for transport and energy use.

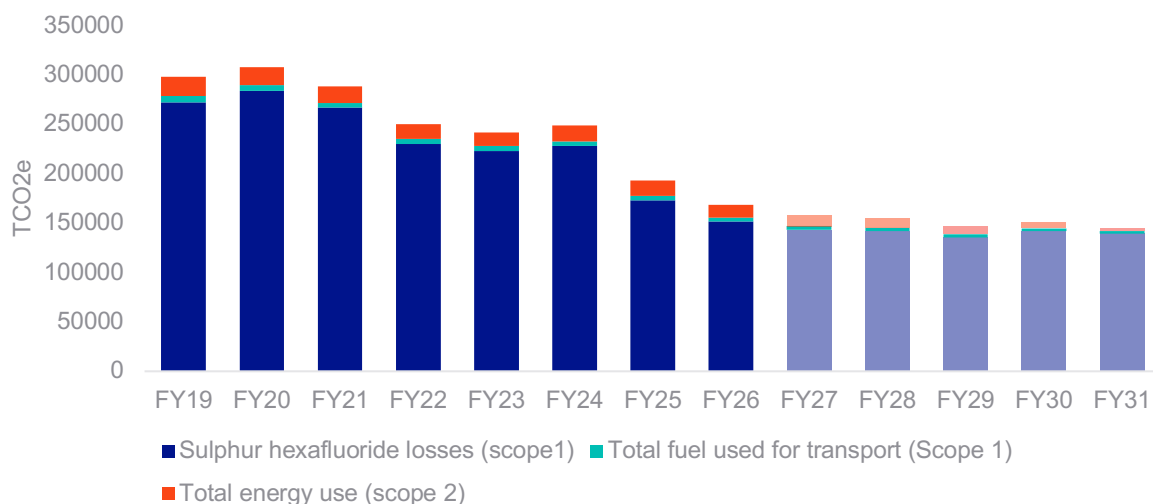
We use the National Energy System (NESO) Future Energy Scenarios to forecast transmission losses, as these emissions will vary depending on the speed of decarbonisation. We will aim to make progress annually, but our progress depending on external factors may not always be linear.

Our commitment

B4.1

Reduce our own carbon emissions: deliver scope 1, 2 and 3 emissions reductions in line with a 1.5-degree Science Based Target (SBT)

**Figure 11 RIIO-T3 scopes 1, 2 emissions trajectories (excluding losses)**



For our scope 3 emissions we will contribute to our National Grid Group PLC commitment to reduce all absolute scope 3 emissions by 37.5% by 2033 from a FY19 baseline, which has been verified by SBTi.

We are working to improve our scope 3 reporting and over the next few years we will:

- Improve our methodology for calculation emissions from our supply chain
- Work with our supply chain to use supplier specific data where possible
- Work to develop a methodology to use our project level carbon assessment to be used in our annual scope 3 reporting
- We will assess the impact of our increased capital programme on our scope 3 emissions in future years

As part of this process to improve the quality of our scope 3 data we will access our baseline and targets at an NGET level, to ensure we have a credible and appropriate target for scope 3 emissions, in line with best practice standards.

<sup>7</sup> The Science Base Target Institute in definition of net zero, allows up to 10% of offsetting for residual emissions

All our targets in the sustainable operations, infrastructure for net zero and sustainable supply chain and offices pillars will contribute to the delivery of this core organisational commitment.

Within RIIO-T3, we will continue to report performance on scopes 1, 2 and 3 emissions based on the Greenhouse Gas Protocol. For scopes 1 and 2 we will continue to use the GHG Protocol Corporate Accounting Standard, the GHG Protocol Corporate Value Chain (scope 3) Accounting and Reporting Standard.

**Achieve 50% reduction in SF<sub>6</sub> emissions by 2030 from 2018/19 baseline, and we will no longer install SF<sub>6</sub> where there is a technically, commercially and time viable alternative.**

Sulphur Hexafluoride (SF<sub>6</sub>) is a highly potent, industrial greenhouse gas used across the electricity transmission network. To date, there is over 930,000kg of SF<sub>6</sub> across National Grid's transmission system. Over this time, SF<sub>6</sub> emissions have also increased, and between 2018 and 2019 our annual SF<sub>6</sub> emissions rose to above 12,000kg.

To achieve the 2030 SF<sub>6</sub> emission target, investment must be made to target active SF<sub>6</sub> leaks, while also targeting assets across the transmission network with the highest risk of developing SF<sub>6</sub> leaks. A critical step in overcoming the challenging SF<sub>6</sub> emission abatement targets is to progress from reactive SF<sub>6</sub> leak repairs to a programme of well-timed, well-planned preventative interventions.

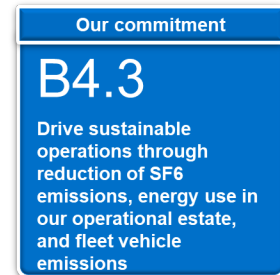
The volume of asset interventions included in this RIIO-T3 submission, based on the number of sites and the volume of the palliative coating works, is similar in volume to the RIIO-T2 plan, however RIIO-T3 will also deliver include undelivered RIIO-T2 work outputs and additional investment areas such as Retro-filling 8 substations and the installation of Gas Density Monitoring at ■ substations.

Within the RIIO-T3 period, we will:

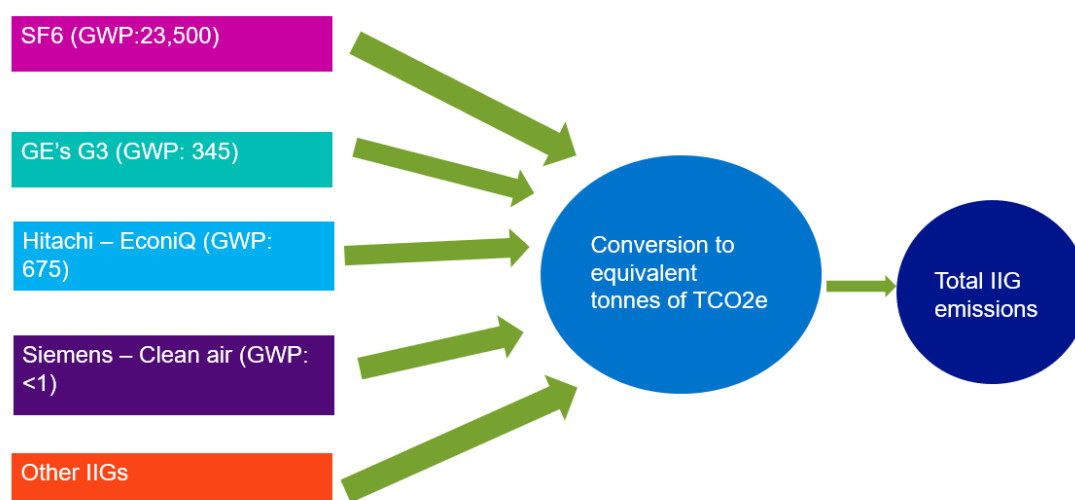
- Remove 40,354kg of SF<sub>6</sub> from the transmission network through asset replacement and retro-filling existing assets. (4% inventory reduction based on 2023/24 SF<sub>6</sub> inventory);
- Abate 7,576 kg of forecasted SF<sub>6</sub> emissions from the transmission network during the RIIO-T3 period;
- Abate 82,425 kg of forecasted SF<sub>6</sub> emissions from the transmission network by 2050; and
- Enable the transition away from SF<sub>6</sub> to alternate Interrupting and Insulating Gases (IIGs).

The electricity transmission industry is progressing the development of SF<sub>6</sub>-free technologies to be added to the transmission network, in some cases removing and replacing SF<sub>6</sub>. These alternatives are now classed as Insulating and interruption gas (IIG) emissions. We have led the way in Great Britain, collaborating with several manufacturers and are currently installing three new IIGs: GE's G3, Hitachi's EconicQ and Siemens Clean air.

We are keen to further reduce SF<sub>6</sub> usage but recognise that this is dependent on the development and availability of new SF<sub>6</sub>-free technology by equipment manufacturers. Figure 12 below outlines the types of IIG already available in transmission and their GWPs.



**Figure 12 Types of IIG available in transmission and GWP**



We seek to collaborate with manufacturers to find viable alternatives and will adopt these as early as we can:

- 132kV is now an SF<sub>6</sub>-free market in UK with Air Insulated Switch Gear (AIS) and Gas Insulated (GIS) products established from the big three European suppliers (GE Vernova, Siemens Energy, Hitachi Energy).
- Fully SF<sub>6</sub>-free 420kV GIS is now marketed by two of these suppliers (GEV and HE) and we have lead projects at Bengeworth Road and Harker. There are further projects in the pipeline.
- The 3<sup>rd</sup> supplier (SE) has a roadmap for fully SF<sub>6</sub>-free 420kV GIS to be commissioned in 2028 (pilot project with Elia). We are deploying their SF<sub>6</sub>-free gas insulated busbar as part of the Dinorwig re-development.
- The first 420kV live tank circuit-breaker was launched to market in August 2024 by Hitachi Energy. In line with our SF<sub>6</sub> policy (PS(T)005) we will be looking to adopt this technology for future relevant applications. The other suppliers have roadmaps to deliver this product category within the coming years. 2025-2027 for full market availability).
- There is an ongoing technology alignment for live tank AIS products to completely avoid the use of C4FN. We expect all live tank AIS products to be f-gas free going forward.

An independent paper from DNV on 'Substation and Switchgear Technology' provides further narrative on how we have made decisions relating to gas insulated and air insulated switchgear. For many new substations there will be a broad starting assumption that AIS could be more appropriate for relatively unconstrained rural sites where there are few sensitive receptors, and GIS could be more appropriate for land-constrained sites near to communities. However, each proposal would need to be developed in response to the characteristics of the site.

It is imperative that there is alignment on the principles to inform the choice of technologies where this choice is less clear and distinguishable, recognising that different situations involve different optimisation parameters, and therefore may require different solutions.

More information on our approach to how we will fund our SF<sub>6</sub> target can be found in section 5.2.

### 100% of our fleet purchases for light duty vehicles will be Zero Emissions Vehicles (ZEVs)

Transport makes up 23% of energy-related carbon emissions globally and without immediate action, its share could reach 40% by 2030. Transport is also a major contributor to poor air quality in many of our cities, which per the Royal College of Physicians, is responsible for 40,000 early deaths per year. Although transport only accounts for approximately 2% of our business carbon footprint, we are committed to supporting the adoption of Zero Emission Vehicles (ZEVs). In line with our stakeholder desires and our goal to accelerate a clean future, our aim is to transition to 100% zero emission fleet for light and medium duty vehicles (up to and inc.3500kgs).

We have a significant van fleet of 836 commercial vehicles (and growing). Decarbonising our fleet is important to reducing our environmental impact. In RIIO-T2 we made a commitment to replace 60% of

our light-duty vehicles. Of the remaining 40%, we anticipate 37% will transition to electric during the RIIO-T3 period providing an operationally viable vehicle is available within the marketplace. The remaining 3% (HGV) will transition to alternative fuel after 2030.

We outright purchase all commercial vehicles and operate a replacement policy of 6 years for Light duty vehicles and 8 years for Heavy duty vehicles. Over the RIIO-T3 period, in line with our replacement policy, we will replace 592 vehicle assets. Broken down this equates to 358 existing electric vehicles the majority of which are 1<sup>st</sup> and 2<sup>nd</sup> generation EV's both of which have limitations on charging, range, payload, and reliability.

About 5% of the commercial fleet is heavy duty vehicles (approximately 30 vehicles). There is not expected to be an operationally viable alternative technology available to replace these vehicles until the early 2030's. There is an external dependency on marketplace availability.

It also must be acknowledged that there is a legal ban of the sale of all new ICE (internal combustion engine) vehicles under 3.5T. (We will not legally be able to buy petrol or diesel vehicles after 2030), therefore we cannot continue to purchase ICE vehicles if an alternative is available. Everything we do will also help meet air quality targets.

More information on our approach to how we will fund our fleet replacement programme can be found in section 5.2.

#### **Deliver a 20% energy efficiency improvement in our substation estate from 2022/2023 baseline**

Substations play a crucial role in delivering electricity safely and reliably across the United Kingdom. However, inefficiencies in substation building systems can lead to significant energy losses, contributing to increased energy consumption, carbon emissions and costs for consumers. The majority of our substation building estate is outdated and contains older equipment that consumes more energy than modern alternatives. Recent energy audits and technical studies have demonstrated significant opportunity for energy efficiency improvements. Financial payback will be made over this and future regulatory periods.

Following our RIIO-T2 EAP to develop an energy efficiency programme in our substations, the RIIO-T3 submission is focused on delivering the capital investment and behaviour change programme required to reduce energy use in our substation sites. We will Install innovative and efficient installation and upgrading technology; upgrading heating systems and control systems, solar pv installation, replace window and doors and draughtproofing at 82 sites.

Our aim is to achieve a 12% reduction in energy use across the operational estate by the year 2031 through capital investment together and a remaining 8% reduction with a behavioural change programme. This is aligned with existing decarbonisation commitments to achieving net zero by 2050, achieving 16,535 tCO<sub>2</sub>e reduction in carbon and a reduction of 73 million kWh in energy over the RIIO-T3 period.

By installing energy efficiency measures this investment supports our vision of delivering affordability to our customers. With lowering electricity usage and carbon, leading to reduced energy bills for consumers and help to achieve net zero by 2050.

More information on our approach to how we will fund our energy efficiency programme can be found in section 5.2.

#### **Power substations with diesel-free, cleaner alternatives, where there is a commercial, technical and timely available alternative**

Electricity Transmission substations are critical to the operation of the network and each one requires their own power supply to ensure the operation of every piece of equipment on the site. Typically, this power supply is provided via connection to the local Distribution Network Owner (DNO).

Back-up power supplies are also vital to provide resilience during local, regional and national power cuts. Characteristically, this back up power provision is fulfilled via a fully rated diesel generator and sufficiently sized diesel storage. While these generators rarely run, we are exploring options for alternative, lower emission, reliable back up generation that can help us meet both our environmental and reliability goals.

Where possible, existing diesel generators will switch to the use of Hydrotreated Vegetable Oil (HVO) renewable fuel. However, a key consideration will be the availability of alternative technology will

continue. Back-up power generation for a substation requires c.a. 500 – 1000kVA supply with energy storage capable of supplying the site for 72-168 hours and this will remain a key requirement for us.

#### Implement a strategy to efficiently manage both technical and non-technical losses

When electrical currents travel on our network, some energy is dissipated in the form of heat and is 'lost' due to the electrical resistance in the network – this is known as a transmission loss. However, losses are a very small % of overall electricity transmitted. In FY24, this was 2.35% of the total electricity transmitted.

The generation of electricity to compensate for transmission losses leads to additional greenhouse gas emissions. In fact, most of our scope 1 and 2 emissions result from transmission losses across our network. However, the biggest impact we can have on reducing emissions from losses is supporting the decarbonisation of power through timely connections. In RIIO-T2 we updated our transmission losses strategy which described how we account for transmission losses in equipment specifications and procurement processes, as well as for investment decision-making. Transmission losses are one of several factors considered when selecting the most economic and efficient transmission solutions.

Our focus in RIIO-T3 will be to ensure transmission losses are minimised as much as can be economically justified. This reduces both whole system costs and minimises the carbon emissions that result from having to generate additional electricity to cover these losses. Success will be evaluated by ensuring our strategy and practice of minimising losses is best practice and we are innovating to reduce losses further. As part of our strategy development, we will commit to reporting on the progress of implementing our losses strategy and contribute the evidence base on the proportion of losses that network companies can control/ influence.

#### 4.3.1.2. B) Infrastructure for net zero

Connect *at least 35GW* of renewable energy by 2030, supporting the UK towards Net Zero and the UKs 2030 target to connect 50GW of offshore wind.

The UK Government is seeking to accelerate the transition to a net zero economy, making Britain a clean energy superpower, starting with clean power by 2030. In the coming years, the entire economy will transform from one reliant on fossil fuels to one powered by clean energy. Electricity will become ever more important in daily life. The way we travel. How we heat our homes. How we connect and power the emerging industries that will be the engine of economic prosperity, creating highly skilled, well-paid jobs across the nation. This is the context in which we have created our Business Plan.

In RIIO-T3, our challenge is to lay the groundwork for the 'supergrid' of the future, minimising the network portion of customer bills, while connecting the clean energy needed to meet growing electricity demand, reduce emissions and support the country's economic growth agenda. In the next five years we plan to connect 34 GW of mature low-carbon generation, with the option of a further 26 GW of connections, across 43 whole site strategies.

We are privileged to have such a critical role in the transformation of Britain's electricity system – it's at the heart of everything we do.

**Connecting renewables to support the decarbonisation of the UK electricity network is the biggest impact we have as a business, and we are working at pace to facilitate this.**

As pace of delivery is our key driver, we will be utilising sustainable solutions where possible, while ensuring we do not risk any impact on programme. More on our approach to connections is described in our ET Load Strategy (Annex A08).

Deliver our construction projects as low carbon intensity as possible, as will be set out in our Sustainability Roadmap

We have worked to embed carbon management and reduction across our portfolio for 10 years. Over that time, we've built tools and systems, worked closely with our supply chain and challenged our own policies and procedures to drive carbon efficiency. While we look at operational emissions as part of our early optioneering, we then focus on capital emissions for the detailed design and build. This target is specific to the emissions from the manufacture, transport and construction of the assets and materials used to construct our network.

Our Carbon Interface Tool (CIT) allows all our suppliers to quantify the carbon impact of their projects consistently, and we use it as a weighted scoring criteria in our procurement events (up to 10%) to encourage suppliers to provide low carbon solutions. We are working with our supply chain to see how we can innovate and integrate our data in other carbon tools and systems. During RIIO-T2 we have also aligned to PAS2080 Carbon Management in Infrastructure, with certification planned for 2025, which would make us the first Transmission network to achieve this. This is significant as the standard provides a consistent and internationally recognised framework for best-in-class management of whole-life carbon.

However, as our network grows at pace, to facilitate the connection of renewables and decarbonisation of the grid, we risk increasing our scope 3 emissions significantly. We calculated that in FY24, the embodied carbon associated with purchased goods and construction made up ~27% of our total emissions. However, with the growth of our network, we expect this percentage to increase. As a result. We need to ensure we take decisive action to lower these emissions as much as possible, through deployment of low carbon construction materials as well as accessing other emerging decarbonisation solutions.

In late 2023, we carried out an extensive external consultation with leading carbon experts across industry with the aim to get feedback from leading organisations who had experience in decarbonising their construction activities or influencing decarbonisation of the sector. Consultees were asked a set of questions about our targets and approach, and proposed approach to compensation. Representatives from 20 organisations responded, were interviewed or joined workshops to provide feedback. These organisations included NGOs, supply chain members, consultants, infrastructure clients and public bodies.

There was strong consensus from the consultees that we should maintain or further our action in reducing construction emissions, and that we needed a clear funding methodology to prioritise a reduction first approach. On compensation, there was strong consensus we should prioritise UK projects that deliver wider benefits for nature.

In RIIO-T3 our targeted areas of reduction will be clear through the Sustainability Roadmap, which will cover key hotspot areas, including concrete, steel and diesel:

- Use 50% low-emission concrete by 2030
- Use 50% low-emission steel by 2030
- Phase out diesel generators by 2028 and work towards construction plant electrification by 2035.

The cost, timing, and feasibility for individual solutions across these areas is subject to uncertainty in pricing and supply/availability. Together with the fast pace of new solutions for carbon reduction, this market uncertainty is recognised in the development of our funding proposal that supports our RIIO-T3 commitments. We will only do this if commercially, technically and time viable. As pace of delivery is our key driver, we will be utilising sustainable solutions where possible, while ensuring we do not risk any impact on programme.

We continue to hear the importance and need for clear market signals, to build supply chain confidence in lower carbon, sometimes more expensive solutions. By not prioritising low carbon construction in RIIO-T3, we risk damaging the confidence and trust of our supply chain, potentially resulting in them not decarbonising their activities, or offering low carbon products as quickly as they would have, having a broad negative impact on the wider sector. By signing up to initiatives such as ConcreteZero, SteelZero and ConstructZero, alongside our RIIO-T3 commitments, we hope to mitigate this risk.

We estimate up to a 35-45% carbon savings across the portfolio (as opposed to if no action were taken without these funds), that's approximately ~1100 ktCO<sub>2</sub>e reduction in capital carbon emissions from 2026-2031.

Our commitment

## B4.4

Deliver our construction projects as low carbon intensity as possible, as set out in our Low Carbon Infrastructure Roadmap and Invest in carbon compensation projects, that also deliver social and/or nature benefits from constructing our infrastructure

### Invest in carbon compensation projects that also deliver social and/or nature benefits from constructing our infrastructure.

In RIIO-T2 we committed to deliver carbon neutral construction and were granted £2.5m by Ofgem for FY26 to start investing in carbon compensation initiatives to compensate for unavoidable carbon emissions resulting from construction. We have started to think about our strategy and have awarded our first contracts for this in FY25 to support woodland projects across England, and an innovative initiative to deliver energy retrofits in low-income housing.

Since we set our target, the language, and maturity of the sector with regards to carbon neutral construction has evolved significantly. Therefore, in September 2023 we consulted leading carbon experts from industry and public sector to inform our approach to achieving carbon-neutral construction, what we should call our target, and our approach to carbon compensation.

Our approach to compensation in RIIO-T3 is now based on external stakeholder feedback. We recognise that over the course of RIIO-T3, we will not be able to abate all our carbon emissions, and therefore will continue to seek investment in carbon compensation projects in line with our RIIO-T2 funding. However, we will not name this 'carbon neutral construction'. This is because offsets may take years to realise.

As an example, a newly planted tree can take as many as 20 years to capture the amount of CO<sub>2</sub> that a carbon-offset scheme promises. The benefits of compensation may not be fully realised by 2031, and we do not mean to mislead our stakeholders. Our aim is to continue to invest in compensation for the delivery of wider benefits, both nature-based and social. If we do not support compensation projects in RIIO-T3 we will miss the opportunity to support delivery of these benefits and overall have a lower social impact and reduced benefit for nature and climate.

More information on our approach to how we will fund low carbon construction and compensation can be found in section 5.2.

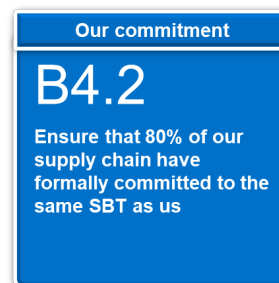
#### 4.3.1.3. C) Sustainable supply chains and offices

### 80% of our suppliers by emissions will have formally committed to set a Science Based Target by 2030

We know that a collaborative approach is essential to tackle today's greatest environmental challenges, and we have been working for years with our suppliers to accelerate environmental and social improvements across our value chain. Supply chain-related emissions will represent a substantial portion of our scope 3 emissions and this target will support the reduction of our Scope 3 category 1 purchased goods and services and category 2 capital goods emissions.

In RIIO-T3 we are focusing for suppliers to have Science Based Targets. 80% of our carbon strategic suppliers or suppliers by emissions (namely carbon strategic suppliers) will have formally committed to set a Science Based Target by 2030. A carbon strategic supplier will define at the start of the reporting period at a Group level for National Grid plc. All carbon strategic suppliers will also be directly managed and influenced by our procurement teams.

We focus on our carbon strategic suppliers to make more tangible impacts and support our wider scope 3 carbon reduction target by 2030, as recommended by the SBTI<sup>8</sup> Working with our high emitting suppliers is also in line with some of our peers such as Severn Trent. This is considered best practice and goes beyond the minimum expectations as set out by Ofgem to do so by value.



<sup>8</sup> SBTi guide to developing and achieving scope 3 supplier engagement targets - <https://sciencebasedtargets.org/resources/files/Supplier-Engagement-Guidance.pdf>



## Our corporate property managed office estate will be net zero by 2030

It is estimated that emissions from the office sector will need to fall by 60% for the UK to meet its net zero carbon commitments. The UK Green Building Council (UKGBC) published the Net Zero Carbon Buildings Framework Definition<sup>9</sup> in 2019 to provide the industry with clarity on the definition of net zero carbon buildings. As an organisation committed net zero, we are aiming to align to this framework and have a commitment for our corporate office estate.

To deliver on this commitment, we will:

- Target a 60% energy efficiency improvement in our office's vs 2020 baseline
- Target decarbonisation of heat at National Grid House and our Eaking training centre
- Deliver renewable self-generation via Solar PVs
- Have additionality-based and renewable power purchase agreements
- Offset residual emissions in line with Group Offsetting policy.

This target exceeds our 2050 net zero target, bringing forward the target deadline to 2030. We believe that this is reflective of the need and opportunity to reduce energy use and associated carbon emissions at a greater pace in the Core Office Estate<sup>10</sup>, whilst recognising that the office estate is not subject to the same limiting factors (for example associated with SF<sub>6</sub>). Any future office acquisitions or moves will also aim to meet the UKGBC Climate Emergency Design Guide targets for commercial offices.



<sup>9</sup> UK Green Building Council (UKGBC) Net Zero Carbon Buildings Framework Definition - <https://ukgbc.org/resources/net-zero-carbon-buildings-a-framework-definition/>

<sup>10</sup> For the purposes of this target, the Core Office Estate is defined as sites a) primarily non-operational in function, b) under the management of the Corporate Property Team, c) NG are directly liable for utilities supplies, D) are in full control of energy use at the site. Landlord run offices, short term project office and operational estate is excluded.

### 4.3.2. Nature positive

**We will contribute to the preservation, restoration and enhancement of the natural environment and contribute to the wider global Nature Positive goal to 'halt and reverse nature loss by 2030'.**

#### D) Environmental improvement



By 2031, we will:

- Deliver at least 10% Biodiversity Net Gain (BNG) (or equivalent in Wales), with wider environmental and societal benefits for all developments requiring formal planning and consenting.
- Deliver at least 10% Biodiversity enhancement with wider environmental and societal benefits for our voluntary non statutory construction projects.
- Advance understanding in the development and delivery of effective marine restoration and enhancement by 2030, in collaboration with industry partners.

#### E) Embodied ecological impacts



By 2031, we will:

- Disclose the Nature-related risks, and dependencies from our direct and indirect operations including our supply chain using the Nature Related Disclosures (TNFD) framework as a guide.
- Work with other TOs and common supply chain to set appropriate reduction targets aligned to priority impact areas.

#### F) The natural grid



By 2031, we will:

- Seek to work with our established grantor and non-operational land network to deliver nature connectivity/ nature corridors and additional environmental benefits.
- Maintain our 10% enhancement in our non-operational land through the delivery of our 10-year partnership agreements.

#### 4.3.2.1. D) Environmental improvement

**Deliver at least 10% or greater Biodiversity Net Gain (BNG) (or equivalent in Wales), with wider environmental and societal benefits for all developments requiring formal planning or consenting, and at least 10% Biodiversity enhancement with wider environmental and societal benefits for our voluntary non statutory construction projects.**

Biodiversity Net Gain (BNG) is a way of making sure the habitat for wildlife is in a measurably better state than it was before development. In the UK, 10% BNG became mandatory for planning applications under the Town and Country Planning Act in February 2024 and will become mandatory for Nationally Significant Infrastructure Projects (NSIPs) from November 2025.

It requires a minimum 10% gain calculated using the government's Statutory Biodiversity Metric. BNG must be secured, managed and monitored for 30 years, including regular reporting to the relevant Local Planning Authority (LPA). Wales has applied a different approach via Net Biodiversity Benefit (NBB), this does not mandate use of a defined metric however in parallel to delivery of our NBB requirements we use to the Statutory Biodiversity metric as a way of quantifying impacts and inform actions consistently across all construction activities.

Our role in the delivery of net zero infrastructure and our associated development activities on land and sea, provides a unique opportunity for National Grid to play a role in restoring ecosystems, connecting people to nature, and creating and improving habitats at scale that will provide long term direct benefits to business, community, and biodiversity. Our RIIO-T2 Business Plan included a commitment to deliver 10% environmental net gain (including at least 10% biodiversity net gain) on our construction projects. We made these commitments three years in advance of formal legislation.

Since RIIO-T2, external legislation, policy requirements and stakeholder expectations for delivering BNG plus wider benefits have developed and evolved. To understand more of our stakeholder expectations, in February 2024 we launched an external consultation document focussed on our Nature Positive approach. The purpose of the consultation was to gather views on our approach to Nature for RIIO-T3 which included specific sections focussing on our Biodiversity Net Gain (BNG) ambition and approach. Stakeholder feedback indicated that delivering 10% BNG is now considered to be the norm, with some stakeholders indicating that a higher percentage (20-30% enhancement) should be delivered on large construction projects.

Notwithstanding calls for an increased percentage, our strategy is not to increase the target percentage over 10% across the broad range of our construction projects, but rather ensure that the maximum benefits and value can be extracted from the implemented consumer-funded BNG which is delivered – a focus on ‘quality’ rather than ‘quantity’. This is particularly important for new overhead lines and underground cables where BNG would need to be delivered on third party land, much of it which is often farmland used for crops or grazing. 10% is not seen as a specific target or cap and we will work with our strategic partners to seek opportunities to deliver in excess of 10% where viable.

For the RIIO-T3 period, as well as remaining legally and policy compliant, we aim to maximise the benefits from consumer funded BNG by delivering wider benefits (including environmental education, learning and skills/ job creation (EELS)), for the benefit of the local environment and communities. Wider environmental benefits include natural capital such as flood attenuation, water and air quality improvements, pollination, and climate regulation; environmental education, learning and skills (EELS) includes creating interest and capacity in individuals, organisations, and communities to develop, manage and maintain areas of BNG and the wider services they provide.

**Our commitment**  
**B4.7**  
Deliver Biodiversity Net Gain (or equivalent in Wales) alongside wider environmental and societal benefits

Any construction scheme with a temporary or permanent impact on the natural environment, is in scope for our net gain commitments as it was within RIIO-T2. This does not include overhead line refurbishment or reconductoring schemes as they are not deemed to be “construction” projects. We will also continue to measure BNG using The Statutory BNG metric, statutory accounting tool for biodiversity. It uses changes in the extent and quality of habitats as a proxy for nature and compares the habitat found on a site before and after development. Four key factors underpin this comparison: 1) habitat size, 2) habitat condition, 3) habitat distinctiveness and 4) strategic significance. During this period, we will also work on the development of an additional tools and metrics to measure and track the wider environmental and societal benefits and seek alignment with our Scottish counterparts. This will include looking at Natural Capital/ Ecosystem and Social Value Tools.

Building on our commitments and actions within RIIO-T2, we have developed a strategy for RIIO-T3 to deliver BNG plus wider environmental and societal benefits in a sustainable and scalable way, which:

- goes beyond our legislative requirements in line with stakeholder expectations
- is realistic and achievable.
- recognises the scale of our RIIO-T3 construction portfolio across NGET including ASTI

More information on our BNG strategy can be found in Appendix A.

#### [Advance understanding in the development and delivery of effective marine restoration and enhancement by 2030](#)

The UK is one of the most nature-depleted countries in the world. The State of Nature report has shown that since the 1970s, 41% of all UK species surveyed have declined, while 15% of species within the UK are said to be threatened with extinction. The 25 Year Environment Plan pledges to ‘reverse the loss of marine biodiversity and, where practicable, restore it’.

The techniques for habitat restoration and enhancement in the marine environment are still novel and untested, however several energy sector developers are promoting schemes to improve the marine environment they are impacting or to increase the knowledge of the

**Our commitment**  
**B4.8**  
Seek to deliver marine improvements for projects impacting the marine environment and work with grantors to deliver nature connectivity

environment they are working within. There are currently several potential opportunities to develop and trial. Our aim is to support and advance the understanding in the development and delivery of effective marine restoration and enhancement.

#### 4.3.2.2. E) Embodied ecological impacts

Disclose material nature-related risks, and dependencies from our direct and indirect operations including our supply chain in line with the Taskforce for Nature Related Disclosures (TNFD) framework

Scientific evidence of nature's decline, points to an increasing likelihood that nature risks will materialise. The Global Biodiversity Framework agreed at the United Nations Biodiversity Conference (COP15) set an expectation of businesses to be more cognisant of the wider global impacts on nature and biodiversity as a direct and indirect consequence of their operations and activities.

As part of our nature consultation, there was strong support for aligning our approach with existing and emerging nature frameworks such as Taskforce for Nature Related Disclosures TNFD11 and Science Based Targets for Nature (SBTN), as well as contributing to global goal of Nature Positive. Our supply chain approach and tools will enable us to understand our impacts in a much more transparent and coherent manner and highlight areas where we could reduce our negative impacts. We will use the TNFD framework as a guide for disclosure.



Work with other transmission owners (TOs) and common supply chain to set appropriate reduction targets aligned to priority impact areas.

In RIIO-T2 we have worked together as TOs to develop the approach and tools for understanding nature risks and dependencies and started to integrate into our procurement processes. In RIIO-T3 we will continue to integrate tools into our assessment and reporting processes and utilise the data from the tools to facilitate engagement with a view to set appropriate and deliverable targets with key organisations within our sector supply chain.

#### 4.3.2.3. F) The natural grid

As in RIIO-T2, we will continue to seek opportunities for environmental enhancement for our overhead line refurbishment and reconducting projects. These are not deemed to be construction activities, and therefore not in scope of our formal 10% BNG targets. However, we do recognise they impact the natural environment and have developed a bespoke approach that builds on reinstatement, supporting delivery of biodiversity enhancements via local partners in areas impacted by these works. This is now business as usual and therefore not included as a specific commitment. New targets are detailed below.

Seek to tap into our established grantor and non-operational land network to deliver nature connectivity/ nature corridors and additional environmental benefits.

National Grid's transmission network, both established and anticipated, is uniquely placed, and could play a leading role in facilitating and demonstrating a collaborative approach to rural land use. The scale and connectivity of our infrastructure across multiple and varied landscapes in England and Wales presents us with an opportunity to play a leading convening role in delivering the core conservation ambition of 'bigger, better and more joined up'. The natural grid therefore could lead and deliver positive change on a large scale.

During the RIIO-T2 period, our focus has been on our non-operational land. However, extending our focus to cover operational land along our assets will help us to achieve much greater benefits for nature. Our aim for RIIO-T3 is to capitalise on our unique operational footprint across large areas of England and Wales to deliver nature connectivity/ nature corridors.

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<sup>11</sup> The TNFD has developed a set of recommendations and additional guidance to help a range of organisations get started with the identification, assessment, management and disclosure of their material nature related issues. The TNFD recommendations are consistent with global policy goals and international sustainability reporting standards, are science based, and designed to allow organisations across jurisdictions to get started now and increase their disclosure ambition over time.

Working with our established grantor network, we aim to explore opportunities for land restoration identified under the Environment 25 Year Plan and other Government initiatives such as the Local Nature Recovery Strategies (LNRS) and the National Recovery Network (NRN). In the next few months, we will be developing pilot projects to understand how to best deliver this at scale.

### Maintain our 10% enhancement in our non-operational land through the delivery of our 10-year partnership agreements

In RIIO-T2 we made a commitment to increase the environmental value of our non-operational land by 10%. We own around 1,800 hectares of non-operational land, including a rich variety of habitats from ancient woodland to peatbogs. It is therefore important, and it gives us a great opportunity, to manage the land we own in ways that recognise, preserve, and create the most value for stakeholders and nature. We are adopting best practice methods, such as the 'natural capital' approach, so we create the most benefit.

In 2015 we developed a bespoke natural capital tool that utilises third party data to provide indicative financial values associated with the provision of the ecosystem services. This helps us place a value on the benefits and services our natural assets provide, taking into consideration the surrounding environment. In parallel, we have working with a third party (AIDash) to improve our approach by supporting the development of an information system platform that utilises satellite data to quantify our natural assets, paired with updated Natural Capital valuation methodologies.

Within RIIO-T3 we do not propose a further commitment to enhance non-operational land. To facilitate the Great Grid Upgrade and Customer Connections, the demand for non-operational land has accelerated dramatically. Where previously un-used land was considered surplus to operational requirements for the foreseeable future, such land is now being considered to facilitate substation expansions and new builds. As a result, it is becoming increasingly more challenging to identify land for environmental enhancement purposes as engineers are not able to confirm with any certainty if land is surplus as site strategies are yet to be finalised.

However, in RIIO-T3 we will continue delivering our 10-year partnership agreements with organisations such as the TCV, the Wildlife Trust and many other environmental NGOs that we created within the RIIO-T2 period to maintain environmental enhancement.



### 4.3.3. One planet living

**We will operate within the limits of our planet by seeking to eliminate pollution and restrict the use of finite resources, so that humanity can continue to develop and thrive for generations to come.**

#### G) Resources and circularity



By 2031, we will:

- Deliver zero avoidable waste in construction projects.
- From 2026, specify for at least 10% recycled / reused content in key construction materials.
- Improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard.
- Specify the use of Material Passports and Resources Management Plan(s) to increase resource efficiency, design out waste and reduce the impact on the natural environment.

#### H) Water stewardship



By 2031, we will:

- Assess our water footprint, including operations, construction, and supply chain to understand our impact and risk.
- Work with industry to identify opportunities to improve water use efficiency and minimize wastewater generation.

#### I) Excellent environmental management



By 2031, we will:

- Reduce risk associated with oil contamination through improved asset management practices.
- Install alternatives to oil filled installations where there is a technically, commercially and time viable alternative.
- Maintain our certified environmental management system and plan to address all risks and opportunities on an annual basis.

#### 4.3.3.1. G) Resources and circularity

##### Deliver zero avoidable waste in construction by 2031

According to the World Green Building Council (WGBC), construction creates an estimated third of the world's overall waste, and at least 40% of the world's carbon dioxide emissions. In RIIO-T2 we committed to set waste targets across construction, operations, and offices. These included landfill diversion, recycling, and waste opportunity targets. However, there has been an evolution in our waste management practices.

The UK Government's Resources and Waste Strategy (2018) details their ambition 'to eliminate avoidable waste of all kinds by 2050' in England. The construction sector is the largest user of materials in the UK and produces the biggest waste stream in terms of tonnage. In 2020, the Construction Leadership Council (CLC) has set a pathway<sup>12</sup> for zero avoidable waste in construction by 2030. Our goal is to align to the pathway as set by the CLC where we can and create a more detailed pathway for what this means for NGET in more detail. We will develop this ahead of April 2026.

<sup>12</sup> <https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2021/07/ZAW-Interactive-Routemap-FINAL.pdf>

In this context, avoidable construction waste is interpreted as *'materials, products or components that can be prevented from becoming waste'*. Where waste is unavoidable, it will be recovered at the highest possible level of the waste hierarchy. This approach will ensure we are aligned with the government's 2050 target and that we follow a roadmap that has been set considered best practice by industry and sector. Eliminating waste from our operations will make us more efficient and will reduce our demand on the planet's resources.

In addition, we commit to maintain our levels of performance from RIIO-T2. We will maintain 100% landfill diversion and 80% recycling rate in construction, with a 60% recycling rate in our operations and offices. Performance for these KPIs will be reported in our AER. However, our main focus will be on stretching ourselves with relation to eliminating waste in the first place.



Our commitment

## B4.6

Improve our circular economy maturity levels, reduce waste and recycle/re-use more content in construction

### From 2026, specify for at least 10% recycled / reused content for key construction materials

Using more recycled material in construction is a powerful way of contributing to sustainable development – diverting materials from landfill and using fewer natural resources. These materials, sourced from both pre-consumer and post-consumer waste, stand at the forefront of reducing the construction industry's environmental footprint.

The calculation of recycled content can vary based on the standard or certification in question (Global Recycled Standard (GRS), Environmental Product Declaration (EPD data), or ISO14021 Environmental Labels and Declarations)-, but it generally involves determining the mass of recycled materials in a product and expressing it as a percentage of the total mass of all materials in the product.

Many of the products with higher levels of recycled content are already mainstream, high-volume products that are cost competitive with, and subject to the same testing arrangements as, equivalent products containing less recycled material. We know from case study evidence that achieving 10% recycled content by value for the project overall (i.e., not per product) is widely achievable. Recycled content represents the fraction of materials in a product derived from recycled sources, as opposed to newly extracted resources.

Our aim is to start with a 10% requirement from the start of 2026 and increase this requirement as our maturity grows and further opportunities and innovations develop.

### Improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard.

According to the International Energy Agency (IEA), the low carbon energy transition will exponentially increase demand for critical raw materials like cobalt. But, of the materials required through to 2050 for the energy transition, 95% of the weight is accounted for by steel, aluminium, and copper. Without reimagining these traditional materials in favour of more sustainable choices and embedding circular design principles at design and in procurement strategies will not help deliver a more resource efficient future. Given the constraints of finite resources, it's imperative that we alter our approach to material consumption.

In FY22, we completed a gap analysis in relation to the BS:8001 circular economy principles. We determined that the business is currently at 'Level 1 – Basic'. Although there are many things we already do, such as our refurbishment and oil management strategies, there is plenty of room for improvement. The target will be to increase maturity in our understanding of circular economy, embedding principles into asset management strategies, further pilots/ opportunities and arriving to an 'engaged' level in this standard. We have recently recruited a Circular Economy Specialist to support the development of our maturity in this area.

### Specify the use of Material Passports and Resources Management Plans to increase resource efficiency, design out waste and reduce the impact on the natural environment.

One solution to address the construction industry's impact on the environment is the concept of the circular economy – the reuse of materials to prevent the overconsumption of natural resources. At the centre of the push to adopt this in the sector are material passports.

A material passport is a digital record that provides information about the materials, products and components in a structure. These data sets help facilitate circular thinking by providing opportunities

for material reuse in new construction projects. Material passports are stored digitally, and list detailed information about the different materials within components, products, and the structure itself – everything from the type of material to the quantity used, the value of the material and even who manufactured it. This information is crucial at both the construction and the end-of-life phases of a building. Keeping a detailed record of the materials used in products, components and structures in our major projects will help the built environment reduce unnecessary waste.

#### 4.3.3.2. H) Water stewardship

Assess our water footprint, including operations, construction and supply chain to understand our impact and risk and work with industry to identify opportunities to improve water use efficiency and minimise wastewater generation.

A new WWF report (October 2023) revealed that a looming water crisis endangers water resources and freshwater ecosystems valued at approximately \$58trn annually, with significant implications for food security, human well-being, and the environment. ‘Embodied water’ is the latest challenge for the building industry. Embodied water is water consumed in growing and extracting raw materials, manufacture, and transport of products, and during construction. The vast majority of it – 92% of the total – relates to materials production, the Slattery research shows<sup>13</sup>.



Although water was always perceived as being an immaterial environmental aspect for our business, we’re thinking more critically about its usage throughout our offices, operations, construction, and supply chain. We have a role to play in effective water management and aim to have a more holistic understanding of our impact across the value chain so we can identify opportunities to improve water use efficiency.

We collect water data for our offices, and operations. In RIIO-T3 we will understand the impact wider in the value chain, by ensuring our construction projects report on their water usage and aligning to understand the impact we have on water through our commitment to understand and disclose our nature-related risks and opportunities.

Once we gain a better understanding of water impact, we will identify opportunities to improve efficiency. Enhanced concrete is one of the innovations we are looking at. It is not only 30% lighter, but it also uses recycled plastics and requires no water. It could reduce CO2 emissions by 25% and deliver solutions to the ‘embodied water’ problem in our industry.

#### 4.3.3.3. I) Excellent environmental management

Reduce risk associated with oil contamination through improved asset management practices.

Supergrid transformers contain approximately 100,000 litres of oil which is used to insulate and cool the assets. The oil commonly leaks from gasketed hatches or the main tank/lid (bolted) flange joint and is topped up by NGET’s Oil Management Unit. Depending on equipment design and age, top-ups are often a regular occurrence and can sometimes involve several thousand litres per annum.

Transformer oil is harmful to the environment. It is non-biodegradable, toxic, bio accumulative and difficult to dispose of safely. When burned, it can form even more toxic products. Oil that has leaked from transformers can pollute surface waters and groundwater alike. The way we prevent oil pollution is by having containment measures such as bunds and separators.

Maintaining a high standard of oil containment was one of our environmental commitments for RIIO-T2. However, recent incidents have highlighted that leakage of oil can be released to the environment. In RIIO-T3, we have added a specific commitment to reduce the risks associated with oil leakage from our asset infrastructure by having improved asset management practices.

<sup>13</sup> Slattery research: Embodied water: an untapped source of emissions reductions - <https://slattery.com.au/wp-content/uploads/2023/03/Carbon-Mini-Series-04-Embodied-Water.pdf>



There are multiple competing priorities and drivers for asset replacement and asset maintenance to reduce the risks associated with oil leakage. Currently leakage rates do factor into asset management priorities. However, to reduce the likelihood of loss of containment and improve our environmental performance, some level of reprioritisation is needed. The commitment will involve support from across the NGET business to help plan the appropriate intervention necessary to reduce the risks of oil leakage, helping to encourage a more proactive culture in the management of preventative measures for successful oil containment.

Our commitment

# B4.11

Build on our certified environmental management system to reduce oil contamination risk through improved asset management and using alternatives to oil filled installations where viable

An essential element of our approach is to continue the engagement we have with our supply chain to trial and eventually install innovative sealant methods to reduce leaks from our oil-filled equipment. We also work with them to identify alternatives to transformer oil (see section below).

#### Install alternatives to oil filled installations where there is a technically, commercially and time viable alternative.

As detailed above, transformer oil is harmful to the environment if released in an uncontrolled manner from our transformers. In RIIO-T3, we therefore aim, where possible, to install cleaner alternatives to oil-filled installations. Midel oil, for example, is biodegradable, unlike mineral oil, which is toxic and non-biodegradable. This means that MIDEL will not damage the environment if it is released due to a leak or transformer failure.

Synthetic esters have been used in small low-voltage transformers for a number of years. Recently we researched the use of MIDEL 7131 at 400kV and developed a 400kV transformer design for using it; three are now installed at the new Highbury Substation. The behaviour of esters, should they leak, is different to traditionally used mineral oil so conventional containment solutions (bunds and interceptors) may not be necessary.

#### Maintain our certified environmental management system and plan to address all risks and opportunities on an annual basis

Our Environmental Management System (EMS) has been certified to the ISO 14001 standard for many years to manage environmental risk from its operations. The system was integrated with the Safety, Quality and Asset Management Systems and certification to ISO14001, ISO45001, ISO9001 and ISO55001 was gained in September 2023.

Having a certified environmental management system ensures NGET has a recognised approach to managing the risk associated with its operations, taking advantage of the opportunities it recognises in the spirit of continual improvement. Having a certified system is a requirement of our supply chain so it is important we demonstrate the same high standard, particularly as we deliver our own construction works.

In RIIO-T3, we will ensure that all parts of the business maintain an externally certified environmental management system and that there are Environmental Management Improvement Plans that address all key risks and opportunities on an annual basis. The annual improvement plan will compliment, but be additional to, the EAP and any actions resulting from management reviews of the Integrated Management System (IMS).



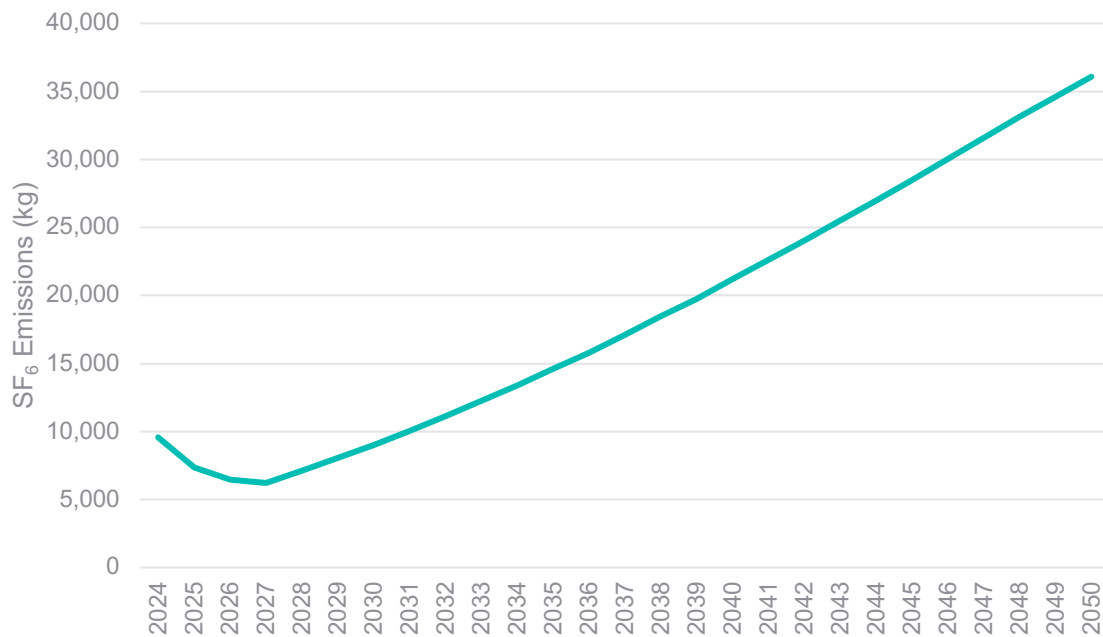
#### 4.4. Potential environmental impacts in RIIO-T3 without intervention

#### 4.4.1. Net zero emissions

We are committed to a 50% reduction in scopes 1 and 2 emissions (including transmission losses) through our science-based target, however this will take decisive action, and without invention during RIIO-T3 in a range of areas we would expect emissions to be significantly higher than with our proposed actions.

For scope 1 we would anticipate an increase of 22-48% in emissions in the final year of RIIO-T3 compared to if we had carried out our interventions. This is primarily linked to further leaks from SF<sub>6</sub>. Figure 13 shows the forecasted SF<sub>6</sub> emissions from the transmission network without interventions, and shows how, without ongoing intervention, the SF<sub>6</sub> emissions will increase in RIIO-T3, and continue beyond due to the deterioration of the assets.

**Figure 13 SF<sub>6</sub> emissions trajectory without intervention**



For scope 2, the impact is harder to quantify on its own due to the different potential scenarios of grid decarbonisation, however assuming we do not connect renewables as quickly as planned, and that our own energy efficiency initiatives are not undertaken we may expect an increase of approximately 50% in the final year of RIIO-T3 compared to if the grid does decarbonise quickly and we carry out our initiatives.

As our network grows, at pace, to facilitate the connection of renewables and decarbonisation of the grid we risk increasing our scope 3 emissions significantly. This is the biggest overhaul of the network since it was built. We continue to hear the importance and need for clear market signals, to build supply chain confidence in lower carbon, sometimes more expensive solutions. By not prioritising low carbon construction in RIIO-T3 we risk damaging the confidence and trust of our supply chain, potentially resulting in them not decarbonising their activities, or offering low carbon products as quickly as they would have, having a broad negative impact on the wider sector. By signing up to initiatives such as ConcreteZero, SteelZero and ConstructZero, alongside our RIIO-T3 commitments, we hope to mitigate this risk.

In 2023 progress report to the UK Government, the Committee on Climate Change, recommended they set a goal to mobilise at least £500 million of private finance per year into nature's recovery in England by 2027, rising to more than £1 billion per year by 2030. This funding will partly focus on nature-based carbon sequestration. This was to ensure that the land sector in the UK gets the support it needs to become a net sink by the 2030s to support UK net zero. Without support from organisations in the near term, the carbon and nature markets in the UK will not be able to develop meet the needs of the UK. Without the agreed funding in RIIO-T3 we won't be able to play our part in supporting these markets and supporting this goal. Our approach to compensation is based on delivery of wider benefits, both natures based and social. If we don't support compensation projects in

RIO-T3 we will miss the opportunity to support delivery of these benefits and overall have a lower social impact and reduced benefit for nature and climate.

#### 4.4.2. Nature positive

Although Biodiversity Net Gain is mandatory for many projects requiring a grant of permission under the Town & Country Planning Act 1990 in England, there is only policy expectation to deliver biodiversity enhancement aligned with Nationally Significant Infrastructure Projects (NSIP) development. A different approach to Net Biodiversity Benefit has been applied in Wales. The lack of clarity and consistency around process, % requirements and ambiguity around how BNG will be applied to NSIPs could lead to different approaches across our construction activities leading to a lack of suitable and proportionate investment in biodiversity enhancement, and misalignment of stakeholder and community expectations, which in turn could lead to lack of acceptability from local communities and planning authorities, causing potential delays and costs.

Where BNG is mandatory under the Town and Country Planning Act the guidance focuses only on the provision of 'pure' BNG and does not set out any expectations on how it could be provided in a way that delivers wider societal benefits. Policy guidance contained in the Overarching National Policy Statement on Energy (EN-1) and in the National Policy Statement for Electricity Networks Infrastructure (EN-5) states that BNG 'can allow' for wider societal 'opportunities' but does not detail or mandate them.

A narrow focus on meeting our BNG requirements alone, represents a significant missed opportunity for us to use BNG as a lever to work with strategic partners and expert organisations to facilitate a positive contribution to wider UK Government policy, priorities and objectives on education, health, wellbeing, communities and cohesion, and nature alongside delivery of a net zero energy network.

Furthermore, without further understanding of the risks and opportunities nature has in the supply chain is not looking at our environmental impact holistically. Focusing just on net zero can result in perverse outcomes, as what is good for net zero is not necessarily good for nature, and vice versa.

#### 4.4.3. One planet living

Current electricity transmission construction practices involve large amounts of steel, concrete and copper cabling. Without reimagining these traditional materials in favour of more sustainable choices and embedding circular design principles at design and in procurement strategies will not help deliver a more resource efficient future. Given the constraints of finite resources, it's imperative that we alter our approach to material consumption, reconsider the consequences of extraction, and ensure equitable global access to these resources. We are not able to quantify the impact, but we are part of a much bigger picture in the global supply chain.

In the late 1990's, National Grid was prosecuted several times following individual incidents involving the release of transformer oil, diesel and cable oil, leading the company to invest in pollution prevention measures. In addition to cable joint bay refurbishment and remediation of past contamination, a large investment was made in oil containment measures on substation sites to upgrade bunding, improve drainage, replace interceptors and install dewatering devices. The vast majority of this work was carried out in the early 2000's on a priority basis, depending upon the environmental risk associated with the site (e.g., proximity to ground and surface waters, condition of existing equipment etc).

Since these measures were taken, National Grid has received no enforcement action from environmental regulators. However, an ageing oil infrastructure and a recent increase in oil-related environmental incidents has changed the risk profile associated with the risk of pollution. Without adequate intervention, there is a heightened risk that a significant incident may harm the environment resulting in prosecution or fines to the company as well as the associated reputational damage.

## 4.5. Social sustainability and our communities

In our Responsible Business Charter, we commit to supporting a fair and affordable transition. Our ambition is to maximise the social value created through our operations and construction to leave a lasting, positive legacy for our communities and ensure a Fair Transition.

Aligned to business priorities and core values, in RIIO-T3 we will focus on initiatives that benefit communities and society with tangible targets, backed up by action. We will mitigate the impacts and enhance the benefits of our work, seeking input from our stakeholders and communities to understand their needs and preferences, represent their perspectives and ensure that we do not leave anyone behind. Figure 14. illustrates our social responsibility framework.

Our Environmental Action Plan connects significantly with ‘Our Communities’ pillar of our Social Sustainability plan as some of the benefits we aim to deliver through our commitments will benefit our local communities. Some examples of how we aim to do this is described below.

**Figure 14 Social sustainability framework**



### 4.5.1. Our communities

We know from our engagement, that stakeholders and communities expect us to do more; particularly in regions where we are proposing multiple projects in similar geographical locations, and where other nationally significant projects are also proposed. If we are to achieve a greater level of public acceptability for our infrastructure, communities need to understand the need for it, and importantly, feel tangible benefits from hosting it in their areas.

A recommendation of the Nick Winser report<sup>14</sup> (UK's Electricity Networks Commissioner) on how to accelerate electricity transmission network deployment was that a clear and public set of guidelines for community benefits should be established. We will support communities impacted by new transmission infrastructure projects and operational activities by delivering both local community benefits and regional socioeconomic legacy benefits, in line with government guidance. This will include continued delivery of a community-led grant scheme. This funding will create opportunities to accelerate social mobility through generating new or improved skills and employment opportunities in local communities and identified disadvantaged groups.

**Our Community Benefit Framework** (see EJP ES05 – Community Benefit Framework) will generate a wide range of socio-economic benefits and a lasting positive legacy in communities impacted by our works. Our strategic pillars are:

- **Environment:** Protection and enhancement of the natural environment and supporting local authorities and communities realise their climate change ambitions.
- **Skills:** Inspiring the next generation and equipping communities with the skills they need to be part of the Net Zero Energy Workforce, with a focus on diversity, equity and inclusion.
- **Local communities:** Meeting local stakeholder priorities and responding to community needs to effectively target and maximise delivery of social value.

Based on stakeholder priorities, we will also be building in a focus on consumer vulnerability for RIIO-T3.

Alongside direct investment in community benefits, we will also continue to leverage Innovation funding – not just to tackle our environmental challenges, but to collaborate across industry on challenges facing the most vulnerable in society as we transition to net zero.

Through employee volunteering in educational outreach, our colleagues will help to equip future generations with the green skills needed to help deliver the energy transition and deliver direct benefits to nature through team-based conservation activities.

Our Environmental Education Centres continue to provide nature-focused community hubs alongside our operational sites. Run via charitable partnerships, these centres enhance the land's biodiversity while providing employment, volunteering opportunities, and a range of wellbeing and social benefits for the local area, demonstrating how nature and communities can thrive alongside critical national infrastructure.

Beyond just carbon commitments, we will collaborate with our supply chain partners on broader social value delivery. This includes diverse talent pipelines, local investment and supplier capability, with a focus on under-represented groups and disadvantaged communities.

More information on the Community Benefit Framework can be found in the Communities Benefit Engineering Justification Report. Further information on the commitments to 'Our People' and 'Our Supply Chain' can be found in the Workforce and Supply Chain Resilience Strategy (Annex A03).

#### 4.5.2. The impact of our EAP on our communities

We have said over the course of this document that a key shift in focus for our EAP in RIIO-T3 is **HOW** we deliver on these commitments and responding to evolving challenges by doing things different. Our approach and ambition in to ensure that our communities, especially those most impacted by our work, see the benefit of our environmental work.

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<sup>14</sup> Accelerating electricity transmission network deployment: Electricity Networks Commissioner's recommendations <https://www.gov.uk/government/publications/accelerating-electricity-transmission-network-deployment-electricity-network-commissioners-recommendations>

#### 4.5.2.1. Carbon compensation and community impact

Carbon compensation projects can provide communities with a range of benefits. These initiatives can create green jobs, encourage the use of sustainable energy, support climate resilience, and help to restore the natural environment. To realise these benefits, it is essential that carbon compensation works are tailored to the specific needs and contexts of each community and environment. We are taking a diverse and informed approach to deliver carbon compensation, while producing benefits for surrounding communities and environments.

During the RIIO-T3 period, we will be investing in organisations that specialise in carbon removal and/or reduction. We are ensuring these organisations adhere to our eight compensation principles and simultaneously delivering co-benefits. Figure 15 provides the types of compensation projects considered.

**Figure 15 Types of compensation projects considered**



- **UK nature-based solutions (NBS):** NBS is a sustainable approach to carbon compensation that uses natural ecosystems to capture and store carbon dioxide from the atmosphere. NBS can aid climate change mitigation and climate adaptation. NBS can also provide other benefits, such as: cleaner air and water, flood and erosion control, increased biodiversity, economic benefits, and improved human health and wellbeing. An example of an organisation delivering this carbon compensation through NBS in the UK is Forest Carbon. They are a well establish forestry and peatland carbon organisation providing investments in existing projects and project creation across the UK.
- **UK energy efficiency:** Energy-efficiency carbon compensation projects reduce carbon dioxide equivalent emissions as they develop energy-efficient mechanisms, using less energy to perform tasks. These mechanisms can help mitigate climate change and positively impacts public health. Energy-efficiency carbon compensation projects are efficient because they avoid carbon emissions immediately, promote energy decentralisation, and are relatively cost-effective. Whilst other emission reduction projects view each tonne of carbon reduction as fungible, this service focuses on the outcomes of the people who live in the homes and communities where retrofit works are taking place. An example of an organisation doing this in the UK is HACT, who support energy efficiency initiatives in low-income housing. HACT offer carbon savings rather than a future promise and aligns well with our organisational role and values, particularly around our need to support vulnerable consumers.
- **UK emerging technologies and innovation:** Within the UK there are limited options for Carbon compensation or tradable offsets, therefore, we are also exploring opportunities to invest in innovations and new technologies to support development of the market.

We have started to work on this approach since the RIIO-T2 period and have active projects with both Forest Carbon and HACT. This approach was consulted on with external experts as part of our Net Zero Construction Consultation. The eight principles were well received, and prioritising UK projects was also supported by most respondents.

#### 4.5.3. Biodiversity net gain for communities

As described in section 4.3.2.1.1 Biodiversity Net Gain is a method that helps improve biodiversity by creating or enhancing habitats during development. It can be achieved on-site, off-site, or through a combination of both.

BNG can benefit people directly, for example when communities can enjoy high quality natural surroundings either by BNG being achieved within the development footprint or when a biodiversity offset increases people's access to, or views of, nature. Indirectly, of course, more biodiversity in the right place has a wider societal benefit of supporting a healthy environment for everyone.

As per our RIIO-T3 EAP, we have committed to deliver at least 10% BNG plus wider environmental and societal benefits across the RIIO-T3 period. Key pillars of this approach for communities are as follows:

- Deliver BNG on all our projects to benefit the local environment and communities affected – in preference to potentially 'lower cost' option with limited local benefits from the commercial market.
- Deliver BNG through expert partners who have better local contacts and experience - delivering more sustainable and enduring environmental outcomes than ourselves.
- Maximise funded BNG through delivering wider environmental benefits + environmental education, learning and skills (EELS) – a focus on quality over quantity in preference to 'just' BNG habitat improvement.

### **What is Environmental Education Learning and Skills (EELS)?**

The UN Environment Programme's five objectives for environmental education are awareness, knowledge, attitudes, skills and participation, and actions. EELS is about developing and encouraging environmental interests and attitudes supported by a range of skills appropriate to peoples ages, aptitudes and interests, both formally and informally, in classroom settings and off the premises.

Added value and EELS could include working with:

Engaging with primary and secondary schools, Further Education and Higher Education and sector skills organisations such as the Conservation Volunteers;

- Partner with outdoor education organisations including the Field Studies Council, the Scout and Guide Associations, and the Forest School Association. As part of our broader commitment to equitable STEM outreach.
- social prescribing through the NHS, Men's Sheds Associations, and community art groups particularly to benefit those in vulnerable situations within our communities.




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Through effective and efficient delivery of BNG there is an opportunity to make a significant contribution to nature recovery at scale across England and Wales. Our proposed approach prioritises quality and wider benefits over additional quantity (and its potential adverse effects of loss or integrity of farmland) and aims to involve communities in creation of habitats so that they can enjoy the community, physical and mental benefits that such opportunities bring.

## 4.6. A step change from RIIO-T2 to RIIO-T3

The biggest contribution we aim to make in RIIO-T3 is not only what we are committing to, but HOW we are delivering those commitments for the benefit of our communities.








How we will do things differently:

Strategic area	Additional focus
 <p data-bbox="293 689 405 719">Net zero</p>	<p data-bbox="501 465 1378 562">Meeting our 2030 carbon targets will require proven and repeatable non-outage repair techniques, automated real-time monitoring of SF<sub>6</sub> leakage, and dynamic delivery frameworks. [REDACTED]</p> <p data-bbox="501 651 1396 835">Carbon in construction will continue to be a key focus beyond 2026 focusing on switching to low-carbon alternatives where available. Best practice has evolved we and our stakeholders recognise carbon neutral construction is not the right language for our target. We also recognise the increasing cost of carbon compensation therefore are proposing a different approach in line with best practice.</p> <p data-bbox="501 864 1358 925">Continued focus on fleet, energy use, transmission losses, supply chain and offices.</p>
 <p data-bbox="304 1144 405 1205">Nature positive</p>	<p data-bbox="501 981 1390 1081">We will meet our mandatory minimum 10% BNG requirements, but with more focus on <b>how</b> this is delivered. We will ensure the delivery of additional environmental and societal benefits.</p> <p data-bbox="501 1111 1350 1171">We will understand our nature related impacts in the supply chain and disclose this as we do for carbon.</p> <p data-bbox="501 1200 1378 1261">We will act on new environmental impact areas: marine improvement and restoration and working with grantors to deliver nature connectivity.</p>
 <p data-bbox="268 1491 416 1559">One planet living</p>	<p data-bbox="501 1339 1350 1440">We are moving away from landfill diversion and recycling targets as we have already achieved them in RIIO-T2, to focus on eliminating avoidable waste, material management and circular economy.</p> <p data-bbox="501 1469 1396 1529">We will focus more on water stewardship and ensuring we fully understand our water footprint.</p> <p data-bbox="501 1559 1305 1619">Increased focus on reducing oil management risks and switching to cleaner alternatives where available.</p>







## 4.7. Benefits, outcomes and deliverables






**Net zero:** We will achieve net zero by 2050, ensuring alignment to climate science and industry best practice to avoid the worst effects of climate change on people and the planet.

 <p><b>35GW</b> generation capacity connected</p>	<p><b>SF<sub>6</sub></b></p> <p><b>40,354kg</b> of SF<sub>6</sub> removal from the transmission network</p>	 <p><b>234</b> internal combustion vehicles replaced with zero emissions vehicles</p>	 <p><b>~1100</b> KTCO<sub>2e</sub> reduction in capital carbon emissions</p>
 <p><b>50%</b> reduction in scope 1 and 2 emissions from FY19</p>	 <p><b>15m</b> kWh reduction in substation energy per annum</p>	 <p><b>Net zero</b> for our corporate managed offices</p>	 <p><b>730-2500</b> ktCO<sub>2e</sub> removed or reduced through funding of compensation projects</p>

**Nature positive:** We will contribute to the preservation, restoration and enhancement of the natural environment and contribute to the wider global Nature Positive goal to 'halt and reverse nature loss by 2030'.

 <p><b>&gt;10%</b> At least 10% Biodiversity Net Gain (plus wider benefits) for all developments</p>	 <p><b>Nature related risks</b> disclosure of nature related risks and dependencies using TNFD as guide</p>	 <p><b>Marine restoration</b> enhanced understanding in marine restoration in collaboration with industry partners</p>
 <p><b>EELS</b> delivery of environmental education, learning and skills/job creation</p>		 <p><b>Nature connectivity</b> by tapping into our established grantor network</p>

**One planet living:** We will operate within the limits of our planet by seeking to eliminate pollution and restrict the use of finite resources, so that humanity can continue to develop and thrive for generations to come.

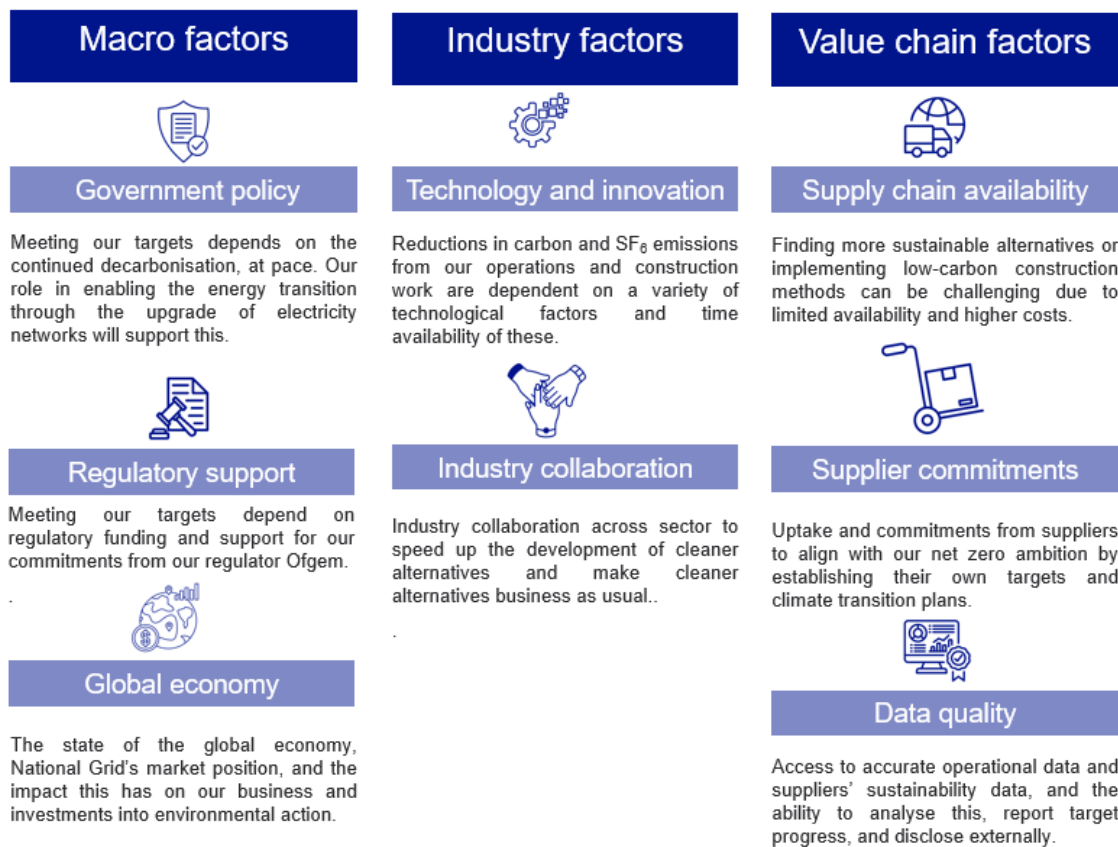
 <p><b>Zero avoidable waste</b> in construction projects by 2031</p>	 <p><b>Circular economy</b> improvement in our circular economy maturity levels to 'engaged'</p>	 <p><b>Water footprint</b> improved understanding of our water footprint across the value chain</p>
 <p><b>&gt;10%</b> recycled / reused content in key construction materials</p>		 <p><b>Oil filled alternatives</b> installed in our network where possible</p>

## 4.8. There are a number of dependencies to achieving our targets

There are opportunities and challenges in addressing our impact areas, most of them described in section 4.3 and section 4.6. In short, we cannot do this alone. Our goals and strategic objectives of this EAP are forward-looking, meaning we need to make assumptions, and are dependent on external factors outside of our control.

In the development of our EAP, we have identified macro factors, industry factors, and areas within our value chain on which we have a dependency. These dependencies have informed our strategy and are highlighted throughout this plan. A summary is in figure 16 below. Progress against our environmental commitments will likely be variable and non-linear as we face challenges along the way. We have crafted our commitments and targets to highlight the dependencies on these factors.

**Figure 16 External dependencies**



## 4.9. Reporting progress against our commitments

During the RIIO-T2 period we have produced Annual Environmental Reports as per our licence obligation. We have tried to make these reports engaging and accessible to a varying group of audiences. Every year of RIIO-T2 we have organised external webinars to offer insights on our environmental performance with the intention to gather comments and feedback for continuous improvement.

**Figure 17 RIIO-T2 Annual Environmental Reports**



As we have done in RIIO-T2, in this new regulatory period we continue to be committed to tracking our progress and both monitoring and sharing the changes we are making:

- We will develop a suite of annual milestones which we will use to assess our progress.
- We will produce an annual environmental report. This will be available on our website each financial year, starting in 2027.
- We will share our progress and seek regular feedback from key stakeholders.
- We will report annually to our Independent Stakeholder Group (ISG) about our progress.
- We will continue to refine and improve our strategy if there are new policy changes, or if the science tells us we need to act faster.
- Where we are failing, we will reassess how to get back on track.

#### 4.10. Long-term targets, beyond the RIIO-T3 period

We believe that near-term targets involve immediate accountability. Most of our targets take us into 2031. Our Group Responsible Business Charter also takes us to 2030. This is aligned to many global sustainable frameworks and Goals.

##### 4.10.1. Global goals for Sustainable Development

As described in section 2.5, our EAP commitments aim to support the delivery of the United Nations Global Sustainable Goals. The 2030 Agenda for Sustainable Development, adopted by all United Nations Members State in 2015 provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. There are no global goals for sustainable development beyond 2030.

##### 4.10.2. Long term goals for climate

To limit global warming to 1.5 degrees above pre-industrial levels, emissions must decrease and need to be cut by almost half by 2030, while outlining a clear path to achieve net zero emissions by 2050. According to the Science Based Target Corporate Net Zero standard, companies must cut all possible emissions, usually more than 90% of emissions before 2050.

**Our long term SBT is to achieve net zero by 2050, by limiting the use of offsets to get there.**

### 4.10.3. Long term goals for nature

In 2022, the global community agreed via The Kunming-Montreal Global Biodiversity Framework, that by 2030, we will halt and start to reverse the loss of biodiversity and put nature on a path to recovery. The aim of our 'Nature Positive' commitments aims to support and enable the delivery of this global goal for nature.

The protocol also set 4 long term goals for nature:

- Goal A: Protect and restore
- Goal B: Prosper with nature
- Goal C: Share benefits fairly
- Goal D: Invest and collaborate

However, these are more qualitative in nature and more difficult to set specific metrics. But in everything we do we will aim to align and deliver.

The UK also formally committed to protect and conserve a minimum of 30% land and sea for biodiversity by 2030, known as 30 x30. The network of marine protected areas will count towards this target. Our commitments around developing our understanding of marine enhancement and restoration and working with grantors to do more on the land below our electricity lines will support the development of this commitment.

Furthermore, in England, BNG became mandatory from 2024 under schedule 7A of the Town and Planning Country Act 1990). Developments must deliver a BNG of 10%. Within RIIO-T3 we committed to a minimum of 10% BNG plus wider environmental and social benefits. We will aspire for greater quantities of BNG where we can.

### 4.10.4. Long term goals for sustainable resource use

There are no global goals for waste minimisation or sustainable resource use, beyond those outlined by the UNSDGs: by 2030, substantially reduce waste generation through prevention, reduction recycling and reuse.

Within the UK, we look towards the 25-year environment plan, and the UK has:

- An ambition of zero avoidable waste by 2050.
- Meeting all existing waste targets including those in landfill, reuse and recycling – these include achieving a 65% municipal recycling rate and sending less than 10% of municipal waste to landfill by 2035.

In RIIO-T2, committed to a 60% recycling rate in our operations and offices, 80% recycling rate in construction, and 100% landfill diversion by 2026. We will maintain these standards within 2026-2031. Within the RIIO-T3 period we have made a commitment to deliver zero avoidable waste in our construction projects by 2030, which aligns to the long-term vision of zero avoidable waste in the UK by 2050. This is a target that hopefully we can align to and commit to in future as we make positive progress towards our construction 2030 target. Our commitments past and present align with the goals and ambition of the UK government.

### 4.10.5. Striking the balance between short-term and long-term goals

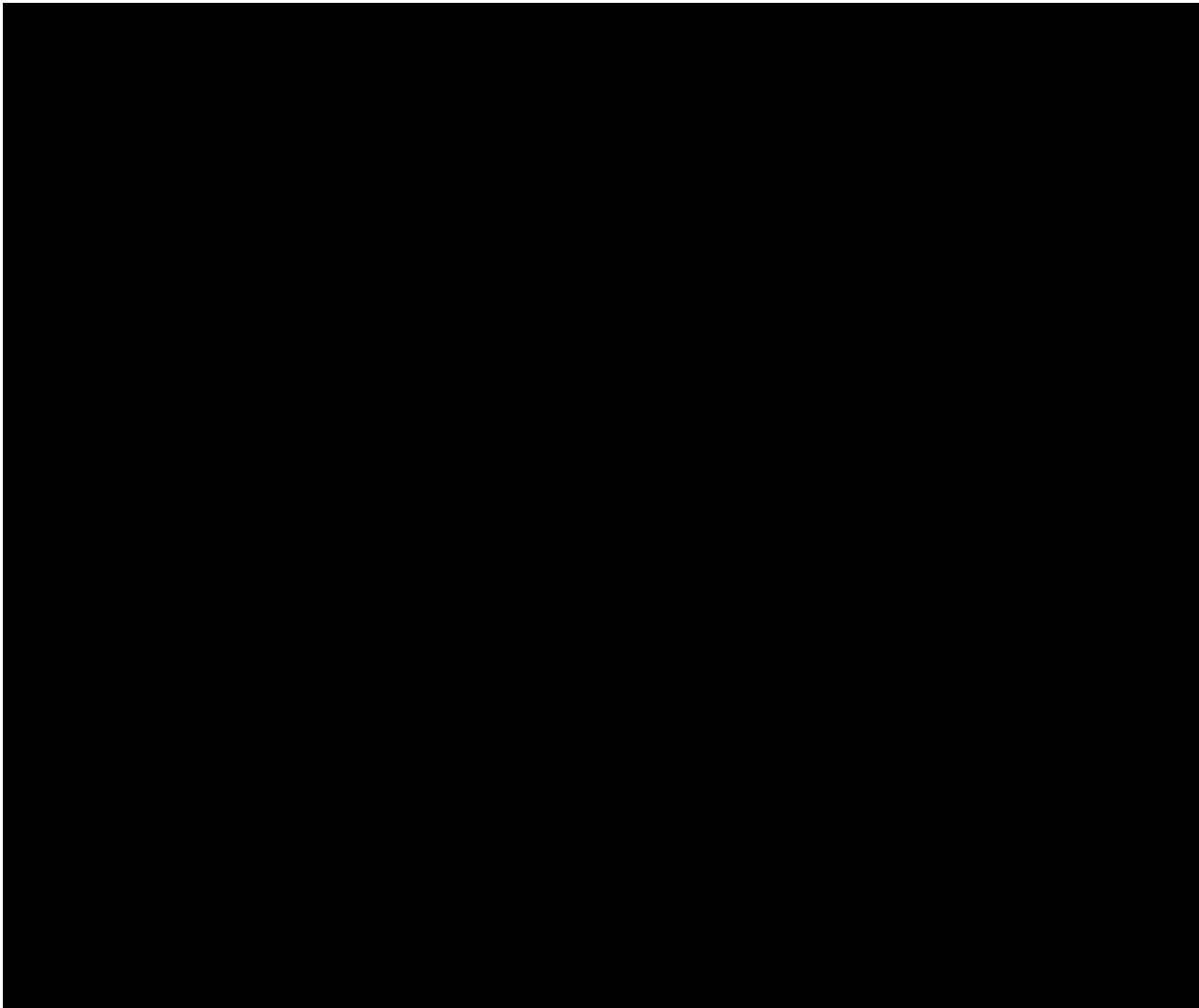
Our aim with the development of targets is that we have a realistic plan of delivery. We are heavily reliant on external forces such as technology availability, policy changes and regulatory funding. We want our commitments to be based on realistic pathways, as opposed to setting ambitious commitments with unknown plans for delivery.

We need both near-term and long-term science-based targets to strike a balance between short term accountability and long-term sustainability vision. We carry out annual reviews of our environmental strategy to ensure that we consider the speed of change and our external landscape.

## 5. Our investment plan

### 5.1. Environmental sustainability RIIO-T3 costs

To deliver our Environmental Action Plan we will be seeking funding to invest £588.4m<sup>15</sup> over the RIIO-T3 period. These costs are embedded within our business plan submission to deliver our environmental and sustainability goals. This represents approximately 1.7% of our total RIIO-T3 Business plan submission. Figure 18 summarises the costs embedded in business plan that deliver environmental improvements.



- **‘Decarbonising our operations’** initiatives include: SF<sub>6</sub> abatement, electric fleet replacement, substation energy efficiency programme and moving away from fossil fuels to cleaner alternatives.
- **‘Decarbonising our infrastructure’** initiatives include low carbon construction and compensation.
- **‘Reducing our environmental impacts’** initiatives includes oil contamination measures, reactive oil management and alternatives to oil filled installations
- **‘Enhancement of nature’** initiatives include continuation of non-operational land enhancement commitments. Costs for biodiversity net gain are not included within this graph as these have been directly embedded at project level.
- **‘Enabling the sustainability step change’** initiatives include EV charging and submetering.

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<sup>15</sup> The £588.4m includes c£50m of anticipated expenditure that is not reflected in the £0.53bn referenced in Section 2 of the Main Business Plan Document. This relates to EV charging and sub-metering; oil management and diesel-free power to substations.

## 5.2. Our initiatives

In this section we provide a brief description of environmental related initiatives that require an Engineering Justification Paper (EJP). Further information can be found in each of the investment EJPs.

### 5.2.1. SF6 abatement portfolio (see the SF6 Paper EJP)

Through the Responsible Business Charter and Environmental Action Plan, we have committed to achieving 50% SF6 emissions reduction (based on 2018/19 SF6 emissions) by 2030. This target supports the delivery of our verified Science Based Target to limit global warming by 1.5 degree Celsius. These targets continue a glidepath to net zero by 2050.

The SF6 Emission Abatement Portfolio is a continuation of the interventions completed in RIIO-T2 to reduce SF6 emissions from the Transmission Network. The RIIO-T3 submission is more extensive and strategic, covering the following areas:

- **Asset Interventions** – Site level interventions at 13 substations & continuation of the Palliative Coating strategy.
- **Asset Data and Modelling** – Installation of Gas Density Monitoring including remote data access & updates and improvements to SF6 data capture and emission forecasting.
- **IIG Management** – Critical investment required to enable the transition from SF6 to other gases – includes auxiliary equipment, logistics and training.

#### Cost of initiative: [REDACTED]

The funding requested in RIIO-T3 is to deliver physical intervention on existing and forecasted / anticipated (palliative) SF<sub>6</sub> leaks at sites with the highest risk of SF<sub>6</sub> emissions. The funding to develop better asset data and modelling will enable quicker and better decision making, shaping the future asset management strategy for SF<sub>6</sub> as we reduce emissions and inventory over time.

- Asset Interventions – [REDACTED]
- Asset Data and Modelling – [REDACTED]
- IIG Management - [REDACTED]

**Expected carbon benefit:** Total reduction in 162,000 tCO<sub>2</sub>e over the RIIO-T3 period

- 40,354kg of SF<sub>6</sub> removal from the Transmission network through asset replacement and retro fill.
- 7,576kg of forecasted SF<sub>6</sub> emissions abatement between 2027 and 2031.
- Enable the transition away from SF<sub>6</sub> to alternate IIGs by increasing understanding of the operational requirements and handling capability of gas mixtures with a lower global warming potential.

### 5.2.2. Substation energy efficiency (see the Substation Energy Efficiency EJP)

We have approximately 260 substations. Decarbonising and putting energy efficiency measures in our buildings is important to reducing our environmental impacts. Following our RIIO-T2 commitment to develop an energy efficiency programme in our substations, the RIIO-T3 submission is focused on delivering the capital investment and behaviour change programme required to reduce energy use in our sites. The substation energy efficiency programme will help us achieve our 50% scope 1 and 2 emissions reduction target by 2030 (from a 2018/19 baseline), contributing to a reduction in scope 2 emissions.

#### Cost of initiative: [REDACTED]

The funding requested in RIIO-T3 is to deliver capital investment of energy efficiency measures including upgrade heating and control systems, Solar PV installation, windows and doors and draughtproofing. This will deliver an approximate 12% of energy saving. It will also deliver a behaviour change programme to support the capital works, encouraging an 8% energy saving. Capital expenditure will be deployed across 82 sites over the course of the 5 years of RIIO-T3.

**Carbon benefit:** Reduction of 16,535 tCO<sub>2</sub>e over the RIIO-T3 period from capital investment in energy efficiency, this could go up to 26,860 TCO<sub>2</sub>e if behavioural change programme included<sup>16</sup>.

**Energy reduction:** 15 million kWh in energy reduction per year (with an annual financial benefit of 15.4% per annum). Approximately 75 million kWh over the RIIO-T3 period.

### 5.2.3. Commercial fleet replacement (see the EV Fleet EJP)

We have a significant van fleet of 836 commercial vehicles (and growing). Decarbonising our fleet is important to reducing our environmental impact. The Commercial Fleet Zero Emission Vehicles (ZEV) Replacement programme is a continuation of the RIIO-T2 programme to reduce emissions from transport. By the end of RIIO-T2, we would have achieved a replacement of 60% of our commercial fleet. The RIIO-T3 submission will take us to approx. 100% ZEVs by 2031 (where technology availability and delivery timescales allows).

**Cost of initiative:** [REDACTED]

The funding requested in RIIO-T3 is to deliver physical replacement of vehicles, including small, medium, large vans.

**Carbon benefit:** A reduction of 1,305 TCO<sub>2</sub>e over the five-year RIIO-T3 period through the reduction of diesel volume of circa 520,000 litres of fuel.

**Air quality benefit:** A reduction of 17.1 tonnes of Nitrogen Oxide (N<sub>2</sub>O) and 150.8kg of Methane (CH<sub>4</sub>). Removal of diesel vehicles would also lead to reduction of Particulate Matter (PM<sub>2.5</sub>) in air, thus resulting in improved air quality. Switching from an ICE to ZEVs instantly eliminates all toxic tailpipe pollution.

### 5.2.4. Carbon reduction and compensation in construction (see the Low Carbon Construction EJP)

Our scope 3 emissions will increase significantly over the next few years due to the rapid growth in the network. Therefore, we have developed a methodology to allows us to fund low carbon alternatives and drive down capital emissions more than ever before. To develop the costs for carbon reduction and carbon compensation, we developed 3 funding allowances for different aspect of decarbonisation and compensation. [REDACTED]

**Cost of initiative:** [REDACTED]

**Carbon benefit:** ~1100 ktCO<sub>2</sub>e

**Societal benefit:** Carbon compensation projects can provide communities with a range of benefits. These initiatives can create green jobs, encourage the use of sustainable energy, support climate resilience, and help to restore the natural environment.

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<sup>16</sup> Figures use the FES Leading the way scenario which has an aggressive grid carbon reduction in emissions

<sup>17</sup> This figure has increased slightly from the submission in table 8.12 of the business plan data tables. The figures in this annex and the EJP reflects the latest position, but due to the stringent assurance timelines of our RIIO-T3 Totex plan, the associated update to the costs in the BPDT were not able to be reflected prior to submission.

**Table 5 Low-carbon construction breakdown of costs**

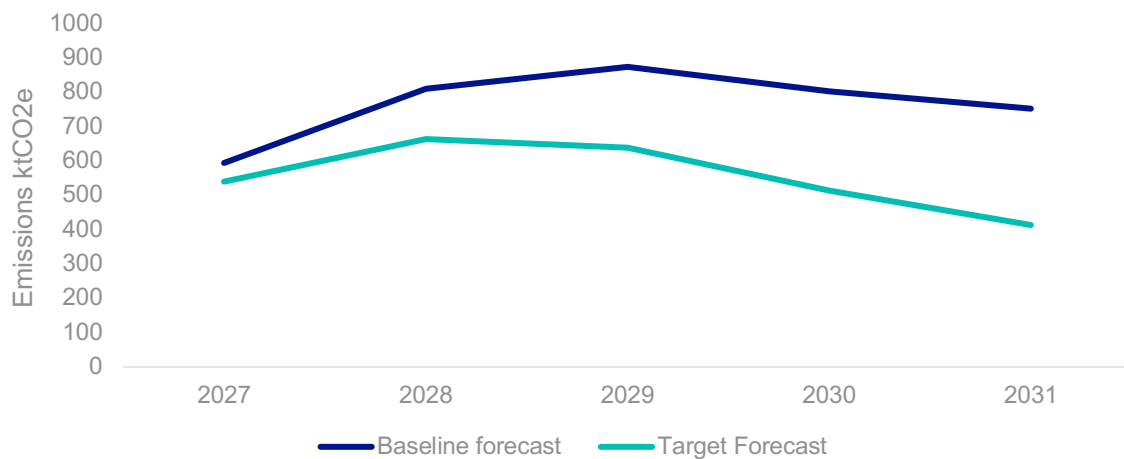
<b>Objective</b>	<b>Process to define investment</b>	<b>Value</b>	<b>Carbon Benefit</b>
<b>Low carbon Construction: low carbon materials</b>	<ol style="list-style-type: none"> <li>Used past project data to identify carbon hotspots.</li> <li>We reviewed external best practice and decarbonisation levers.</li> <li>We cast material quantities from past project data and carried out research into the cost premium and availability of lower carbon solutions.</li> </ol>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	10-15% reduction across the portfolio by 2031
<b>Low Carbon Construction: emerging low carbon opportunities</b>	<ol style="list-style-type: none"> <li>The fund is for solutions where costs are not as robust, therefore a long list of opportunities was developed and refined.</li> <li>The potential impact of these were assessed (based on qualitative and quantitative assessment)</li> <li>Research was carried out to find an external benchmark to cap the fund. Mindful of consumer value. The EGL 2 fund was identified as an appropriate benchmark to use to set a cap.</li> <li>A comparison to using the non-traded carbon price was used to ensure we were in line with other TO's approaches.</li> </ol>	<p>[REDACTED]</p> <p>[REDACTED]</p>	25-35% reduction across the portfolio by 2031
<b>Low carbon construction: compensation</b>	<ol style="list-style-type: none"> <li>Prices are significantly increasing compared to pre RIIO-T2 prices and they fluctuate significantly. Therefore, we did not want to tie the fund to a carbon credit price.</li> <li>Instead, we are looking to prioritise the benefits delivered by carbon compensation – both for nature and communities, and support the markets develop.</li> <li>We reviewed the RIIO-T2 fund and then looked to apply the same level of investment on our RIIO-T3 plans based on a relative %.</li> </ol>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>invested in projects that will support reduction or removal of 730-2500ktCO<sub>2</sub>e</p> <p>Range is based of difference market price points.</p>



The projected impacts of our initiatives from the low carbon construction funding are shown in figure 19 below.

The target forecast line shows a forecast of the annual emissions from our construction portfolio with the impacts of our low carbon construction funding and initiatives, the baseline forecast which shows the annual emissions we would expect to incur if we don't take any action in RIIO-T3 and do not fund carbon reduction. This forecast is based on a spend based forecast of emissions using a carbon intensity value and is based on the RIIO-T3 baseline and pipeline plan for both Electricity Transmission and Strategic Infrastructure.

**Figure 19 Carbon forecast for construction programme based on baseline and pipeline view**



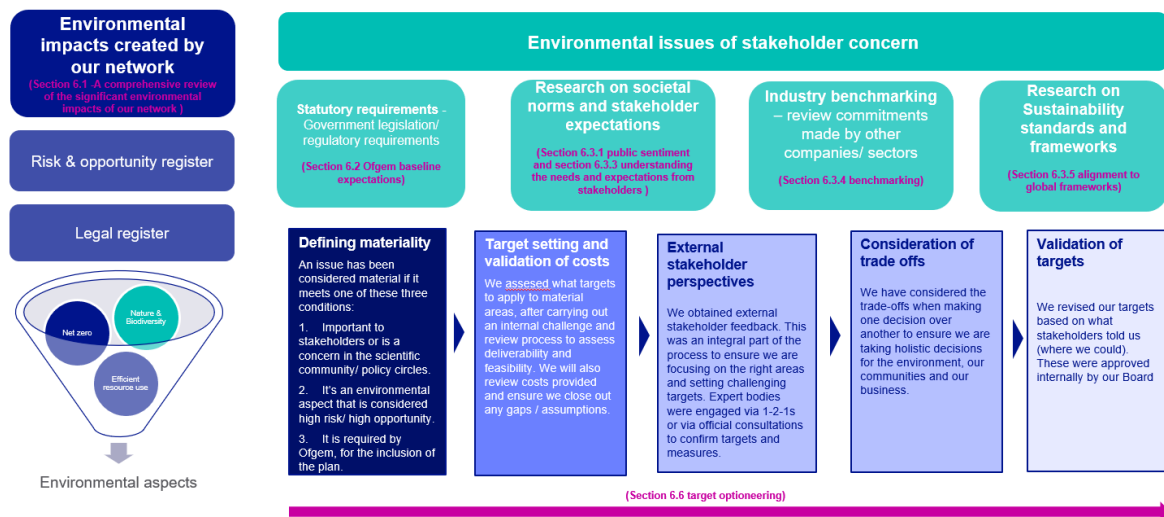
## 6. Developing our environmental action plan

To establish our environment and sustainable proposals for RIIO-T3, we followed a methodical process of:

- reviewing the most significant environmental impacts created by our network (more detailed analysis is found in appendix G)
- recognising our statutory requirements, particularly that of our regulatory requirements (more detailed analysis is found in appendix E)
- understanding what is considered best practice by industry (more detailed analysis can be found in appendix C)
- researching trusted and recognised sustainability standard and frameworks (more detailed analysis can be found in appendix D)
- carrying widespread internal and external engagement (more detailed analysis can be found in appendix B)

Figure 20 presents the framework undertaken to develop our Environmental Action Plan. This chapter will provide a high-level explanation of the process we undertook to develop our EAP, with further analysis found in several appendices to this annex.

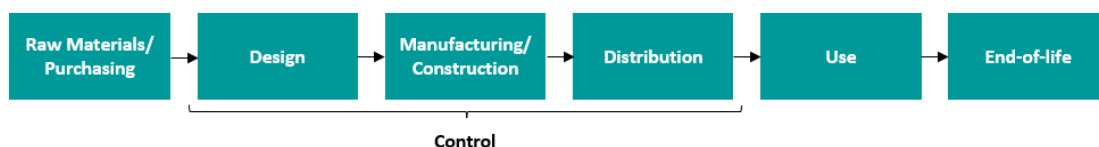
**Figure 20 Environmental Action Plan methodology**



### 6.1. A comprehensive review of the significant environmental impacts of our network

Aligned to ISO14001:2015, our environmental aspects register outlines all environmental impacts associated with our activities, products, and services, which we can control and those we can influence across the project life cycle including raw materials, design, manufacturing, transportation, operations and end of life (see Fig.19).

**Figure 21 NGET environmental aspects lifecycle and areas of control**



Our environmental aspects are reviewed annually in accordance with business procedure NG/ET/BP\_025 Risk and Assurance Management. Consequently, the most recent version (an extract of which is included in Appendix G) served as a useful starting point to produce our RIIO-T3 proposals. These are summarised in Fig. 22 below.

**Figure 22 NGET's highest impact/ highest risk environmental impacts**

Design	Transportation/ logistics	Use/ operations	End of life	Indirect activities
<ul style="list-style-type: none"> <li>Capital carbon from construction design</li> <li>Loss of natural capital/ biodiversity</li> <li>Use of material and designing out waste</li> <li>Visual impact from infrastructure / asset</li> </ul>	<ul style="list-style-type: none"> <li>Operational travel</li> <li>Business travel</li> <li>Employee travel</li> </ul>	<ul style="list-style-type: none"> <li>Fugitive emissions (SF6) from equipment</li> <li>Oil loss from equipment</li> <li>Light and use of energy from fixed sites</li> <li>Transmission losses</li> <li>Use of land for asset infrastructure</li> <li>Excessive use of water / impact to marine environment</li> </ul>	<ul style="list-style-type: none"> <li>Generation of waste from construction, operations and offices</li> <li>Decommissioning of plant and equipment</li> <li>Disposal of waste to landfill rather than reusing or recycling</li> </ul>	<ul style="list-style-type: none"> <li>Poor supplier or supply chain management using unsustainable resources</li> <li>Environmental impacts associated with extraction, manufacture, storage and delivery of products and services procured and used by National Grid</li> </ul>

A review of our environmental aspects during challenge and review sessions that were carried out as part of stakeholder engagement (see Appendix B), revealed a number of opportunities that could be considered in the development of our EAP (see Fig.23 below).

**Figure 23 NGET's highest impact/ highest opportunity environmental impacts**

Design	Transportation/ logistics	Use/ operations	End of life	Indirect activities
<ul style="list-style-type: none"> <li>Reduction in capital carbon from construction design as much as its feasibly possible and compensate</li> <li>Incorporate net gain and wider environmental benefits at a design stage so not biodiversity is lost.</li> <li>Eliminate avoidable waste and have a materials management plan</li> <li>Incorporate an assessment of visual impact</li> </ul>	<ul style="list-style-type: none"> <li>Replace commercial vehicles with zero emissions vehicles (ZEVs) to reduce environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>Find alternatives to Fugitive emissions (SF6) with a lower GWP and fix leaking assets</li> <li>Focus on reducing risk from oil loss from equipment</li> <li>Deliver an energy efficiency programme at our substations estate</li> <li>Have a transmission losses strategy to reduce controllable losses</li> <li>Work with grantors to enhance the land beneath asset infrastructure</li> <li>Reduce water use in our construction projects</li> <li>Deliver marine enhancement and restoration</li> </ul>	<ul style="list-style-type: none"> <li>Follow the waste hierarchy, focussing on reusing</li> <li>Focus on circular economy models - cradle to cradle models rather than cradle to grave</li> </ul>	<ul style="list-style-type: none"> <li>Supplier engagement on sustainability issues</li> <li>Mandated requirements for suppliers to follow</li> </ul>

### 6.1.1. Changes in our environmental aspects

From the [Environmental Action Plan](#) produced for the RIIO-T2 period, our environmental aspects register and high impact areas have not changed significantly. However, there is one aspect that has been identified as an emerging impact area: the marine environment.

In the future, most of our energy will come from large offshore wind farms offering consumers access to greener, deeper, more reliable energy. To do this, we need a highly upgraded network and new transmission lines to connect that offshore wind to consumers. NGET has been asked to deliver 17 major new projects under a new scheme called ASTI (Accelerated Strategic Transmission Infrastructure). Five of these 17 new projects will be offshore projects.

Significant marine operations will be undertaken between now and 2030 onwards with increased number of High Voltage Direct Current (HVDC) link projects likely to be required. Future growth

potential in marine work is significant with marine grids alongside point-to-point links. These may include offshore platforms and new types of infrastructure, which we have not managed before.

There is increasing recognition of the need for greater action to restore the marine environment in the face of a continued decline in marine biodiversity. Net Gain has been identified as a potential development approach that can contribute to halting and reversing biodiversity loss by leaving the natural environment in a measurably better state than before. However, implementing biodiversity net gain in the marine environment is recognised as being particularly challenging, due to the dynamic nature of the marine environment and the complex interactions between diverse marine users.

For the RIIO-T3 period we will look at marine enhancement and restoration as a new priority, with the aim to protect species and habitats where they currently exist and to remove any pressures to allow natural recovery where a feature has been lost or damaged before active restoration is considered.

## 6.2. Ofgem baseline expectations

Our Environmental Action Plan is aligned to our Corporate and Group Strategy and sometimes the language we use differs from that of Ofgem's. This section provides an overview of the minimum level of ambition that our regulator Ofgem expects should be set out in company business plans in relation to networks mitigating their environmental impact and a reconciliatory on how these two align.

As per the business plan guidance, networks should:

- Submit an Environmental Action Plan (EAP) alongside its business plan.
- A network company's progress against its EAP will be detailed in its Annual Environmental Report (AER).

EAPs should be developed considering the baseline expectations set out in figure 24 below. The baseline expectations reflect the minimum level of ambition we expect companies to demonstrate for individual areas.

We have been given clear expectations by our regulator and stakeholders to commit to ambitious whilst efficient and economic actions to reduce controllable greenhouse gases in RIIO-T3. Our RIIO-T3 Environmental Action Plan covers all minimum requirements. Indeed, we will have achieved most of these by the end of RIIO-T2. Appendix E demonstrates our level of maturity in each of the different areas, where some are now considered BAU, or alternatively where this is a new focus area in RIIO-T3.

Our Environmental Action Plan goes above and beyond these minimum expectations, demonstrating our ambition and the desire as a business to stretch ourselves in line with public expectations.

Figure 24 Ofgem EAP minimum requirements

BCF	Embodied carbon	Supply Chain	Resource use and waste	Biodiversity & Natural Capital	IIGs	Transmission losses
<ul style="list-style-type: none"> <li>Adopt or retain an appropriate Science-Based Target.</li> <li>Commit to efficient and economic actions to reduce their controllable BCF.</li> <li>Report on BCF scopes 1 and 2, and progress towards science-based targets and net zero, using the GHG Protocol Corporate Accounting and Reporting Standard.</li> <li>Report on scope 3 emissions on the basis of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.</li> <li>Where BCF targets are being developed or reviewed, we expect networks to work alongside their ISG.</li> </ul>	<ul style="list-style-type: none"> <li>Report on embodied carbon in new projects</li> <li>Set baseline and adopt a target for reducing embodied carbon on new projects during RIIO-3.</li> <li>Commit to collaborating with the supply chain on addressing challenges to</li> <li>Reduce embodied carbon in the network.</li> <li>Set out the materiality threshold (ie a £m value) for qualifying new projects that require reporting in this area.</li> </ul>	<ul style="list-style-type: none"> <li>Adopt high standards of environmental management in its supplier code.</li> <li>Adopt a target of more than 80% of suppliers (by value) meeting the code in RIIO-3</li> <li>Commit to reporting on actual percentage of suppliers (by value) meeting the code.</li> </ul>	<ul style="list-style-type: none"> <li>Update procurement processes to embed Circular Economy principles.</li> <li>zero waste to landfill by at the latest 20XX</li> <li>Recycle and reuse materials as a percentage of total measurable materials where feasible by at the latest 20XX</li> <li>Commitments to reporting on actual waste to landfill, recycling and reuse as a percentage of total</li> </ul>	<ul style="list-style-type: none"> <li>Adopt an appropriate tool to assess net changes in biodiversity from different options for new connections and network projects.</li> <li>Set out what the materiality threshold should be for new connections and network projects that require reporting on biodiversity.</li> <li>Regularly report on changes in natural capital and ecosystem services.</li> <li>Report on actions taken to assess and remedy the impacts of activities conducted within National Parks</li> </ul>	<ul style="list-style-type: none"> <li>Adopt a reduction target for IIG leakage over the course of RIIO-T3 in line with SBTi.</li> <li>Minimising new additions of SF6 inventory on the network in RIIO-T3 ie only in instances where it is the most cost-effective option.</li> <li>Economic and efficient interventions to address the worst-leaking existing SF6 equipment on the network.</li> <li>Reporting on total IIG leakage using a common TOs' methodology.</li> </ul>	<ul style="list-style-type: none"> <li>Strategy to efficiently manage both technical and non-technical losses, including to 1) commit to reporting on the progress of implementing the losses strategy and 2) Contribute to the evidence base on the proportion of losses that network companies can influence/control.</li> </ul>

Mapping to our RIIO-T3 commitments

<p><b>Net zero commitment:</b> Deliver scope 1, 2 and 3 emissions reductions in line with a 1.5 degrees C aligned Science Based Target.</p> <p><b>Sectoral commitment:</b> We will implement carbon management across our construction programme, minimising embodied and whole life carbon emissions as far as possible.</p>	<p><b>Net zero commitment:</b> We will deliver our construction projects as low carbon intensity as possible, as set out in our Net Zero Infrastructure Roadmap.</p> <p><b>Net zero commitment:</b> Invest in carbon compensation projects that also deliver social and/or nature benefits from constructing our infrastructure.</p>	<p><b>Net zero commitment:</b> 80% of our suppliers by emissions will have formally committed to set a Science Based Target by 2030.</p> <p><b>Sectoral commitment:</b> At least 80% of suppliers by value set SBTs (or equivalent externally validated GHG reduction target)</p>	<p><b>One planet living commitments:</b> We will improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard, with zero avoidable waste and 10% recycled / reused content in key construction materials by 2030.</p>	<p><b>Nature positive commitments</b></p> <p>Deliver at least 10% or greater Biodiversity Net Gain alongside wider environmental and social benefits for all developments requiring formal planning or consenting, and at least 10% Biodiversity enhancement alongside wider environmental and social benefits for voluntary non-statutory construction projects.</p>	<p><b>Net zero commitment:</b> Achieve 50% reduction in SF6 emissions by 2030 from 2018/19 baseline, and we will no longer install SF6 where there is a technically, commercially and time viable alternative.</p> <p><b>Sectoral commitment:</b> We will continue to improve on the accuracy of our data, aligning with evolving best practice, and collaborating with other TOs to ensure a consistent approach.</p>	<p><b>Net zero commitment:</b> We will implement a strategy to efficiently manage both technical and non-technical losses.</p>
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### 6.3. An assessment of the external landscape

For the RIIO-T2 period, we know that caring for our communities and the environment whilst delivering a safe and reliable network is a key stakeholder priority. This priority is about the steps we, as a responsible business, take to improve the environment, and serve communities and society. Our 2021-2026 Environmental Action Plan set clear targets for reducing the environmental impacts of our direct and indirect operations. It was built using a range of internal and external stakeholder influence.

However, the external landscape has significantly changed since our first EAP was established. There have been geopolitical tensions across the world bringing about high inflation and an ongoing cost-of-living crisis. This highlights the importance of energy security and affordability. However, global momentum behind decarbonisation continues to build. The vital role of energy networks in achieving net zero has been recognised, and we have seen an increased focus by policymakers and regulators to remove the blockers to the energy transition.

#### 6.3.1. Public sentiment

We have conducted extensive consumer research and engagement to inform our plans.

##### 6.3.1.1. Priority energy transition outcomes

To have a better understanding of the public sentiment, in November 2023, we worked with Yonder Consulting to conduct market research on behalf of National Grid. The purpose of this research was to understand what electricity network outcomes the public prioritised. We tested 12 exclusive outcomes relating to the Energy Transition.

The research involved online surveys among three audiences: general public, small and medium sized businesses, and impacted stakeholders:

- **General public:** Nationally representative sample of 3,302.
- **Businesses:** Representative sample of 1,098 from small and medium sized businesses.
- **Impacted stakeholders:** Sample of 280 National Grid impacted stakeholders. Made up of 148 Industry partners and peers, 110 Regional partners and communities.

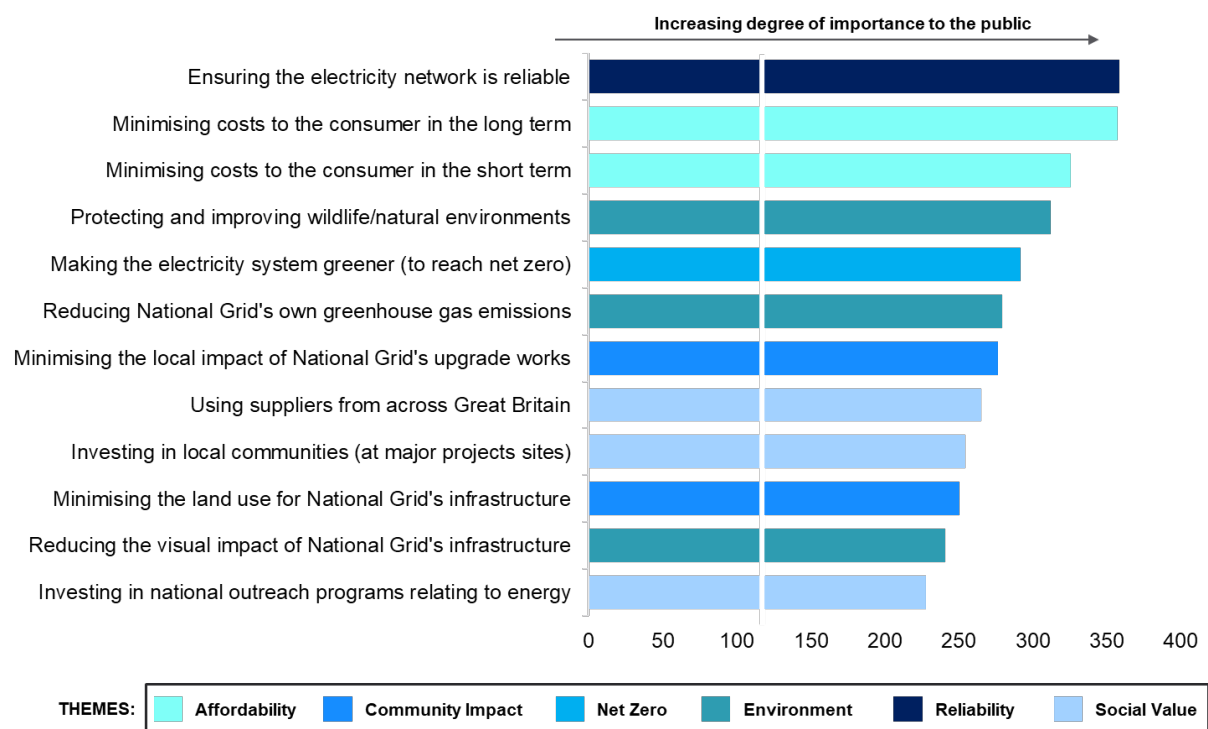
The research showed the UK public remain in a state of heightened energy concern. Between 2021-2024, the proportion of fuel poor households in the UK increased by 2 million. 91% of respondents were also concerned about steep rises in energy prices in the future. Despite this, there is still widespread support for achieving net zero.

**Figure 25 summarises the electricity network outcomes that the public prioritises.**



...think it's important to 'make the electricity system greener to enable the nation to reach its net zero targets and limit the impact of climate change'.

**Figure 26 UK public electricity network priorities**



Research indicated that all outcomes are considered important, with the top priorities for consumers being reliability and minimising costs long term, then short term. The same study revealed that impacted stakeholders deprioritise cost in the short term in favour of the drive to net zero.

**From an environmental perspective, the are five takeaways from this research:**

1. **Environment is still critical.**
2. **Improving the natural environment is slightly higher in the priority list to net zero or reducing our greenhouse gas emissions.**
3. **'Decarbonising our own activities' isn't that much less important to the public than decarbonising the energy system.**
4. **The public care about short-term costs but they recognise the importance of long-term thinking and affordability.**
5. **Our primary focus (beyond safety) must be enabling the net zero transition in the most efficient and cost-effective manner.**

**6.3.1.2. Consumer environmentalism attitudes**

We also partnered with Mintel to conduct market research in March 2024 to understand consumer usage and attitudes across 4 key themes around National Grid's upgrades: Consumer environmentalism; Consumer attitudes towards Net Zero; Awareness, understanding, and engagement of National Grid; and Great Grid Upgrade attitudes towards greener infrastructure.

The research highlighted that the vast majority of people see network upgrade works as important – with a range of important goals for the upgrade to achieve. These included: Preventing electricity bills from getting too high; Reducing UK's reliance on imported gas and oil; and enabling us to generate more electricity in the UK. This sentiment was encouragingly seen across the country, particularly in areas where network upgrade works have already begun.

### 6.3.2. Scientific consensus

The world is experiencing environmental crises such as exceeding 1.5°C global warming, habitat and biodiversity loss and extinction, and the over consumption of resources. We are living through a triple planetary crisis. These issues have its own causes and effects, but they are interlinked, and their solutions can be too. Over the last couple of years, there has been policy updates and increased scientific understanding and consensus on some of these crises, which we summarise below.

#### 6.3.2.1. The climate crisis

Climate change is one of the most pressing issues facing humanity today. From shifting weather patterns that threaten food production, to rising sea levels that increase the risk of catastrophic flooding, the impacts of climate change are global in scope and unprecedented in scale.

Scientific consensus is that to avoid the worst effects of climate change we must work to limit global warming to 1.5°C<sup>18</sup>. To achieve this, greenhouse gas emissions must halve by 2030 – and drop to net-zero by 2050 – every sector in every market must transform. Companies within the UK and around the world are increasingly setting ambitious carbon reduction and net-zero strategies, aligned to external guidance and initiatives.

#### 6.3.2.2. The nature crisis

Nature provides a wide range of essential benefits and services that underpin our Global economy. The World Economic Forum 2024 Global Risk Report highlights biodiversity loss and ecosystem collapse as one of the top 3 greatest risks in the next 10 years alongside extreme weather events and critical change to earth systems. Biodiversity is declining at a faster rate than at any time in human history.

At the Biodiversity Conference of the Parties (COP15), the Global Biodiversity Framework was adopted by all countries which aims to catalyse, enable and galvanize urgent and transformative action by countries and governments to halt and reverse biodiversity loss.

Within the UK, nature provides essential ecosystem services valued at around £47 Billion per annum in 2021<sup>19</sup>. The health benefits from recreation alone are valued at £445 billion, which was the largest contribution to the total asset value of UK ecosystem services. However, the UK is one of the most nature-depleted countries in the world. The State of Nature report has shown that since the 1970s 41 per cent of all UK species surveyed have declined, while 15 per cent of species within the UK are said to be threatened with extinction.

#### 6.3.2.3. The natural resource crisis

We are currently experiencing a very grave resource crisis, an ecological “credit crunch” caused by our overuse of the world’s natural elements. According to the Earth Overshoot Day<sup>20</sup>, we are using 50% more resources than the Earth can provide, and unless we change course that number will grow very fast— by 2030, even two planets will not be enough. If everyone lived like a resident of the UK, we would require the resource equivalent of 2.6 Earths, which is a model we can’t sustain.

According to the Organisation for Economic Co-operation and development (OECD), many construction-related materials are forecast to double by 2060 under the business-as-usual scenario. Construction also creates an estimated third of the world's overall waste.

The ‘planetary boundaries’<sup>21</sup> concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come. In September 2023, a team of scientists quantified, for the first time, all nine processes that regulate the stability and resilience of the Earth system. These nine planetary boundaries were first proposed by former centre director Johan Rockström and a group of 28 internationally renowned scientists in 2009. Since then, their framework

<sup>18</sup> IPCC Special Report 1.5 degrees, 2018 Global Warming of 1.5 °C — <https://www.ipcc.ch/sr15/>

<sup>19</sup> UK Natural Capital Accounts 2023 -

[https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalaccounts/2023#:~:text=This%20includes%20provisioning%20services%20such.47%20billion%20\(2022%20prices\).](https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalaccounts/2023#:~:text=This%20includes%20provisioning%20services%20such.47%20billion%20(2022%20prices).)

<sup>20</sup> Earth Overshoot Day - <https://overshoot.footprintnetwork.org/newsroom/country-overshoot-days/>

<sup>21</sup> Planetary Boundaries – Stockholm Resilience Centre -

<https://www.stockholmresilience.org/research/planetary-boundaries.html>



has been revised several times. The latest update not only quantified all boundaries, but it also concludes that six of the nine boundaries have been transgressed. Freshwater being one of them.

We have used the basis of these three planetary crises as the frameworks to align our priorities of 'Net Zero', 'Nature Positive' and 'One Planet Living'.

### 6.3.3. Understanding the needs and expectations from stakeholders

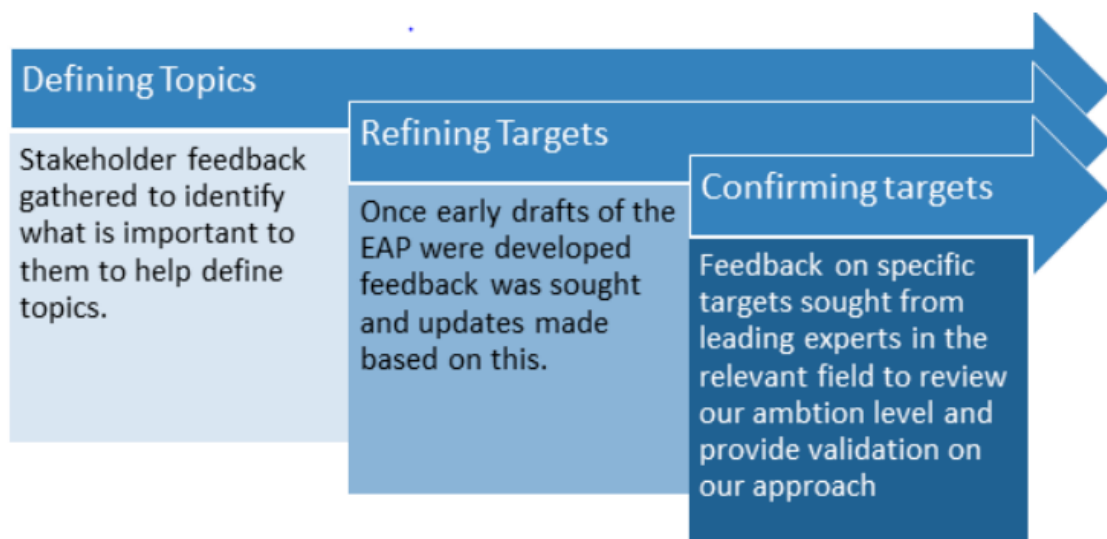
Our electricity network exists to serve consumers, our customers and our stakeholders more broadly. We understand that we deliver an essential public service in England and Wales.

As we move into the RIIO-T3 period, our approach to the environment must evolve, emphasising the deployment of new technologies, processes, approaches. We want to ensure any potential proposals we put forward are truly stakeholder-led, and reflective of the key findings from their insights.

Stakeholder input has been instrumental in shaping our approach to the next five years. We have used the principles of our integrated management system to identify what stakeholders to engage. These have mainly included: environmental NGOs, other major infrastructure businesses and groups, customers and consumer groups, suppliers and joint ventures, and most importantly our own employees and subject matters experts to ensure the commitments we propose are realistic and achievable.

Our RIIO-T3 Environmental Action Plan was built using a range of internal and external stakeholder input. This has included webinars, consultations, 1-2-1 expert engagement, the Independent Stakeholder Group (ISG), internal challenge and review sessions, ET Exec, external research and regional events. A high-level overview of Stakeholder feedback through key stages of development are shown in Figure 27 below. Full information on our stakeholder engagement on the Environment are given in our Environment and Communities log.



**Figure 27 EAP stakeholder engagement process**



Throughout our plan we call out where stakeholder views have directly impacted decisions we've made. Sometimes different stakeholders' views come into tension. We've had to make some trade-offs and our optioneering appendix illustrates the options considered and the trade-offs we had to make. Bu overall, there is significant stakeholder support for our environmental focus areas and priorities.

Here are some examples how stakeholders shaped our plan:

#### **Table 6 Environmental consultations**

Consultation	Description	Results
<p><b>Net Zero Construction Consultation</b></p> 	<p>We carried out a Net Zero Construction Consultation to understand their views on our approach for RIIO-T3.</p> <p>Representatives from 20 organisations responded to our consultation. These consultees came from across a range of sectors, including NGOs, Supply Chain Members, Consultants, Infrastructure clients and public bodies.</p>	<p>The consultation highlighted that ‘Net zero’ is not the correct terminology for this type of target. Some consultees stated we should offset going forward, others stating that we should not. However, there was wide agreement that delivery of community and local benefit was seen as more important than having externally verified (on the market) credits.</p> <p><b>Business decision:</b> We will not have a net zero construction target in RIIO-T3. Instead, we will target reducing carbon as much as we can driven by a construction decarbonisation pathway.</p>
<p><b>Nature Positive Consultation</b></p> 	<p>We carried out a Nature Positive Consultation to gather views on our direction of travel, level of ambition and commitment, and to inform how we refined our targets and further developed our plans. A key focus area was our commitment around Biodiversity Net Gain (BNG).</p> <p>30 stakeholders covering key categories from NGOs, government bodies, energy networks, consultants and supply chain responded to our consultation.</p>	<p>The consultation highlighted an expectation to be more ambitious. 3 key stakeholders suggested we could go beyond 10% BNG. However, there was consensus that higher metric % is not necessarily advantageous and better to deliver quality over quantity. There was wide support for social value and community benefit incorporation.</p> <p><b>Business decision:</b> We will deliver at least 10% BNG target but provide focus on HOW we deliver BNG and provide additional environmental and societal benefit.</p>

#### 6.3.4. The Independent Stakeholder Group

The Independent Stakeholder Group (ISG) comprises highly experienced industry professionals with deep expertise in key topics for RIIO-T3. The group provides us with access to challenge, perspectives, and deep insight across critical interests.

Feedback and challenge from our ISG have been invaluable in shaping our Environmental Action Plan. We talked through our draft commitments in March 2024 and went back with revised commitments in August 2024.

It hasn't always been easy to hear the challenges from the ISG for us to go further or to think differently, but it has always been useful to help us understand what consumers expect of us and act based on that feedback. We can directly attribute 3 key changes we made to our EAP, as a result of the feedback given to us in the February ISG session. These are highlighted below.

#### Table 7 Acting on ISG feedback.

<b>Feedback on EAP impact areas</b>	<b>Limitations on commerciality/ technicality and time</b>	<b>Community benefits and BNG</b>	<b>Focus on material use</b>
<b>ISG feedback</b>	“Avoid imposing self-limits and where there is a case for actions should argue for this and explain the benefits case to Ofgem where possible (e.g. targets should be more influenced by technological availability)”	“Consider the links between social deprivation and the environment and what actions can be done to support affected communities (e.g., BNG activities)”	“Additional focus should be made on material use rather than waste when setting ambition for”.
<b>NGET’s response</b>	We are not self-imposing limits with regards to cost and are now looking to provide the business case to Ofgem where there may be a market uplift to newer, cleaner alternatives. We are however imposing limits on commercial, technical and timely availability. We cannot pause the connection of renewable energy.	Our BNG target in RIIO-T3 will be deliver 10% BNG, plus wider environmental and societal benefits. Examples include community benefit, education, learning and skills. BNG will be delivered for the benefit of communities. Not just via credits.	We are now moving away from landfill diversion and recycling targets, even though we still report this in our EAR. We will now focus on eliminating ‘avoidable waste’ so that materials do not become waste, plus further focus on the use of Material Management Plans.

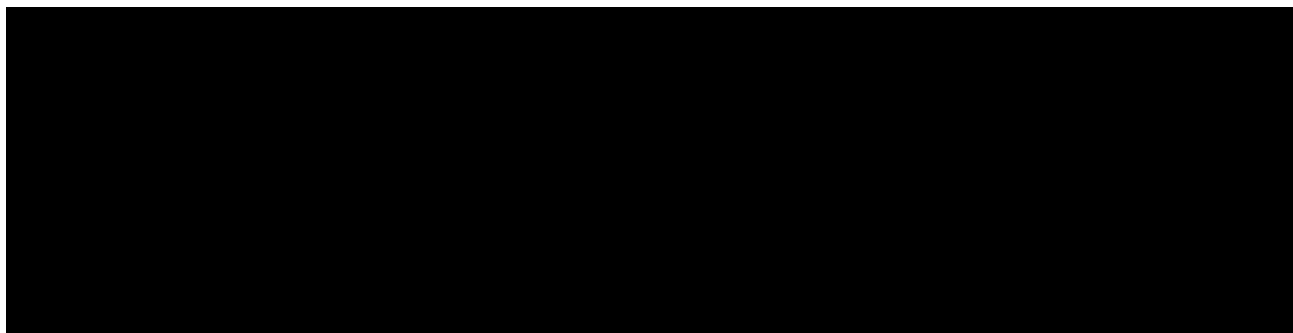
We want to ensure any proposals we put forward are truly stakeholder-led, and reflective of the key findings from their insights. A summary of engagement we undertook in 2023 and 2024 is presented in appendix B.

#### 6.4. Benchmarking and alignment to global frameworks

To develop the EAP, industry benchmarking was carried out to ensure the plan was ambitious and reasonable. The benchmarking process compared our company's sustainability performance to that of other companies within the same industry, as well as other industries. We reviewed companies from the UK, as well as multinational organisations and other transmission owners from around the world.

We believe our RIIO-T3 EAP plan is leading the way in our sector because we have listened to our stakeholders on the approach we should take, focusing on how commitments should be delivered, and have taken an approach to be transparent on our commitments and balance the need for leadership with affordability. A summary of the benchmarking carried out for our net zero, nature positive and one planet living targets is included in Appendix C.

To come up with the proposed commitments in RIIO-T3, we also reviewed global and best practice industry frameworks that aligned with our vision and business objectives. These frameworks serve as a roadmap for organisations to integrate a structured approach to measure, manage and report on sustainability goals. There are a lot of existing sustainability frameworks, each having its own scope, purpose, and focus; the frameworks in Appendix D are what we have aligned our commitments to.



## 6.5. Collaboration with other transmission networks

Industry collaboration can break down sustainability barriers and drive systemic change, it is essential to scale transformation to net zero by 2050. RIIO-T2 has fostered a regulatory framework for further collaboration between the UK transmission owners. Together with Scottish Power Energy Networks (SPEN) and Scottish and Southern Electricity Networks (SSEN), we have established a joint TO sustainability forum, to increase commonality and consistency in sustainability across the sector. During RIIO-T2 we have worked collaboratively to develop an industry-wide, consistent approach to capital carbon management and natural capital assessment. This was with the purpose of sharing best practice and having a common approach throughout our industry.

When developing the RIIO-T3 Environmental Action Plans, we wanted to work even closer with the other TOs to understand our common environmental challenges and opportunities and find any areas of commonalities that we could apply as one sector. This provides benefits to our common supply chains who we rely on to do work on our behalf. It would also be beneficial to the regulator and other interested stakeholders wanting to compare environmental performance.

Although challenging at times with organisations having different geographies, planning regimes, scale of impact; there were areas that as sector we have agreed on to communicate as sectoral commitments as shown in Table 7 below.

**Table 8 UK transmission owner sectoral commitments**

<b>Commitment</b>	<b>Area</b>
We will deliver economically efficient actions to reduce our scope 1, 2 and 3 GHG emissions in line with science-based targets	GHG
We will continue to improve on the accuracy of our data, aligning with evolving best practice and collaborating with other TOs to ensure a consistent approach	GHG
We will not use SF6 where there is a technically feasible and commercially viable alternative	GHG
We will implement carbon management across our construction programme, minimising embodied and whole life carbon emissions as far as possible	GHG
To support this, we will achieve PAS2080 certification, validated by an external company by 202X	GHG
We will create common reporting methodologies and align our reporting to internationally recognised sustainability reporting standards where possible (GRI/ESRS).	Reporting
We will develop common supply chain social sustainability metrics, tools and methodologies.	Social
At least 80% of suppliers by value set SBTs (or equivalent externally validated GHG reduction target)	Supply chain
We will provide 10% Biodiversity Net Gain (BNG) on projects subject to planning consent, optimising wider benefits	Nature

There will be occasions where we or other TOs may be able to go above and beyond these minimum set of commitments. But it sets the minimum ambition we have as a sector.



## 6.6. Target optioneering

Target optioneering was a critical step in the development of our EAP. This involved in depth challenge and review sessions with Electricity Transmission’s internal teams with the aim to assess:

- the organisation’s ambition,
- share stakeholder feedback,
- assess the deliverability of the commitments.
- assess any trade-offs in our decision making.

### 6.6.1. Methodical choices

In assessing what targets to apply in our EAP, we followed two approaches:

1. **What to (target oriented)** – we followed this approach when there has been a direct policy or scientific target that we should be aiming for. Or the industry is clear on what the target should be.
2. **What if (scenario oriented)** – we followed this approach when there is little policy or scientific guidance, then we looked at our performance to date and where we could get to within five years, oriented by further guidance/ principles set out by industry frameworks. We also followed this method to see if we could Fastrack any target ahead of policy or scientific target.

For these two approaches, we assessed what methods or tools are available to our organisation to achieve the target proposed in the environmental plan. When a target has been chosen on a ‘what to’ or ‘what if’ can we be found in appendix F -Target Optioneering.

We have had to make tough choices and we have not been able to accommodate everything asked of us. Section 6.6.3 provides a further description of some of the trade-offs we had to consider when deciding when carrying out our optioneering.

**We have approached this plan with realism.** The investment decisions we take must be deliverable. To put this all this into perspective, we will have to deliver around two and a half times the level of total investment over the next five years compared to the previous five. Our Business Plan considers the interdependencies and trade-offs we’ve had to make, the assurance we’ve carried out to test our assumptions, and provides the roadmap for those investments out to 2031.

### 6.6.2. Target setting hierarchy

We developed a hierarchy of three tiers for developing targets:

1. **Topics in which we would set a numerical target:** we have used this approach when we had clear baselines and historic performance records.
2. **Topics in which we would make commitment statements:** we have used this approach when we do not have baselines or historical performance records, but we want to make a commitment and progress in an area.
3. **Topics which have not been included in the Environmental Action Plan:** we have not included every environmental aspect in the EAP. Only impact areas considered high impact for NGET and stakeholders have been included in the plan. Any environmental legal obligation we have has been considered business-as-usual (BAU) and has not been included in our EAP.

### 6.6.3. Trade-offs

There are synergies and correlations between environmental aspects. More frequently we are seeing multiple solutions for environmental problems. But there may also be trade-offs between environmental goals or even environmental and social goals. Progress in one area, may have a detrimental effect on another area.

An assessment of trade-offs was an important aspect of our target optioneering process. This is not an easy task because the complexities are often difficult to assess and manage. Table 8 highlights the key trade-offs in our assessment and optioneering.

**Table 9 Environmental Action Plan trade-offs**

<b>Trade-offs considered</b>	<b>Description</b>
Balancing the need of decarbonising the grid at pace and reducing our own environmental impact	There will be times where the connection of renewables at pace may take precedence. Supporting the delivery of the energy transition for the UK is the single most important thing we can do to help us reach net zero. In most cases these are aligned but sometimes we need to prioritise delivery of the network expansion the UK needs.
Supply chain availability	Given the vast amount we, and many others, need to construct over the next 7 years, there is an increasing challenge with supply chain demand. This can make it harder to prioritise or incentivise our suppliers on sustainability performance and can make it challenging to get the materials and resources we need. To mitigate this, we have put conditions in our commitments or targets 'where commercially, technologically and timely available' to outline these external dependencies.
Time availability	Low-carbon / more sustainable alternatives may exist, but these may be restricted with regards to amounts available or take longer to install therefore adding project duration. We will not stop work if these restrictions exist. To mitigate this, we have put conditions in our commitments or targets 'where commercially, technologically and timely available' to outline these external dependencies.
Deliverability	Our commitments need to be underpinned by clear and credible plans for delivery. The UK transmission network is growing at a rate not seen for generations. The best defence we have against greenwashing allegations is transparency and evidence-based claims. We need to be mindful of the resources available to us as an organisation in terms of workforce, knowledge, and ability to deliver our core purpose of connecting clean energy. Even at a time when stakeholders ask us to go further, we have assessed our capability to deliver. Where we still have gaps or unknowns, commitments will go as reopeners rather than be embedded in baseline funding.

Trade-offs considered	Description
Consumer value and affordability	<p>Delivering economically efficient actions to reduce our environmental impact has been an important consideration. We want to deliver environmental outcomes that offer the most consumer value. We have used tools such as a cost-benefit-analysis (CBA) and Net Present Value (NPV) to provide a guide as to what option provides the most value. There are instances where investing more capital, won't deliver increased value.</p> <p>Our Nature Positive commitments must represent consumer value and costs associated with Biodiversity Net gain (BNG) commitments must be balanced with the wider benefits that can be realised. Rather than focussing on a higher BNG % across all project types, our commitment to a minimum of 10% BNG plus wider environmental and societal benefits, represents a more positive return on investment. Similarly on carbon compensation we must balance the benefits of such projects with the cost to consumers and set a limit on the investment to help balance benefits and cost.</p>
Social and economic goals	<p>Sourcing low-carbon materials such as low-carbon steel may deliver further emissions reductions in our value chains. But due to some shortcomings in the UK market, there may be instances where these materials will need to be sourced outside the UK. When we take these decisions, we are committing to continue engaging with UK stakeholders to support the development of these markets. We will procure all materials using our sustainable procurement code of conduct to ensure that our ambitions adhere to ethical and human rights standards.</p>

## 7. Conclusion

We have a unique opportunity to make a significant contribution to address the Climate, Nature and Resource Use crises. The changes we are proposing to our Environmental Action Plan in RIIO-T3 will support the energy transition in a way that helps us progress towards **net zero operations**, enables **positive outcomes for nature**, and is **respectful of planetary boundaries**.

**HOW** we deliver is as important as **WHAT** we deliver.

By the end of RIIO-T2 we will already be meeting most of Ofgem's baseline environmental expectations and requirements, with these embedded into our BAU capabilities and approaches. Our RIIO-T3 EAP goes above and beyond these baseline requirements. It meets our regulatory and policy requirements and is aligned with stakeholder expectations.

Our EAP will deliver multiple benefits over the RIIO-T3 period and will take us a significant step towards the achievement of our vision. Appropriate regulatory baseline funding mechanisms in RIIO-T3 will ensure that benefits delivered via our investment are secured for the long term, delivered in a cost-effective way and leave a positive legacy for nature and our communities.

# Appendix A - Biodiversity Net Gain (BNG) and wider environmental and social benefits Strategy

## Executive summary

As part of a wider “Nature Positive” strategy, NGET made a commitment to deliver net gain by at least 10% or greater in environmental value (including biodiversity) on all construction projects in RIIO-T2. To date, this has been achieved.

Following extensive consultation, both internal and external, and benchmarking our approach against other companies (within and outside the electricity sector), best practice, our legal and policy duties, we have considered our options to develop our approach to net gain in RIIO-T3.

### We aim to deliver:

- at least 10% BNG with wider environmental and societal benefits for construction schemes requiring formal planning or consent (or equivalent in Wales), and
- **deliver a minimum of 10% biodiversity enhancement** with wider environmental and societal benefits **for voluntary non-statutory construction projects**.

This paper addresses the following questions:

1. Why is BNG important to NGET and a key consideration within our RIIO-T3 Business Plan?
2. What are the key investment drivers that have informed our approach?
3. What key considerations informed the development of our strategic options?
4. What options were considered, and which was preferred?
5. How will we deliver our preferred option?
6. How will BNG be funded in RIIO-T3?
7. What are the uncertainties associated with BNG delivery?

The outcomes delivered via this strategic approach will meet statutory BNG planning and consenting requirements essential to deliver the Great Grid Upgrade and NGET construction portfolio and our future Net Zero Network, as well as catalysing large scale investment in nature recovery aligned with national strategies and UK Government strategies<sup>22</sup>. In line with stakeholder expectations, this will deliver a range of benefits and an enduring legacy for biodiversity and the communities we serve.

### 1. Why is BNG important to NGET and a key consideration within our RIIO-T3 Business Plan?

Nature is in crisis. Alongside climate change, biodiversity loss represents a significant risk to our long-term prosperity and wellbeing. The UK is one of the most nature-depleted countries in the world, and increasing demands for renewable energy, housing, food, and resources puts more pressure on our ecosystems and stocks of natural capital.

Under the Global Biodiversity Framework (GBF) agreed in 2022, many countries have committed to act at a global scale to halt and reverse the decline of biodiversity. In 2024 and prior to Conference of the Parties (COP16), the UK Government committed to meet all requirements of GBF including Target 14 to integrate biodiversity and its multiple values into policies, regulations, and planning process.

The UK Government’s “Green Future: Our 25 Year Plan to Improve the Environment”, published in January 2018, sets out a range of targets across key areas of impact including a commitment to strengthen and mandate Biodiversity Net Gain (BNG) requirements within the planning system. BNG aims to de-incentivise development in areas of high biodiversity value and strategic importance, preventing further habitat loss and fragmentation in favour of development areas of low ecological value or connectivity. BNG is a key component of this plan and mandatory requirements were

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<sup>22</sup> Examples include: <https://www.gov.uk/government/publications/environmental-improvement-plan> a pillar of the Government’s climate change strategy and sets ten goals to stop decline of nature and reverse it; <https://www.gov.uk/government/publications/local-nature-recovery-strategies/local-nature-recovery-strategies> a statutory requirement for Responsible Authorities to agree priorities for nature recovery; and <https://www.england.nhs.uk/personalisedcare/social-prescribing/green-social-prescribing/> helping deliver the Government’s 25 year environment plan supporting more people from all backgrounds to engagement with and spend more time in green and blue spaces.



formalised via the Environment Act 2021. Subsequently, a requirement to deliver at least 10% improvements in BNG was mandated for projects consented under the Town and Country Planning Act 1990 (England) since February 2024. At least 10% BNG will also become a legal requirement for Nationally Significant Infrastructure Projects (NSIPs) consented under the Planning Act 2008 from November 2025. There are similar requirements under planning processes in Wales and Scotland although without specific % requirements.

Compliance with formal BNG legislative requirements (and equivalent Net Biodiversity Benefit (NBB) in Wales) is necessary to obtain the planning permissions and consents to enable the delivery of our essential energy system upgrades, new transmission infrastructure and the customer connections and duties required under our NGET operating licence.

This legislation requires a specified/certain level of action and investment in nature. However, external stakeholders expect us to seek opportunities that go beyond compliance and deliver a much broader range of long-term outcomes efficiently and aligned with wider strategy and policy. As we undertake the most significant transformation of our energy system in history, our environmental stakeholders believe that NGET has a unique opportunity to play a key role in the recovery of our natural world, delivering targeted action to benefit communities whilst addressing both the climate and nature crises.

BNG is also seen as an essential component to facilitate investment in nature, and key to securing private funding to address what is estimated by the Green Finance Institute<sup>23</sup> to be a £56b funding gap over the next 10 years required to meet UK biodiversity targets and commitments detailed within the 25 Year Environment Plan.

Delivering net gain is not new to NGET. Ahead of relevant legislation, a commitment to “*deliver net gain by at least 10% or greater in environmental value (including biodiversity) on all construction projects*” was included within our RIIO-T2 Environmental Action Plan (EAP). The requirements for projects to deliver BNG have been incorporated within our Environmental Management System and all construction projects sanctioned to date in RIIO-T2 have committed to delivering at least 10% net gain. 23 projects have committed to the delivery of greater than 15% BNG.

These legislative obligations to deliver BNG align with other legal duties and policy drivers to enhance the environment, which are set out below.

## 2. What are the key investment drivers that have informed our approach?

### Legal duties

Local planning authorities cannot grant planning permission in England and Wales without the application including at least 10% BNG with a minimum of 30 years management, maintenance, monitoring and reporting or equivalent in Wales Net Biodiversity Benefit (NBB). As outlined above, the relevant legislation includes:

- Schedule 7a of the Town and Country Planning Act 1990<sup>24</sup> - requires all developments to demonstrate delivery of 10% BNG from February 2024.
- Schedule 15 of the Planning Act 1990 - at least 10% BNG will be required for Nationally Significant Infrastructure Projects (NSIPs) determined by the Secretary of State for Energy, Security and Net Zero (DESNZ) by November 2025;
- Planning Policy Wales - requirement for developers to deliver Net Benefits for Biodiversity (NBB) for applications determined by Welsh Local Planning Authorities or Welsh Government;
- Environment (Wales) Act 2016 - biodiversity and resilience of ecosystems duty (section 6) also requires organisations to maintain and enhance biodiversity and promote the resilience of ecosystems; and
- In addition, Section 102 of the Environment Act 2021<sup>25</sup> - requires public authorities in England, including statutory undertakers like NGET, to consider what they can do to conserve and enhance biodiversity.

### Policy drivers

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<sup>23</sup> Source: The Finance Gap for UK Nature, Green Finance Institute, July 2021.

<sup>24</sup> Legal duty: Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021) - <https://www.legislation.gov.uk/ukpga/2021/30/schedule/14/enacted>

<sup>25</sup> Environment Act 2021 - <https://www.legislation.gov.uk/ukpga/2021/30/section/102>

Decision makers must take relevant policy into account when considering the merits of an application. In particular:

- National Planning Policy Framework 2021, s15 (paras 185-186) - Conserving and enhancing the natural environment - places duties on developers in the design of construction projects and Local Planning Authorities in determination of planning permission to promote conservation and enhance biodiversity, encouraging public access to nature where appropriate;
- National Policy Statements for Nationally Significant Infrastructure Projects (NSIP) requires Development Consent Order (DCO) - requires developers to seek opportunities to enhance biodiversity and the wider environment, facilitating a contribution to relevant local and national plans including Local Nature Recovery Strategies (LNRS). Also, for linear infrastructure to consider the provision of green corridors and steppingstones, alongside the opportunity to facilitate access to nature for the benefit of communities in proximity of energy network infrastructure;
- Planning Act 2008 - Schedule 2a (*not yet enacted*) requires development of a biodiversity gain statement specifying how biodiversity gains and objectives will be met via onsite, offsite, or statutory BNG credits for NSIPs; and
- Planning Policy Wales for applications determined by Welsh Local Planning Authorities or Welsh Government, there is a requirement for developers to deliver Net Benefits for Biodiversity (NBB).

### National Grid Policies

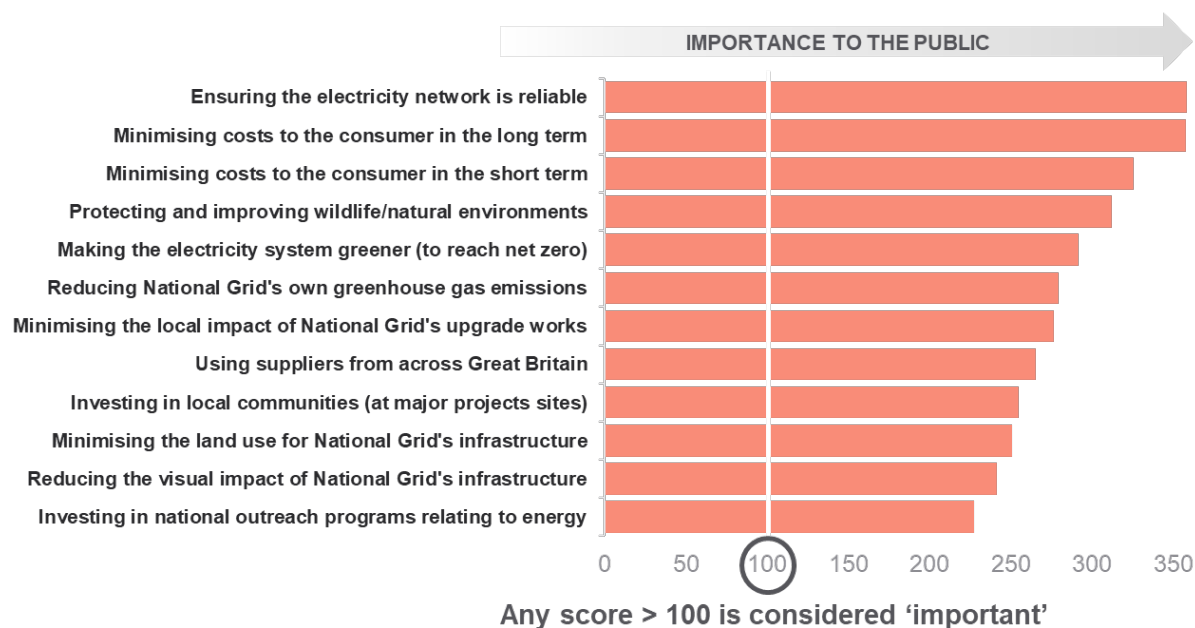
Our Stakeholder Community and Amenity Policy sets out how we will meet our mandatory Schedule 9 duties under the Electricity Act 1989. Duties include the preservation of amenity, and what developers can reasonably do to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings, or objects. In this policy, NGET commits to enhancing the environment around our works, and the consideration of practicable measures that can be taken to enhance areas in the vicinity of the works for the benefit of local communities and the natural and historic environment.

Our National Grid Group Responsible Business Charter commits to action that supports the transition to a clean, fair and affordable energy future. Actions and commitments are reflected in three core pillars (Our Environment, Our Customers and Communities and Our People). As part of the latest refresh in 2023, National Grid undertook a new environmental, social and governance (ESG) materiality assessment. This process defined, assessed, and validated the most important responsible business topics to our key stakeholders (investors, colleagues, customers, contractors and suppliers, communities, government and regulators). This assessment highlighted natural capital and biodiversity as one of the top areas of materiality alongside greenhouse gas emissions, decarbonisation and clean energy transition and affordability.

### Stakeholder Expectations

As mentioned previously in section 6.3.1.1 a study was undertaken in Jan 2024 by Yonder Consultancy on behalf of NGET to ascertain the priorities considered to be important by the general public for a modern electricity network. Protecting and improving wildlife and natural environments was listed as the 4th most important public priority – see Figure 28 below.

**Figure 28 Public priorities for a modern electricity network**



Other key considerations after reliability included minimising costs to the consumer over the long and short term. Other areas highlighted as important included minimising local impacts of upgrade works, investment in local communities (at major project sites), and minimising land use for National Grid infrastructure.

Through this study there was a recommendation that works over and above core delivery should be shown as a proportion of the energy bill. Balancing our approach to nature with long- and short-term costs to the consumer is therefore an important consideration when developing our net gain strategy.

Stakeholder feedback<sup>26</sup> gathered through a specific consultation in Feb 2024 (see section on external consultation below) suggested that delivering 10% BNG is now considered to be the norm, with some stakeholders indicating that a higher percentage should be delivered across our range of construction projects including those delivered under permitted development.

### 3. What key considerations informed the development of our strategic options?

#### Internal workshops

In January 2024 we convened a group of internal stakeholders and representatives from across NGET to consider our nature commitments for RIIO-T3. These workshops focussed on lessons learned and experience, challenges and opportunities associated with delivery of our RIIO-T2 Nature Positive commitments including 10% Net Gain in Environmental Value coupled with wider external environmental and societal context and business drivers for RIIO-T3 that would influence our strategy and ambition. The outcome of these workshops included several draft commitments across 3 key areas:

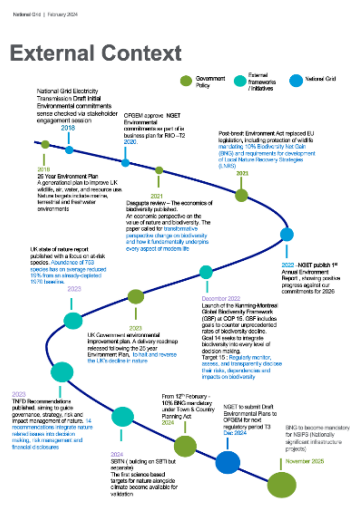
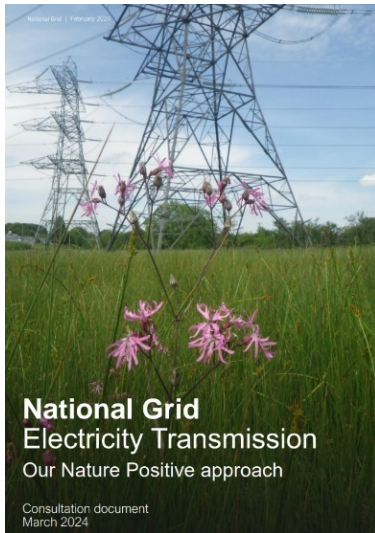
- **Environmental Improvement** – our direct impacts on terrestrial and marine environments resulting from our construction activities across England and Wales, including our BNG commitments as detailed within this Annex.
- **Embodied Ecological Impacts** – the upstream biodiversity risks and dependencies of assets and commodities we are procuring to deliver our construction program in RIIO-T3 and beyond, with a view to better understand, disclose, and take action to reduce these impacts.
- **The Natural Grid** – how we can manage the operational footprint of our network for the benefit of biodiversity and communities – aligning with local strategies and priorities.

#### External consultation

<sup>26</sup> Nature Positive Stakeholder Consultation Feb 2024

To understand the views of our environmental stakeholders, we launched an external consultation in February 2024 to gather views on our proposed approach to Nature for RIIO-T3 based on the outputs from the internal workshops. We consulted a wide variety of stakeholders including:

- A broad range of environmental NGOs, including The Wildlife Trusts, RSPB, Plantlife, Flora and Fauna, WWT
- National Grid contractors including Balfour Beatty, Mott Macdonald, Morgan Sindall, Laing O'Rourke
- Environmental Service Framework Providers including WSP, Arup and Jacobs
- Supplier and industry forums including the UK Business Biodiversity Forum (UKBBF) and the professional body the Institute of Environmental Management and Assessment (IEMA).



**What do you think...**

1.1 What do you think about our proposed Nature Positive approach for our next regulatory period?  
Do you think our approach for RIIO T3 provides appropriate coverage across key impact and opportunity areas? Are there any material gaps within our framework?

1.2 How important is it for us to align our approach with external standards and frameworks such as Science Based Targets for Nature (SBTN) and TNFD?  
Do you think formal accreditation to standards where applicable is important and will society help to drive more positive outcomes?

1.3 Do you feel that our proposed BNG and additional environmental benefits approach is enough?  
We do not intend to set an increased 10% target over the 10% BNG requirement. Instead focus on delivery of wider long term environmental benefits. Do you feel this is approach is suitable?

1.4 Do you feel that alignment to defined BNG standards for all construction activities requiring formal planning permission or consent?  
If so do you feel these standards should also align to developments regardless of planning requirements?

1.5 How do we think we should be incentivised by our regulator to deliver additional environmental benefits, in addition to the mandatory biodiversity requirements?  
If we should be incentivised be focused on just the benefits that can be quantified?

1.6 Do you think that a flexible approach for non statutory construction activities is appropriate?  
Do you think the use of the DEFRA Biodiversity Certificate for other scheme outputs of the BNG process in England & Wales is acceptable?

1.7 Are there areas of additional environmental benefit that are missing and should be included within our approach?  
For any these non-statutory approaches and standards that could be applied?

1.8 Should the additional environmental benefits be locationally specific, or should we apply a mix?  
Which areas of additional benefit would be more appropriately measured at regional or even national level?

1.9 Do you have any other thoughts or feedback on our approach or what others are doing?

Initial stakeholder views were gathered on the proposed structure of our Nature Positive approach and how this aligned to wider frameworks and emerging policy such as The Taskforce for Nature Financial Disclosure (TNFD) and Science Based Targets for Nature (SBTN). A key element of the consultation focused on our proposed commitments in relation to BNG.

Stakeholders broadly agreed with our approach, believing National Grid can create a world-leading approach to delivering infrastructure that contributes to the recovery of nature, and that addressing both the climate and nature crises alongside infrastructure delivery is critical. They agreed with an approach that delivers:

- **Quality of outcomes** - stakeholders were supportive of the proposed approach to focus on the quality of outcomes, including the benefit of taking the best parts of BNG-intended outcomes and augmenting these with wider environmental and societal benefits, including natural capital and ecosystem services, social value, and environmental education. Such benefits should be delivered in appropriate locations and where they add the most value for nature and people and should consider the priorities set out in Local Nature Recovery Strategies. Due to stakeholder feedback, the term “wider” benefits has replaced “additional” benefits to provide clarity that outcomes are intentional rather than being derived solely from the achievement of 10% BNG.
- **At least 10% BNG** – stakeholders supported our approach to consider ways of increasing BNG beyond 10% for in-scope projects. However, there was feedback around our level of ambition for BNG with several stakeholders suggesting that we should consider a higher % BNG commitment and broaden it to include all construction projects and potentially non-operational land. This must be balanced with the additional cost and consumer value.
- **Strategic partnerships** – several stakeholders highlighted the opportunities and recommended working with strategic and specialist partners to deliver larger scale and more cohesive projects.
- **Measurable outcomes** – support was given for the use of tools that will provide measurable and quantifiable wider benefits and that realistic target setting would be an important consideration. There was also strong support for the alignment of our BNG approach to ISO and BSI standards to ensure quality and consistency.

Our proposals were also shared with our Stakeholder Advisory Group, the members of which are shown in the table below:

- Cadw
- Campaign for National Parks
- Campaign to Protect Rural England
- Campaign for the Protection of Rural Wales
- Historic England
- National Landscapes Association
- National Parks England
- National Parks Wales
- National Trust
- Natural England
- Natural Resources Wales
- Ofgem
- The Landscape Institute
- The Ramblers
- Visit England
- Visit Wales

Overall, there was agreement that our vision and aspiration should be about raising ambitions as to what can be achieved through focusing on quality, breadth, and wider community benefits.

Also, consensus and recognition that a single focus on BNG alone may not fully optimise the wider benefits that could be realised through investment in nature and focussing on the quality and variety of outcomes associated with these actions was supported.

### Sector benchmarking and alignment

Through RIIO-T2 we have worked closely with the other Transmission Owners (TOs) to seek alignment and consistency across a range of areas. As part of this collaboration, we have developed a cross-sector Nature Working Group. This group was used to discuss and share insights from relative businesses and environmental stakeholders to agree common sector-based commitments.

The level of BNG ambition including a focus on delivering wider environmental and societal benefits was an area of commonality across all TOs. The need for consistency of approach across the sector was highlighted as part of the stakeholder consultation both by environmental regulators and contractors.

Via the Nature Working Group, Transmission Owners agreed a common commitment **to deliver at least 10% Biodiversity Net Gain (BNG) on all construction projects requiring planning**, with additional business specific commitments to deliver these actions in ways that provide added value and secure a positive legacy, recognising this is increasingly becoming a mandatory obligation.

### Estimating BNG costs

To meet BNG requirements, developers must deliver additional habitat creation or enhancement (Net Gains) in line with BNG guidance and legislation, either onsite within the development footprint or offsite via 3rd parties, the commercial BNG market, or as a last resort via UK Government statutory BNG credits. Gains and losses are measured in Biodiversity units.

BNG units are the numerical quantum by which BNG is measured, calculated via the DEFRA Statutory Biodiversity Metric. BNG unit value is dependent on habitat type, distinctiveness, condition and strategic significance – the higher the distinctiveness, condition, and strategic significance the higher unit value.

The impact of National Grid construction projects and associated BNG unit requirements will vary across development types, quality, type and extent of habitats affected, and geographical context. BNG unit requirements and BNG unit costs are refined throughout the development process and therefore difficult to reliably estimate upfront – they are indicative costs.

The BNG market is immature and indicative costs within the RIIO-T2 Period show that the average cost per BNG unit has risen from around £15K in 2021 to around £30K in 2024. Different BNG unit types e.g. Area Units (Habitats), or Linear Units (Hedgerow or Watercourse) have a range of different costs dependant on type and significance.

BNG unit costs for all types include the costs for habitat creation and/or enhancement as well as the maintenance, monitoring and reporting for a period of 30 years.

The cost of BNG can vary considerably dependent on scale of impact, habitat types effected and the blend of delivery pathways selected.

The costs of commercial BNG Units via the market vary across the UK, and there are no standard / accepted BNG unit rates.

Statutory BNG Credits prices (available as a last resort) are published on the UK Govt Website. These prices are above the average commercial market rate for all BNG unit types e.g. Woodland

and Forest Statutory BNG Credit price = £42K, Ave BNG Market rate for the same Habitat Type (based on a survey by of 38 BNG providers by Biodiversity Units UK in July 2024) = £31.5K

In the absence of standard BNG unit market rates, we have used the Statutory BNG Credit prices as a cost reference within our BNG estimates and tools. This approach accounts for some uncertainty around the costs of delivering wider benefits and builds in flexibility to account for final BNG delivery pathways and costs.

#### 4. What options were considered, and which was preferred?

After considering all factors included in Section 8.1.3 above, the following options were assessed in the table below:

**Table 10 options consideration**

Option	Option description	Cost	Benefits	Disbenefits
1	<p>Deliver at least 10% BNG (or equivalent in Wales) with wider environmental and societal benefits for all developments requiring formal planning or consenting.</p> <p>Deliver a minimum of 10% biodiversity enhancement with wider environmental and societal benefits for voluntary non-statutory construction projects [Preferred]</p>	<p>Potential slight increase in costs to enable realisation of wider benefits, above market rate for standard BNG units</p> <p>Balanced approach to meet environmental stakeholder expectations and consumer value</p>	<p>Meets statutory and policy requirements.</p> <p>Delivers wider government policy and aspiration on education, health, wellbeing, communities, natural capital and ecosystem services.</p> <p>Includes all NGET developments with impacts to nature</p> <p>Consistent with TOs</p>	<p>Potentially higher costs in comparison to the legal BNG requirement (at least 10%)</p> <p>Reliance on strategic partnerships and relevant opportunities</p>
2	<p>10% BNG for NSIP schemes,</p> <p>15-20% for TCPA construction projects,</p> <p>20% for Permitted development schemes,</p> <p>[credible]</p>	<p>Potential increase in costs particularly for PD and TCPA projects compared to RIIO-T2 and subject to BNG market fluctuations</p>	<p>Either meets or exceeds mandatory BNG % requirements.</p>	<p>Higher costs in comparison to the legal BNG requirement (10%)</p> <p>Lack of consistency across NGET and not aligned with TOs.</p> <p>Does not lever wider environmental or social benefits (quantity over quality).</p>
3	<p>20% BNG for construction schemes requiring formal planning or consenting.</p> <p>[credible]</p>	<p>Increase in costs– although not a linear cost increase - % increase dependent on scale and unit types,</p> <p>Cost increases limited to</p>	<p>Significantly greater BNG provision than the “at least 10%” contained in law and policy.</p> <p>Meets environmental stakeholder</p>	<p>Higher cost of the legal or policy driven BNG requirement (10%)</p> <p>Quantity over quality - does not lever the 20% to provide any wider</p>

Option	Option description	Cost	Benefits	Disbenefits
		development under formal planning	expectation for higher BNG%	environmental or social benefits. Challenges on scale of delivery.
4	20% BNG for all construction projects regardless of consenting regime [credible]	Increase in costs relative to RIIO-T2 – although not a linear cost increase - % increase dependent on scale and unit types,	Greater BNG provision than 10% contained in law and policy.  Incorporates permitted development activities with impacts to Nature.  Meets environmental stakeholder expectation for higher BNG%	Potentially higher cost above legal or policy driven BNG requirement (10%)  Quantity over quality - does not lever the 20% to provide any wider environmental or social benefits. Could drive suboptimal delivery to meet higher % target.  Challenges on scale of delivery.

#### ‘Do nothing’ option

A “do nothing” option was considered but discounted as it would not be a credible option.

Not delivering at least 10% BNG would not meet legal obligations for planning authorities to grant planning permission, preventing the delivery of energy infrastructure to benefit customers and consumers.

Our preferred option detailed within this paper is option 1:

- To deliver at least 10% BNG with wider environmental and societal benefits for construction schemes requiring formal planning or consent (or equivalent in Wales); and
- **To deliver a minimum of 10% biodiversity enhancement** with wider environmental and societal benefits **for voluntary non-statutory construction projects**.

NB This target only relates to construction projects that are “in-scope” for BNG. This does not include overhead line refurbishment or reconductoring projects which are subject to their own environmental enhancement works as outlined in section 4.3.2.3.

This option delivers the following outputs:

- Meets our current and anticipated future legal and policy requirements
- Supports delivery of our Responsible Business Charter commitments
- Maximises the wider benefits of consumer-funded BNG requirements
- Represents a significant and measurable contribution to Nature’s recovery across England and Wales recognised by our stakeholders and the communities we serve
- Supports delivery of wider government policies and aspirations on health, education, communities, and wellbeing
- Delivers long term benefits for the communities impacted by our works or infrastructure
- Delivers improved biodiversity across equivalent of over 8,000 acres of land, 7 x the impact in RIIO-T2<sup>27</sup>
- Builds long lasting and sustainable partnerships with environmental organisations and stakeholders

<sup>27</sup> This is based on available data at the time and uses a number of assumptions to standardise the calculations to provide a comparison between T2 and T3

Catalysed by investment required to meet mandatory BNG requirements, our RIIO-T3 target to **deliver at least 10% BNG (or equivalent in Wales) with wider environmental and societal benefits** focusses on the quality and richness of BNG outcomes, informed by, and delivered through a range of expert strategic partnerships. Wider environmental and societal benefits (not to duplicate with any future Community Benefit) can include provision of nature-based solutions such as carbon capture and storage, visual screening, pollution control and flood risk reduction, as well community benefit and social value providing access to nature, environmental education, green skills, training and employment.

Delivering **at least 10% BNG** represents a consistent approach across all other electricity Transmission Owners and across all NGET construction development types. It is not intended as a specific target or cap, and we will work together with our partners to seek opportunities to deliver higher % where appropriate. In Wales, in the absence of a prescribed metric we will utilise the BNG metric to quantify project impacts alongside other tools to inform our approach to delivering Net Benefit for Biodiversity (NBB).

Through effective and efficient delivery of NGET BNG requirements there is an opportunity to make a significant contribution to nature recovery at scale across England and Wales. Working with longstanding partnerships with specialist organisations, we will co-create and deliver the right BNG actions in the right places aligned to regional and national priorities. It will provide transformational change through community involvement, environmental education, learning and skills and green jobs. Whilst developing enduring benefits for all through public access and wider ecosystem service benefits provided by nature.

### 5. How will we deliver our preferred option?

Planning guidance sets out a BNG hierarchy, requiring ‘onsite’ (within the development footprint) to be considered before considering offsite options. In relation to NGET construction projects, BNG requirements, mandatory and voluntary can be met in a number of ways including;

- **onsite** – within the ‘redline development area’ on land owned and controlled by NGET
- **offsite** – either on other land owned or under NGET’s control, or more likely on 3<sup>rd</sup> party land via Partnership arrangements or the BNG commercial market with BNG offset / Habitat banks; and
- As a last resort (should onsite or offsite solutions not be available) UK Government Statutory BNG Credits can be purchased – this route requires double the BNG unit requirements than the other pathways, though is not anticipated to be necessary owing to other offsite delivery options.

To support the delivery of the BNG and wider benefits strategy the four key delivery pathways are set out below. A combination of these pathways is envisaged to be necessary to meet BNG requirements for each project – as indicated below:

**Figure 29 Environmental net gain delivery pathways**

## Environmental net gain (BNG) delivery Pathways

There are several potential pathways for BNG delivery. Some involve buying commercial units with no local benefits; most require initial lump sum (capex & opex) payment at outset; some deliver local benefits to environment and communities – other do not.

To deliver our strategy and key principles, the preferred approach should focus on Option 3 with Option 4 where necessary around our existing or new substation/ converter sites. Option 2 may also be required as a ‘back-stop’ solution.

	Pathway (BNG Provider)	Opinion	NG / consumer ongoing liability and accountability	Spend	Observation	Does this deliver NG’s ambition for wider env & societal benefits (incl. EELS)?	
	1	Purchase Statutory Biodiversity Credits	<b>Not recommended</b> This pathway requires double the number of credits to be purchased	None – no ongoing NG or consumer liability <i>[nb: checking the legal route for this]</i>	Single lump sum payment (capex & opex)	Worst Case Prices are deliberately set high enough to not compete with the private off-site market, as well as being a feasible option for a developer to use as a last resort.	No wider benefits for local environment or communities affected by our infrastructure
Likely mix of BNG delivery	2	Purchase commercial BNG ‘units’	<b>Least preferred – back stop position.</b> May be used as last resort (‘offsite’)	None (assuming that we can pass on full liability through legal agreement)	Initial capex outlay then ongoing opex	Cheaper than Govt credits.	Limited wider benefits
	3	Partnership delivery (Wildlife Trust, National Trust etc)	<b>Preferred</b> (‘offsite’ – principally for OHL and cable projects, and around substations where ‘onsite’ is not possible or desirable).	Likely enduring liability for NG and consumers for successful BNG outcomes (legal offence for non-delivery of statutory BNG)		Tailored BNG with stacked benefits to meet local environment and benefit communities	Benefits local environment & communities through stacked benefits of community involvement, environmental education, learning and skills (EELS) & jobs creation
	4	Deliver ourselves on our land or newly acquired land (using partners or contractors)	<b>By exception</b> – subject to UK Land & Property prior agreement (‘onsite’ – principally around substation/ converter sites, but must not inhibit future development of sites)			As non-operational land UK Land & Property would need resources to monitor, report, and complete any remedial measures to ensure successful BNG outcomes	

Pathway requiring UK Land & Property agreement and (likely) enduring involvement

Owing to the scale of ET and SI portfolio, we should want to minimise and carefully manage the scale of ongoing liability and accountability across all future construction projects

Our ambition is to maximise benefits for local environment and communities



Some BNG might be able to be accommodated onsite for NGET projects. However, significant amounts of BNG, particularly for new long linear infrastructure, will need to be delivered offsite on 3<sup>rd</sup> party land where NGET does not own the land. Delivering BNG offsite, at scale, will require delivery of BNG units via partnership, or by the purchase of BNG commercial units, or Statutory Credits as a last resort.

As we develop our major infrastructure projects, it would be beneficial to explore with Ofgem a RIIO-T3 portfolio wide approach and funding mechanism for cases where we need to deliver BNG offsite when it would involve transferring lifetime obligations to third parties. We aim to discuss with Ofgem whether a generic starting position based on assumptions and evidence would drive efficiency and value for project teams, would avoid abortive costs, and provide certainty in planning/consent applications with BNG delivery.

BNG requirements and associated costs will vary across all construction projects, dependent on scale and significance of impact and the approach to delivery, measured against a pre-construction baseline in Biodiversity Units calculated via the DEFRA Statutory Biodiversity Calculator. BNG costs include the practical actions necessary to deliver habitat creation or enhancement activities, in addition to the long-term management and monitoring of these habitats over 30 years. It would be a prosecutable offence not to continue to deliver the required BNG for the specified duration, monitored by field surveys and reporting to the local planning authority.

Provision of Offsite BNG Units including management and monitoring requirements are underpinned by either a conservation covenant or section 106 agreement, delivery of requirements under these agreements are regulated and enforced by a responsible body. Delivery of BNG requirements on NGET land or land under our operational control, will be undertaken via specialist partner organisations and will include appropriate contingency and liability arrangements and assurance processes to ensure appropriate requirements are met.

The UK government's Net Zero Strategy is forecast to support the transition to net zero and 190,000 jobs by the middle of the 2020s and up to 440,000 jobs in 2030. This will include the need for ecologists and environmental managers to survey and create BNG solutions, survey, monitor and report on each BNG site for 30 years, and for people to physically manage and maintain the BNG habitats. Each of these activities will require education and development of a range of technical and practical skills.

In the way the energy sector supports Science Technology Engineering and Maths (STEM), the legal requirement for BNG will drive national-scale habitat creation that will require Environmental Education Learning and Skills (EELS) and ongoing training for a generation to deliver on BNG commitments for 30 years. Further information can be found in an addendum to this appendix.

Building on our commitments and actions within RIIO-T2, National Grid has developed a strategy for RIIO-T3 to deliver BNG plus wider environmental and societal benefits in a sustainable and scalable way that goes beyond our legislative requirements in line with stakeholder expectations. It is realistic and achievable, recognising the scale of our RIIO-T3 construction portfolio across NGET including ASTI.

The approach considers the business risks associated with potential constraints to future development and customer connections and the enduring liability and accountability of BNG sites across England and Wales. It recognises that other parties in the environmental sector are far better placed to deliver more sustainable and enduring environmental outcomes than ourselves and maximises the wider benefits from the implementation of consumer funded BNG – a focus on quality over quantity.

To inform our strategy we have developed five guiding principles, which have been tested with Wildlife Trust, National Trust and members of our independent Stakeholder Advisory Group ((SAG), membership set out in Table 3.1). Our guiding principles are set out below.

## Our Net Gain (BNG) strategy guiding principles :

1	Continue to deliver BNG on all our projects to benefit the local environment and communities affected (in preference to purchasing potentially 'lower cost' option with limited local benefits from commercial market)
2	Avoid (or minimise) National Grid's legal <sup>1</sup> exposure to enduring liability and accountability by delivering offsite through expert partnerships who take on management & liability (in preference to NG ownership and management control of hundreds/ thousands of sites across the country for 30+ years)
3	Plan for BNG, funded by consumers, to deliver enduring benefits recognising our infrastructure will likely exist in perpetuity (in preference to BNG being removed/chopped down at end of the management period)
4	Deliver BNG through expert partners who have better local contacts and experience in enduring maintenance of sites (recognise NG is not an expert in this field, and others are well established and are likely to be able to deliver better BNG outcomes, more efficiently and effectively)
5	Maximise potential from the consumer funded BNG through delivering wider environmental benefits + environmental education, learning and skills (EELS) (in preference to 'just' BNG habitat improvement)

## 6. How will BNG be funded in RIIO-T3?

BNG funding is not a standalone investment but incorporated into project specific costs and included as part of each project's funding submission. Our approach to BNG (and therefore units and costs) evolve and are refined during the project development process, from initial low level of confidence at project inception to moderate or high levels of confidence at planning application submission. During this process, BNG requirements are identified, options considered, solutions identified, and commitments made and included within planning or consent applications. BNG units and costs are influenced by design footprint, construction duration, and habitats affected, together with the type, location and proposals for BNG delivery. At times, a final BNG unit/cost reconciliation may need to take place post-construction.

BNG delivered by NGET onsite may involve initial capex outlay and subsequent opex allowance, whereas BNG delivered offsite by partner organisations, purchase of commercial BNG units or Statutory BNG credits will require a single capex spend prior to construction or commissioning.

The commercial BNG market is expected to fluctuate in terms of costs and number of factors over the first few years of the mandatory BNG requirements, particularly with the significant BNG unit requirements anticipated with mandatory BNG for NSIPs – our target of at least 10% (rather than committing to a higher percentage) helps to minimise exposure to higher costs from market fluctuations.

Using design and habitat assumptions, BNG cost estimates can be derived using the Statutory BNG Credit costs, which builds in some capacity to account for the uncertainty of market fluctuations and costs associated with strategic partnerships and associated resources needed to deliver wider environmental and societal benefits including EELs.

Owing to the uncertainty of design, impact on habitats, number and type of units required, and the delivery solution, there needs to be appropriate regulatory mechanisms to adjust for BNG costs.

We look forward to engaging with Ofgem regarding BNG approach, including offsite 3rd party delivery pathways as explained in section 5 above.

## 7. What are the uncertainties associated with BNG delivery?

In addition to uncertainties in relation to costs as stated above, other considerations include:

### Capacity of BNG Market and ability to deliver wider environmental and societal benefits.

Due to the scale of construction, NGET will have multiple projects delivering BNG across England and Wales. The market for off-site delivery is immature and unconnected. A lack of available BNG units within relevant geographical areas particularly in areas of significant development – may lead to potential increased costs due to location / proximity multipliers outside the Local Planning Authority (LPA) or National Character area (NCA).

NGET is therefore developing a BNG Procurement Framework to bring together a range of organisations with national coverage and large-scale land holdings to support delivery of these

commitments which will provide variety and choice for project teams. A key aspect of the selection process is the demonstration of wider environmental and societal benefits in addition to formal BNG units necessary to meet and exceed formal planning / consenting requirements. Examples include nature-based solutions for climate adaptation, natural flood management, species specific actions alongside green jobs, skills, education, and employment.

Complementing the BNG Framework we are developing larger scale approaches with environmental stakeholders such as the National Trust, RSPB and the Wildlife Trusts to build capacity for the future BNG requirements in advance of need in strategic locations that can deliver wider benefits core to our strategic ambitions.

#### Future development / Customer connections

BNG delivered onsite (within the development boundary) or adjacent offsite must be secured through formal Conservation Covenant or legal agreement and managed for 30 years. These BNG areas on our own land could act as a constraint on future substation expansion which may lead to restrictions on development, connecting customers, implementing less optimum designs, or potentially higher costs if located in less suitable areas. Clarity and visibility of future customer needs at NGET sites are not always foreseeable, particularly where connections are dependent on 3<sup>rd</sup> party permissions and / or consenting.

When considering onsite or adjacent offsite BNG locations, NGET as a statutory undertaker with transmission licence duties, should give weight to future network development, network plans, and connecting customers when considering BNG sites.

Owing to the uncertainty of future need, offsite BNG arrangements are often more appropriate as they ensure that habitat improvements are in strategic locations aligned with local and regional strategy and unaffected by future development.

#### Use of the BNG hierarchy

The planning BNG hierarchy requires developers to first consider onsite BNG delivery, before progressing through the hierarchy and considering offsite BNG. However, no specific planning guidance exists, resulting in potential risks for planning and consenting if the rationale for not delivering onsite is insufficiently justified or accepted. Current experience includes Neath Port Talbot LPA in Wales where a proposed offsite solution, identified as part of the delivery strategy to meet Net Biodiversity Benefit (NBB) requirements was deemed to be unacceptable by the LPA, requiring instead the prioritisation and range of onsite actions.

We will minimise planning risks associated with non-adherence to the mitigation hierarchy by assessing onsite viability of BNG against a robust set of criteria including, future operational / development need, potential / likelihood of customer connections or other future NGET business requirements, this process will incorporate insights and approvals via NGET business units. This assessment will be provided as evidence to Local Planning Authorities to demonstrate appropriate consideration prior to the decision to adopt an offsite BNG solution via our Framework of strategic BNG delivery partners.

#### Scale of opportunity for wider benefits

To maximise the benefits from BNG for the local environment and communities affected by our works, noting that it is consumer funded, our strategy involves the initiation and implementation of EELS programmes and resources, delivering positive contributions for nature recovery strategies, social drivers and key UK Government strategies.

However, the realisation of wider environmental and societal benefits including EELS is locationally specific and can be bespoke to communities impacted by our works. The opportunities will vary in size and scale across our portfolio of works.

To address this area of uncertainty we will work with partners to develop a broad range of EELS resources and materials that can be tailored to reflect specific requirements and the diversity of communities we serve.

We propose to use industry standard tools to identify and measure the cost and benefits from developing EELS programmes, the scope and extent of which will vary dependent on the partners we work with, geographical context, proximity to development and conurbations as well as the scale and type of approach.

## Conclusion

National Grid Electricity Transmission has a unique opportunity to make a significant contribution to address the Climate and Nature crises.

Our approach to deliver BNG with wider environmental and societal benefits including EELS, will meet our regulatory and policy requirements, is aligned with stakeholder expectations, and builds national partnerships that can support future network development, enable efficiencies and support communities and make a landscape scale contribution to nature recovery.

This strategy will maximise the benefit and value from the mandatory consumer funded BNG we are obligated to deliver.

Appropriate regulatory funding mechanisms in RII0-T3 that appropriately consider uncertainties in the BNG process and the funding requirements and associated pathways, will ensure that benefits delivered via this investment are secured for the long term, delivered in a cost-effective way and leave a positive legacy for nature and our communities.

## Addendum to Appendix A

### What is Environmental Education Learning and Skills (EELS)?

The UN Environment Programme's five objectives for environmental education are awareness, knowledge, attitudes, skills and participation, and actions.

EELS is about developing and encouraging environmental interests and attitudes supported by a range of skills appropriate to people's ages, aptitudes and interests, both formally and informally, in classroom settings and off the premises.

Added value and EELS could include working with:

- primary and secondary schools, Further Education and Higher Education and sector skills organisations such as the Conservation Volunteers;
- outdoor education organisations including the Field Studies Council, the Scout and Guide Associations, and the Forest School Association
- social prescribing through the NHS, Men's Sheds Associations, and community art groups,

In practical terms this means developing partnerships and working with charities such as the National Trust, The Wildlife Trusts, and the RSPB, amongst others, to deliver BNG in a way that supports the work they are already doing on habitat creation, enhancement and access. It will lever their networks and established successful ways of working.

It means working with environmental organisations in the Third Sector and education establishments to develop engagement and interest, and technical skills at all educational stages and skill levels. It means stimulating interest in people to develop enduring community support for the creation, management, monitoring and enjoyment of new habitats that stimulates a life-long awareness, interest and protection of nature and its benefits.

The BNG sites and EELS approach also provide the opportunity to create the green skills and jobs for tomorrow - the resource that will be required to install, maintain, survey and report on the BNG over the 30 years of monitoring and maintenance.

It is about creating new spaces for nature, creating new places for people, and creating capacity in communities to develop their own legacies.

Stakeholders are increasingly asking for more than 10% BNG, arguing that big projects should provide larger amounts of BNG. However, National Grid's predominantly linear infrastructure is mainly on third party land which is normally retained by the owner for its original use (often farming-related). Therefore, our proposed approach prioritises quality and wider benefits over additional quantity (and its potential adverse effects of loss or integrity of farmland) and aims to involve communities in creation of habitats so that they can enjoy the community, physical and mental benefits that such opportunities bring.

## Appendix B - Summary of stakeholder feedback

### Stakeholder influence in our RIIO-T3 Environmental Action Plan

Our RIIO-T3 Environmental Action Plan was built using a range of internal and external stakeholder input. This has included webinars, consultations, 1-2-1 expert engagement, ISG, internal challenge and review sessions, ET Exec, external research, and regional events.

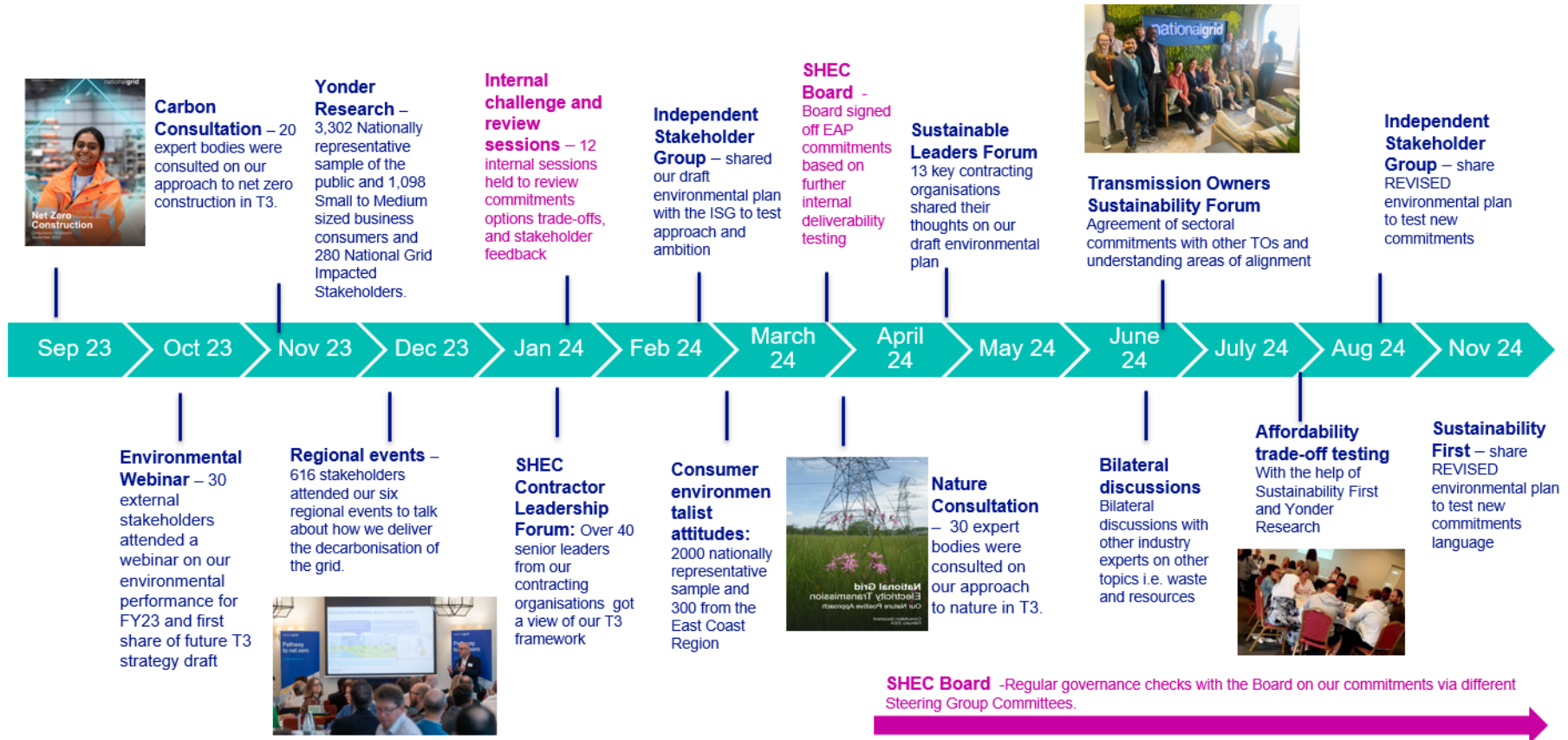



Table 11 Summary of stakeholder engagement channels and feedback

Channel	Stakeholders engaged	What did we learn	How did we take this forward in RIIO-T3
<p>Environmental webinar (October 2024)</p> <p>An opportunity to gather initial views on our direction of travel towards our RIIO-T3 vision and focus areas</p>	<p>30 stakeholders covering key categories from NGOs, supply chain, network organisations and environmental representatives.</p>	<p>81% of stakeholders agreed with our environmental vision and 95% of stakeholders agreed with our focus areas.</p> <p>Marine net gain and supply chain sustainability came as two big areas that needed further focus on RIIO-T3.</p>	<p>We've continued to use the framework and the vision we first tested at this environmental webinar of net zero, nature positive and one planet living.</p>
<p>Carbon in construction consultation (September - December 2024)</p> 	<p>Representatives from 20 organisations responded to our consultation. These consultees came from across a range of sectors, including NGOs, Supply Chain Members, Consultants, Infrastructure clients and public bodies.</p>	<p>The terminology of the target needs carefully consideration, 'carbon neutral' has a new definition but some consultees did not think net zero was appropriate to use against only a subcategory of our emissions either. Strong consensus we should continue to focus on carbon across our construction programme beyond 2026. Given the better understanding of steel and concrete sectors decarbonisation pathway out to 2050, a net zero target for our construction emissions is unfeasible as they are so dependent on these sectors.</p> <p>Some consultees stated we should offset going forward to maintain a 'net zero' position; others however were not supportive of offsetting in future. Delivery of community and local benefit was seen as more important than having externally verified (on the market) credits.</p>	<p>We will not have a net zero construction target in RIIO-T3. Instead, we will continue to focus on the decarbonisation of our construction activities, and we will maintain a consistent level of investment compensation projects – but not so much to achieve a net zero position as this would be increasingly expensive to consumers.</p>

Channel	Stakeholders engaged	What did we learn	How did we take this forward in RIIO-T3
<p>Regional events (November 2024)</p> 	<p>616 stakeholders attended our six regional events to talk about how we deliver the decarbonisation of the grid.</p>	<p>When supporting local communities, what investments should we prioritise? 38% of Impacted Stakeholders choose 'supporting Net Zero plans' in their top 3.</p> <p><b>Over half of the public</b> and small to medium-sized enterprises (SMEs) <b>prioritise keeping energy bills low over meeting net zero targets.</b> However, <b>three-quarters of affected stakeholders</b> believe that investing in low carbon technologies to achieve net zero targets is the correct decision</p>	<p>We have developed a new approach to developing our network which combines stakeholder priorities at the regional level, with our own insights on the specifics and needs of our network in each area of the country. We also developed regional maps for how we create a positive impact for those regions in relation to SF6 abatement, alternatives, delivery of BNG and environmental enhancement. We have – and will continue to – test our Future Network Blueprints with key stakeholders including Combined Authorities and other energy networks to inform and refine them.</p>
<p>SHEC Contractor Leadership Forum (Jan 2024)</p> <p>An opportunity to gather views on our draft commitments from our contractor community.</p>	<p>Representatives from 30 contracting organisations</p>	<p>96% of stakeholders agreed with our focus areas. Oil management and water stewardship came out as areas that we could provide further focus.</p>	<p>We've continued to use the framework and the vision we first tested at this environmental webinar of net zero, nature positive and one planet living. We've included further focus on oil management and water stewardship in our 'one planet living' sphere.</p>



Channel	Stakeholders engaged	What did we learn	How did we take this forward in RIIO-T3
Internal challenge and review sessions (Jan- Feb 204)	12 internal challenge and review sessions with SMEs from around the business to discuss commitments and ambitions.	The business wants to be ambitious and stretching relating to the environment. But they also want plans to be realistic, feasible, account for growth and external dependencies.	A range of commitment options were considered in these challenge and review sessions. Trade-offs and options chosen are illustrated in Appendix F.
<p>Nature positive consultation (February 2024)</p> <p>An opportunity to gather views on our direction of travel, level of ambition and commitment, and to inform how we refined our targets and further developed our plans. A key focus area was our commitment around Biodiversity Net Gain (BNG)</p>	30 stakeholders covering key categories from NGOs, government bodies, energy networks, consultants and supply chain	<p>We received a range of views on our approach and draft commitments, some stakeholders suggesting that 10% was not enough, and we should commit to at least 20% BNG for all developments. There was consensus that focussing on wider outcomes in parallel to the BNG % would ensure richer and more beneficial outcomes for nature and communities representing a more positive return on investment and ensure better value for money.</p> <p>Stakeholders expressed the view that 10% BNG should not be seen as a cap, and opportunities to deliver a higher BNG % alongside wider benefits should be explored where possible, There was strong support for our Nature Positive structure and alignment with the Taskforce for Nature Related Financial Disclosure (TNDF) strong recommendations to consider adopting BSI and ISO standards around Biodiversity Net Gain deliver to ensure quality outcomes. Flexibility in how we deliver our non-statutory Nature commitments was supported to ensure a range of benefits can be realised.</p>	<p>Although not setting a higher BNG % commitment across our construction projects, 10% is a minimum and will work with our strategic partners to identify opportunities to deliver above 10% where wider environmental and societal benefits can also be realised.</p> <p>We will focus on working with others to optimise the range of benefits delivered through our investment in nature</p>



Channel	Stakeholders engaged	What did we learn	How did we take this forward in RIIO-T3
<p>Sustainability First (February and November 2024)</p> <p>An opportunity to gather views on our vision, focus areas and commitments.</p>	<p>1-2-1 telephone conversation with Sustainability First to get their views on our draft RIIO-T3 environmental commitments.</p> <p>1-2-1 face to face conversation with Sustainability First</p>	<p>Overall agreement on our focus areas and commitments with the following observations for improvements:</p> <ul style="list-style-type: none"> <li>Climate change resilience</li> <li>Sustainable culture</li> <li>Social side could be expanded in terms of deprivation, and perhaps thinking about social return on investment measures</li> <li>ESG commitments</li> <li>Enabling connections for other companies</li> </ul>	<p>These areas will be briefly mentioned in the EAP with specific links to other annexes of the plan where this is expanded e.g., Climate Resilience Strategy, Workforce and Supply Chain Resilience Strategy and integrate some of the social elements further into the document. We made light changes in the use of wording and caveating in our commitments</p>
<p>Sustainability Leaders Forum (March 2024)</p>	<p>15 stakeholders covering 10 key contracting organisations</p>	<p><u>Net zero focus areas:</u> Reasonable commitments but supply chain constraints may be a concern. Standardisation of what diesel free means is needed and being aware of unintended consequences of HVO.</p> <p><u>Nature positive focus areas:</u> Commitments look sensible, nothing particular seems missing. Challenge for BNG is ongoing maintenance - important to consider partnerships with local councils.</p> <p><u>One planet focus areas:</u> Agreement on moving away from waste to resource and materials used. There needs to be a very clear definition of avoidable waste that everyone can work towards. Lots of companies do water reporting already and have water targets.</p>	<p>General agreement on focus areas and commitments. Further roadmaps and definitions will be produced for what it means to be diesel free and eliminating avoidable waste.</p>

**Channel**

**Stakeholders engaged**

**What did we learn**

**How did we take this forward in RIIO-T3**

Independent Stakeholder Group (ISG)  
(March & August 2024)

An opportunity to gather views on our direction of travel, level of ambition and commitments

The ISG comprises highly experienced industry professionals with deep expertise in key topics for RIIO-T3. The group provides us with access to challenge, perspectives and deep insight across critical interests

Overall agreement with our vision and focus areas, with a challenge to stretch ourselves more on oil and water pollution management.

Recommended avoiding imposing self-limits and where there is a case for actions should argue for this and explain the benefits case to Ofgem where possible (e.g., targets should be more influenced by technological availability)

Recommended considering the links between social deprivation and the environment and what actions can be done to support affected communities (e.g., on BNG activities).

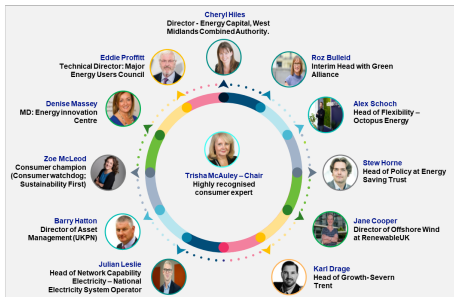
Additional focus should be made on material use rather than waste when setting ambition for.

ISG sought further feedback on Ofgem's plan to use the ISG in the development and review of SBT targets. However, Ofgem advised in the RIIO-T3 reporting workshop that this will only be needed for networks that don't officially go via the Science Based Target Institute route.

We are not self-imposing limits with regards to cost and are now looking to provide the business case to Ofgem where there may be a market uplift to newer, cleaner alternatives. We are however imposing limits on commercial, technical and timely availability.

Our BNG commitment in RIIO-T3 will be deliver a minimum of 10% BNG, plus wider environmental and societal benefits. Examples include community benefit, education, learning and skills. BNG will be delivered for the benefit of communities.

We are now moving away from landfill diversion and recycling targets, even though we still report this in our EAR. We will now focus on eliminating 'avoidable waste' so that materials do not become waste, plus further focus on the use of Material Management Plans.



Channel	Stakeholders engaged	What did we learn	How did we take this forward in RIIO-T3
Affordability trade-off testing	<p>76 England, Scotland and Wales workshops with households, business and consumers carried out by Sustainability First and Yonder</p> <p>3510 Online quantitative survey</p>	<p>Our Affordability Tolerances research was based on providing two hypothetical scenarios of the electricity transmission role in the transition to Net Zero and the impact these had (both short term and long term) on the whole energy bill:</p> <p>Front load – Deliver the transmission upgrade faster.</p> <p>Back load – Delay the upgrade (to limit short term bill increase).</p> <p>There was a <b>clear preference for frontloading</b> investment among the public.</p>	<p>Many stakeholders called for predominantly frontloaded investment but with checks and balances to support vulnerable people and SMEs; and an approach to innovation that avoids the risks associated with deploying large amounts of capital in technologies which may become obsolete in future.</p> <p>We are having a specific focus on how we support vulnerable consumers.</p>



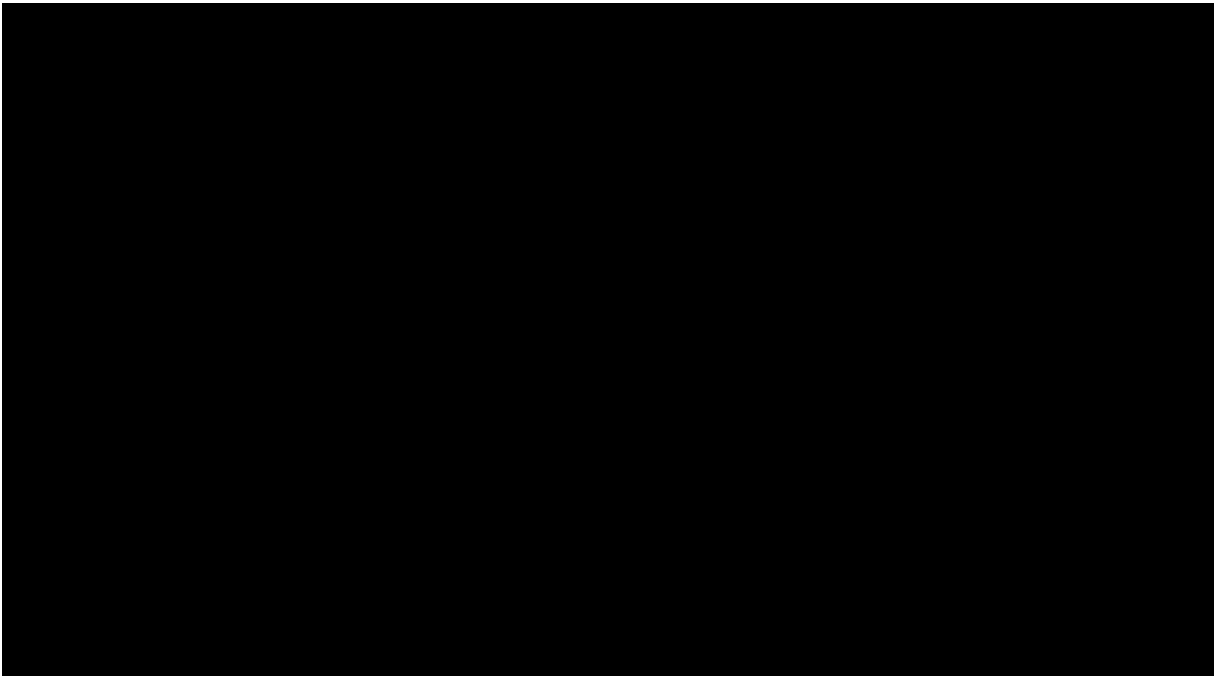
## Appendix C - Industry benchmarking

To develop the EAP, we conducted industry benchmarking to ensure our plan is ambitious and reasonable. A summary of the benchmarking is included below.

### Carbon benchmarking

In National Grid, our biggest contribution to reducing GHG emissions, both across society and in terms of our own emissions, is what we do to enable the transportation and distribution of clean energy into homes and businesses. Beyond this, we are committed to reducing our Scope 1, 2 and 3 GHG emissions aligned to a (SBTi) 1.5°C pathway. Our long-term target is to reach net zero by 2050, limiting our use of offsetting to get there. It has also been a decade since we began our carbon management journey with our construction projects. Over that time, we've built tools and systems, worked closely with our supply chain and challenged our own policies and procedures to drive carbon efficiency. Back in 2018, after stakeholder consultation, we set an ambitious target to achieve carbon neutrality in construction by 2026.

Through our benchmarking analysis, we discovered that many organisations have committed to be net zero by 2050, or earlier. Some organisations have committed to net zero by 2030 or by 2040. Figure 30 below provides a visual representation of these findings.



There are different ways of getting to net zero, and we provide a breakdown of how some of these companies are aiming to get there:

- **Purchasing green electricity from transmission losses:** Tennet T is a Transmission System Operator (TSO) for the Netherlands, and a significant part of Germany. They've set themselves a target of 95% reduction target in scope 1&2 emissions by 2030. Some of the ways in which they are achieving this is through the minimisation of carbon emissions from grid losses. They are purchasing green electricity from energy providers and thus greening grid losses in Germany. However, this is an expensive solution, and risk of price volatility due to the energy crises, and not directly address the route of the problem.
- **Use of offsets:** In April 2019, Water UK set out that water companies in England will aim to achieve net zero carbon emissions by 2030. In November 2020, Water UK launched its 2030 Net Zero Route map setting out at a high level how the water sector in the UK could reduce GHG emissions through the adoption of innovation and technology, use of efficiencies and the use of offsets. However, water companies have been criticised by their regulator, Ofwat, on early offsets and in that they should go further to reduce emissions from future infrastructure projects, by tackling embedded carbon emissions.

- **Carbon negative and carbon compensation:** Microsoft has committed that they will be carbon negative by 2030, and by 2050 remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975. Those of us who can afford to move faster and go further should do so. However, we don't think that as regulated business reliant on consumer funding should aspire to this same aim.

Even though some organisations seem to be more ambitious in their timings to become 'net zero', we still believe that we are demonstrating leadership in our carbon management approach. This is because of the following reasons:

1. We are prioritising the reduction of GHG emissions before the use of offsets, as set out in the GHG Management Hierarchy.
2. Our companies' plans align with national government net zero targets.
3. Our net zero targets address operational and embedded emissions in parallel.
4. We are ensuring we don't burden our customers with undue costs. Our aim to balance the need for clean energy and affordability.

National Grid has been continuously recognised for leadership in corporate sustainability by global environmental non-profit CDP, securing a place on its prestigious 'A List' for tackling climate change, for the 8 years running. However, the minimum requirements continue to tighten and continue to be more challenging.

### Nature benchmarking

Nature recovery is emerging; but unlike net zero, the taxonomy, standards and frameworks for nature recovery are not as mature as carbon and are in development. We have had global goals for climate for decades, but only a similar global goal for nature was adopted in 2022 through the Kunming-Montreal Global Biodiversity Framework (GBF): *'to be nature positive by 2030 so that there is more nature in the world in the next decade than there is today'*.

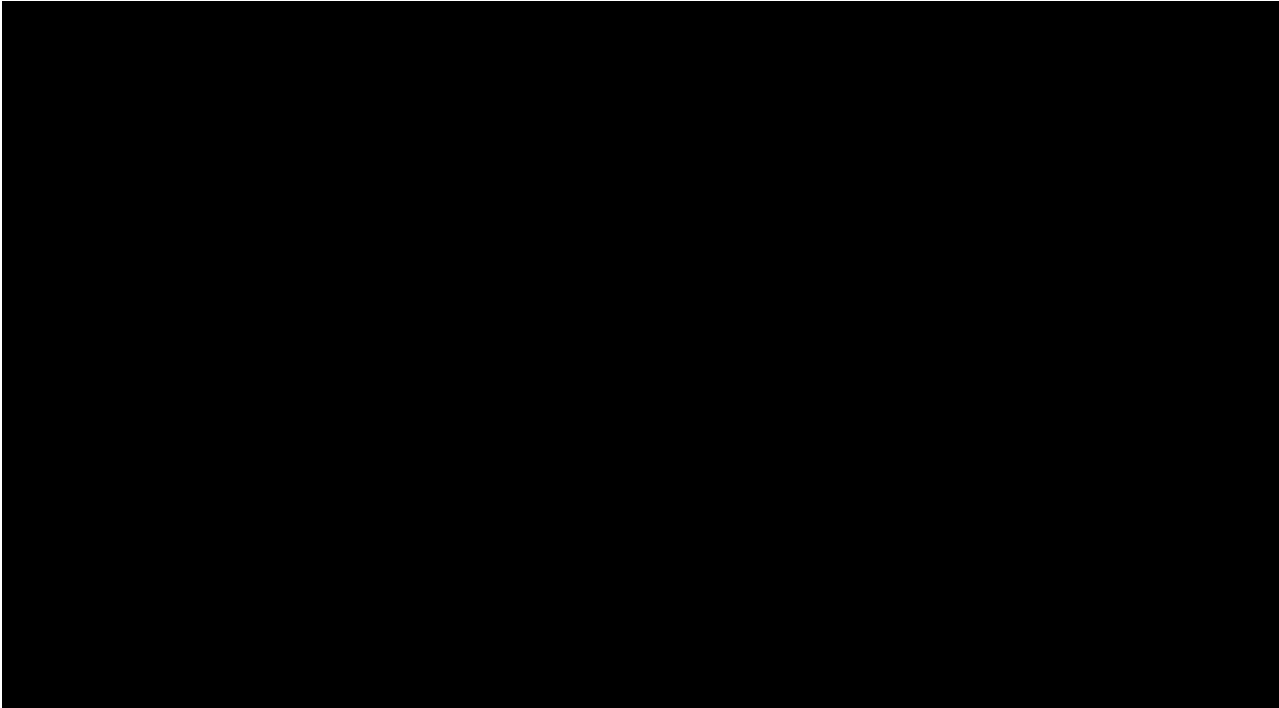
The Taskforce on Nature-related Financial Disclosures (TNFD) and Science Based Targets for Nature (SBTN) developed in 2023 also set out disclosure recommendations and guidance that encourage and enable business and finance to assess, report and act on their nature-related dependencies, impacts, risks and opportunities. In the UK, the Environment Act 2021 made a 10% biodiversity net gain (BNG) mandatory for all but exemptions and small sites from 12 February 2024 and for small sites from 2 April 2024.

In National Grid, caring for the natural environment and biodiversity has been a key area of focus for many years. Our initial sustainability strategy 'Our Contribution' created in 2012, focussed on how we could use our network presence to facilitate better, bigger and more connected landscapes. To support the delivery of this ambition in 2014 we developed a Natural Capital tool to help understand the benefits and services that nature provides to our business and society. We used this tool to inform the development and delivery of sustainability action plans at over 50 sites working with communities, employees and environmental organisations.

For RII0-T2, we made a commitment to 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). This was to be delivered three years ahead of government legislation, with some schemes delivering 15% or greater. In addition, we signed up to be Nature Positive by 2030 and started working with Accenture to understand our nature risks and dependencies, aligned with TNFD recommendations.

Through our benchmarking analysis, we looked at organisations with commitments relating to Biodiversity Net Gain, TNFD and marine enhancement. Figure 31 below provides a visual representation of these findings.

### Figure 31 Organisations' commitments to nature and BNG



There are different nature commitments, and we provide a breakdown of how some of these companies are aiming to get there:

- **Biodiversity net gain:** National Grid is one of the early corporate adopters of BNG. We made a commitment to achieve 10% BNG three years before it became a legislative requirement. Most organisations have committed to BNG when it became mandatory, and most are committing to 10% BNG. However, there are organisations that are committing to greater than 10%. The Wildlife Trust and Clarion housing are striving for 20% BNG – setting a ‘Gold standard’ for biodiversity net gain. Landsec have committed to 25% BNG by 2030 across operational sites. UK Power Network have also committed to a BNG range of 10-30% at 100 sites (although this is more focused on operations and not in construction).
- **TNFD:** TNFD Adopters are organisations which have registered their intention to start making public disclosures aligned with the TNFD Recommendations in their corporate reporting. For organisations headquartered in the UK, 29 organisations were considered early adopters, with only one utility ‘Seven Trent Water’ being one of these organisations. As we were finalising this Annex, COP16(2024 United Nations Biodiversity Conference) in Colombia took place where an increasing number of companies, including utilities sign up to the TNFD. These included organisations such as Iberdrola, EDF and United Utilities.
- **Marine enhancement and restoration:** SSEN has set a target to be industry leaders in marine habitat monitoring and restoration by 2030. Purina Europe also launches its first Ocean Restoration Program, aiming to restore 1 500 hectares of marine habitats by 2030. Marine habitats provide a home to many species, including fish. Fish is part of Purina’s supply chain because it uses fish by-products and thus their focus on ocean restoration.

A study from McKinsey<sup>28</sup> showed that nature-related commitments by Fortune Global 500 companies are rising, but progress is incremental and from a very low base. Corporate movement on nature targets overall, especially commitments in taking action, remains relatively understated. Given this context, we believe our approach goes beyond many of that FT500 companies. This is a result of the following:

1. We’ve been working hard to deliver our nature commitments, against a backdrop of a changing legislative landscape, increased development requirements, as well as levels of uncertainty around green finance, nature markets and future energy network requirements.

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<sup>28</sup> McKinsey study: the expansion of nature related commitments - <https://www.mckinsey.com/industries/agriculture/how-we-help-clients/natural-capital-and-nature/our-insights/companies-are-broadening-their-commitments-to-nature-beyond-carbon>

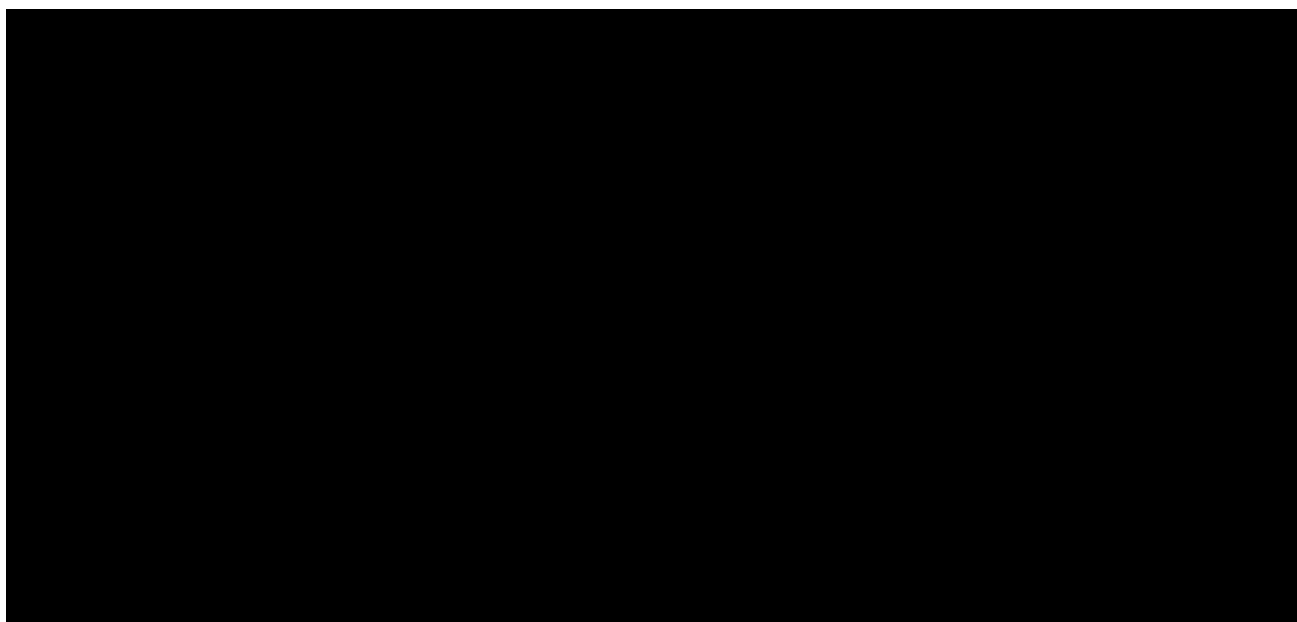
2. We will prioritise the delivery of additional environmental benefits for all our construction projects but will apply a tailored approach for projects that fall under voluntary (non-statutory) commitments and those that will be captured under mandatory BNG requirements. We feel that a focus beyond the % BNG outcome can deliver a much richer and wider range of benefits in a more cost-effective and sustainable way, supporting and enabling investment in local stakeholder priorities and projects.
3. We will build on what we have discovered in RIIO-T2 and commit to working as an Electricity Transmission sector to prioritise actions focusing on key suppliers and commodities, set appropriate and measurable targets to reduce our impacts and dependencies on nature, and disclose, we are doing this as sector, jointly with other TOs.
4. Will also continue to commit to building our understanding of marine restoration and enhancement as a new environmental impact for our organisation.

### One planet living benchmarking

Our energy networks require finite resources, such as steel for pylons and aluminium for overhead lines. As the stress for resources increases, it's essential we make the most of all the materials we use. To do this, we support the principles of circular economy, which aims to maximise the value of materials by designing assets that can be reused, refurbished, and recycled at the end of their operational life. We align to the waste hierarchy, focusing on reducing waste first, and we have engaged employees across the organisation in several initiatives focused on resource use.

However, we acknowledge that as a business we needed to shift our focus from waste to resources, have a better understanding of our water impact and have strong foundations on environmental management. Through our benchmarking analysis, we looked at organisations with commitments relating to resources and waste management, water stewardship and environmental management. Figure 32 below provides a visual representation of these findings.

**Figure 32 Organisations' commitments to resources and waste management**



- **Resource use and waste:** We continue to see many organisations focusing and committing to 100% landfill diversion by 2030, whilst this is something that we committed to achieving by 2026. Leading organisations are starting to have commitments relating to eliminating avoidable waste. Organisations like Willmott Dixon are committing to eliminating avoidable waste in construction, and this is something that we have also committed to by 2030. Organisations like Balfour Beatty have committed to eliminating avoidable waste by 2040 across all operations, before the UK's government commitments of zero avoidable waste by 2050. Other organisations like British Land are also making commitments on recycled content and have committed for at least 15% of recycled content in its major developments since 2025.
- **Water Stewardship:** We are seeing more organisations act on water stewardship. Some multinational companies that are heavily reliant on water use for their operations are focusing on sourcing water responsibly, driving water efficiency across projects and operations and investing in



critical water restoration projects. Microsoft, Meta, and Google are all pledging to be water positive and replenish more water than they use in their direct operations by 2030.

- **Environmental management:** All organisations that we looked at in the UK and globally have ISO14001 certification. This is almost a minimum expectation for businesses to have to demonstrate they have a good management system for the environment. Within the UK energy sector, DNOs are leading the way on oil management targets with Northern Power Grid having a target for 15% less oil lost to ground, Electricity North West committing to reduce average leakage rate to less than 25,000 litres per year and National Grid Electricity Distribution reducing the volume of oil leaked from fluid filled cables by 50% by 2028. They have quantifiable targets relating to oil.

We believe our approach to resource use in RIIO-T3 is still ambitious. This is the result of the following:

1. We are shifting our focus away from waste targets and KPIs, to target the elimination of avoidable waste, further embedding circular economy principles and material management approach. We are leading on our commitment to deliver zero avoidable waste in construction by 2030, when a lot of infrastructure companies do not have targets on circular economy and continue to focus on landfill diversion.
2. As an organisation that uses very minimal use of water in operations, we don't see that is right to commit to becoming water positive. Having a better understanding of our water use in construction and further down in our value chain seems a better approach to address our impact holistically.
3. Since 2011, we have been certified to ISO14001, the international standard for environmental management (EMS) that is certified to ISO14001:20151, covering all our operational activities. The EMS gives National Grid a clear, systematic process to manage environmental risks and opportunities. We are strengthening our focus to oil management in RIIO-T3 and although we don't have quantifiable targets as some DNOs do, we are focusing on reducing oil management risks and switching to cleaner alternatives where available.

We believe our RIIO-T3 EAP plan is leading the way in our sector. We have listened to our stakeholders on the approach we should take, are focusing on how commitments should be delivered for the benefit of communities and have taken an approach to be transparent on our commitments and balance the need for leadership with affordability.

## Appendix D - Sustainability frameworks and standards

Sustainability frameworks and standards allow companies to benchmark their performance against industry peers and global best practices, and to communicate their progress to stakeholders, including investors, regulators, customers, and employees. Each framework has its unique focus, but they all share the common goal of promoting transparency, comparability, and accountability in sustainability. Standards enable comparability across organizations and sectors by providing a common language and set of metrics to measure and disclose sustainability performance.

**Table 12 list of frameworks and standards that we reviewed in the development of this EAP.**

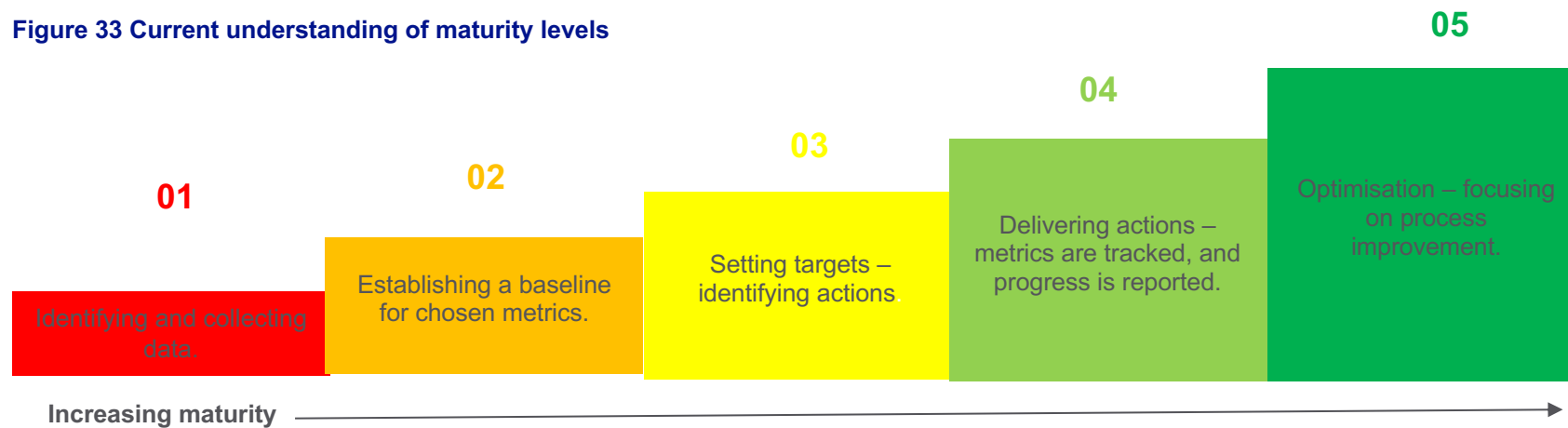
	<b>Main purpose</b>	<b>Primary focus</b>	<b>Commitment alignment</b>
	Setting Science-based emissions reduction targets	Emissions reduction	Scope 1 and 2 and 3 emissions reduction  Beyond value chain mitigation - compensation
	Measuring and managing greenhouse gas emissions	GHG accounting and reporting	
	Commitment to accelerating the transition to electric vehicles by 2030	Fleet decarbonisation	Replace our commercial fleet with zero emissions vehicles
	Commitment to 100% renewable energy	Energy decarbonisation	Purchase 100% renewable energy
	Commitment to energy management and energy efficiency	Energy reduction and decarbonisation	Substation energy efficiency target
	Provides industry with clarity on the definition of net zero carbon buildings.	Buildings decarbonisation	Net zero offices managed by our corporate property team
	Global standard for managing infrastructure carbon	Construction decarbonisation	Carbon reduction and compensation in construction
	Create a global market for net zero concrete	Concrete decarbonisation	Net zero pathway for construction
	Speed up the transition to a net zero steel industry.	Concrete decarbonisation	Net zero pathway for construction
	Sets out how the construction industry can collectively meet net zero	Construction decarbonisation	Carbon reduction and compensation in construction

Framework	Main purpose	Primary focus	Commitment alignment
	Secure a nature-positive world by 2030	Halt nature loss	Enhancement of a nature and biodiversity across construction, operations and supply chain
	Good practice principles for development	Leave biodiversity in a better state than before.	10% BNG for all construction projects in scope.
	Recommendations and guidance for organisations to report and act on evolving nature-related dependencies, impacts	Integrate nature into decision making	Disclosure of our nature related risk and impacts
	A route map for zero avoidable waste in construction, adopting the principles of waste hierarchy	Eliminate all avoidable waste	Eliminate avoidable waste in construction
	Circular economy principles and guidance for implementation	Measuring and assessing circularity performance	Improvement in circular economy performance
	Enabling a systemic shift in the building sector by creating circular solutions	Reduce waste and the use of fewer virgin resources	Focus on materials rather than waste performance
	Provides a framework for organizations to design and implement an Environmental Management System (EMS)	Continually improve environmental performance	External accreditation to ISO14001 or integrated management system
	Asks companies to first do business responsibly and then pursue opportunities to solve societal challenges	Achieving a better future for all	Affordable clean energy /industry, innovation and infrastructure / responsible consumption and production / climate action / life below water / life on land

## Appendix E - Ofgem's EAP Minimum Requirements

Our RIIO-T3 Environmental Action Plan covers all Ofgem's minimum requirements. We will have achieved most of these by the end of RIIO-T2. To visually represent this, we have tracked our progress against a maturity matrix to showcase where we are in our journey to delivering against Ofgem's minimum requirements. The sustainability maturity matrix demonstrates the five levels of progression from identifying and collecting data, establishing a baseline, setting targets, delivering actions, and optimising and focusing on process improvement.

**Figure 33 Current understanding of maturity levels**



There are 23 minimum expectations from transmission owners to have in their Environmental Action Plan. We have identified, that out of those 23:

- 18 are within the optimisation phase
- 1 is within the delivering phase
- 3 are within setting targets phase
- 1 is within the identifying and collecting data phase.

This means that over 80% of the minimum expectations we are already delivering and quite high in our maturity matrix. With 20% needing further focus within the RIIO-T3 period. Our Environmental Action Plan goes above and beyond the majority of these minimum expectations, demonstrating our ambition and the desire as a business to stretch ourselves in line with public and stakeholder expectations.

**Table 13 NGET’s maturity levels against Ofgem’s minimum expectation**

Ofgem’s minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
<p><b>Carbon Management</b></p> <p>Adopt or retain an appropriate science-based target to reduce their business carbon footprint (BCF)</p>	<p>We have had our climate targets verified by the Science Based Target Institute since 2021.</p> <p><b>RIIO-T2 commitment:</b> 34% reduction in scopes 1 and 2 emissions from 2018/19 baseline (excluding losses)</p>	<p>Our commitment for the RIIO-T3 period is to deliver scope 1, 2 and 3 emissions reductions in line with 1.5 degrees aligned Science Based Targets. This is broken down into the following:</p> <ul style="list-style-type: none"> <li>▪ 50% reduction in scopes 1 and 2 (including transmission losses) by 2030 from a 2018/19 baseline.</li> <li>▪ Contribute to the Group scope 3 emissions target of 37.5% reduction in scope 3 by 2033 from a 2018/19 baseline.</li> </ul> <p><a href="#">More information on section 4.3.1</a></p>	5
<p>Commit to efficient and economic actions to reduce their controllable BCF in RIIO-T3</p>	<p>Efficient and economic actions was a key principle in our RIIO-T2 business plan.</p>	<p>All commitments in the EAP underwent an optioneering process. Efficient and economic actions that looked at the Cost Benefit Analysis (CBA) and consumer benefit was trade off in our decision matrix. This is evidenced in Appendix G.</p>	5
<p>Report on BCF scopes 1 and 2, and progress towards science-based targets and net zero, using the GHG Protocol Corporate Accounting and Reporting Standard</p>	<p>We have been using the GHG Protocol Corporate Accounting and Reporting Standard from RIIO-T1. This is the basis of our reporting in our Annual Environmental Report.</p>	<p>We have not added this as a commitment as this is now considered BAU.</p> <p><a href="#">More information on section 4.3.1</a></p>	5

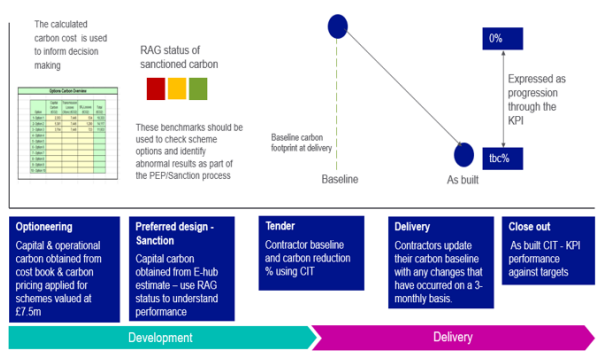
Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
Report on scope 3 emissions on the basis of the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.	We have been using the the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard since 2020. This is the basis of our reporting in our Annual Environmental Report.	We have not added this as a commitment as this is now considered BAU.  <a href="#">More information on section 4.3.1.</a>	5
Where BCF targets are being developed or reviewed, we expect networks to work alongside their ISG in developing science-based targets in alignment with the Science Based Target Initiative (SBTi) methodology	We have had our climate targets verified by the Science Based Target Institute since 2021.	Our SBTi are due to be renewed every five years. Ours is due in 2027. We will engage the ISG when we carry out the review and explain the process we are undertaking.	3
Report on embodied carbon in new projects (projects beginning in the given price control period)	We have been reporting on embodied carbon for projects since the start of RIIO-T2. We report progress via our Annual Environmental Report with capital carbon and carbon intensity of construction being a key reporting KPI.	We have not added this as a commitment as this is now considered BAU. We will continue to report capital carbon intensity in the RIIO-T3 Annual Environmental Reports.  <a href="#">More information on section 4.3.1.</a>	5
	We developed the CAat database at the start of our carbon management journey 10 years ago and contains carbon factors for the assets used on Transmission networks. It was then shared with SPEN and SSEN Transmission to help ensure a consistent approach across the sector. It is now managed jointly by the Transmission Operators via the ROCCIT (Reduction of Capital Carbon in Transmission) Group. Other carbon datasets have been used to supplement the Carbon Asset Database where required, such as ICE v3, and ecoinvent. Finally, supplier-specific data may also be used where appropriate.		
	NGET's carbon accounting in the Network Development process:		

**Ofgem’s minimum requirements**

**RIIO-T2 commitment / progress**

**RIIO-T3 commitment**

**Maturity levels**



Set baseline and adopt a target for reducing embodied carbon on new projects during RIIO-3

Most of our projects are in scope to complete our Carbon Interface Tool. Projects need to set a baseline and target at tender and provide quarterly updates. Upon scheme completion, the contractor provides us with a final carbon footprint reflecting the ‘as built’ position of the scheme. This is embedded in our way of working and is outlined in our Supplier Requirements.

We have not added this as a commitment as this is now considered BAU. We will continue to expect this as a requirement for our contractors during the RIIO-T3 period.

[More information on section 4.3.1.](#)

5

Commit to collaborating with the supply chain on addressing challenges to reduce embodied carbon in the network

**RIIO-T2 commitment:** We committed to deliver carbon neutral construction. We have collaborated with our supply chain and reduced emissions as much as it is feasibly possible by implementing PAS2080 (the specification for carbon management in infrastructure). Due to the high carbon intensity of some of the materials we use, we will compensate for residual emissions in 2025/26.

In RIIO-T3, we will deliver our construction projects as low carbon intensity as possible, as set out in our Low-carbon and nature Infrastructure Roadmap. Addressing embodied carbon and collaborating with the supply chain will be core to our approach. Part of this commitment will ensure we are collaborating with our supply chain – particularly relating to

- o sourcing low-carbon concrete,
- o low-carbon steel,
- o phasing out diesel generators.
- o Continue compensating for residual emissions

[More information on section 4.3.1.](#)

5

Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels												
Set out the materiality threshold (i.e., a £m value) for qualifying new projects that require reporting in this area.	<p>In RIIO-T2 we decided against a materiality threshold. Instead, we are doing this by projects that we believe should be in scope or out of scope. Further information outlined in the table below. We believe this goes above and beyond the minimum expectations. The table omits examples of those schemes 'out of scope'.</p> <table border="1"> <thead> <tr> <th>Delivery unit</th> <th>Asset Operations (AO)</th> <th>Customer Connections (CC)</th> <th>New Infrastructure (NI)</th> </tr> </thead> <tbody> <tr> <td>In scope</td> <td> <ul style="list-style-type: none"> <li>Only a few schemes in AO are in scope to include a CIT, these are mainly within Substations &amp; Circuits team, but are not limited to: <ul style="list-style-type: none"> <li>Transformers/ reactors – mineral and ester oil (if civils are required)</li> <li>SP3: refurbishment / replacement / abatement</li> <li>OHL: refurbishment/ steel work</li> <li>Cables: refurbishment / tunnels</li> <li>Flooding (bundled work and site solution)</li> <li>Civils (bundled work and site solution)</li> <li>Site refurbishment</li> </ul> </li> </ul> </td> <td>Most schemes are in scope for a CIT with a few exceptions.</td> <td>All schemes are in scope for a CIT</td> </tr> <tr> <td>Out of Scope (Examples only)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Delivery unit	Asset Operations (AO)	Customer Connections (CC)	New Infrastructure (NI)	In scope	<ul style="list-style-type: none"> <li>Only a few schemes in AO are in scope to include a CIT, these are mainly within Substations &amp; Circuits team, but are not limited to: <ul style="list-style-type: none"> <li>Transformers/ reactors – mineral and ester oil (if civils are required)</li> <li>SP3: refurbishment / replacement / abatement</li> <li>OHL: refurbishment/ steel work</li> <li>Cables: refurbishment / tunnels</li> <li>Flooding (bundled work and site solution)</li> <li>Civils (bundled work and site solution)</li> <li>Site refurbishment</li> </ul> </li> </ul>	Most schemes are in scope for a CIT with a few exceptions.	All schemes are in scope for a CIT	Out of Scope (Examples only)				<p>We have not added this as a commitment as this is now considered BAU and embedded in our policies and ways of working.</p> <p>More information on section 4.3.1.</p>	5
Delivery unit	Asset Operations (AO)	Customer Connections (CC)	New Infrastructure (NI)												
In scope	<ul style="list-style-type: none"> <li>Only a few schemes in AO are in scope to include a CIT, these are mainly within Substations &amp; Circuits team, but are not limited to: <ul style="list-style-type: none"> <li>Transformers/ reactors – mineral and ester oil (if civils are required)</li> <li>SP3: refurbishment / replacement / abatement</li> <li>OHL: refurbishment/ steel work</li> <li>Cables: refurbishment / tunnels</li> <li>Flooding (bundled work and site solution)</li> <li>Civils (bundled work and site solution)</li> <li>Site refurbishment</li> </ul> </li> </ul>	Most schemes are in scope for a CIT with a few exceptions.	All schemes are in scope for a CIT												
Out of Scope (Examples only)															
<p><b>Supplier code</b></p> <p>Adopt high standards of environmental management in its supplier code, including requirements for public disclosure of metrics and cascading code to their suppliers that are material to the company's inputs</p>	<p>We expect all our suppliers to support our RBC commitments and actively work towards making a positive impact on environmental factors, especially those linked to our operations. All our expectations are set out in <a href="#">Supplier Code of Conduct</a></p>	<p>We have not added this as a commitment as this is now considered BAU.</p>	5												
<p>Adopt a target of more than 80% of suppliers (by value) meeting the code in RIIO-3</p>	<p><b>RIIO-T2 commitment:</b> encourage 75% of National Grid's top 250 suppliers (by category/spend) to have carbon reduction targets.</p>	<p>In RIIO-T3 we are focusing for suppliers to have Science Based Targets. 80% of our carbon strategic suppliers or suppliers by emissions (namely carbon strategic suppliers) will have formally committed to set a Science Based Target by 2030. A carbon strategic supplier is defined at the start of the reporting period at a Group level for National Grid plc. All carbon strategic suppliers are directly managed and influenced by our procurement teams.</p>	3												



Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
		<p>We focus on our carbon strategic suppliers to make more tangible impacts and support our wider scope 3 carbon reduction target by 2030, as recommended by the <a href="#">SBTi guide to developing and achieving scope 3 supplier engagement targets</a>. Working with our high emitting suppliers is also in line with some of our peers such as Severn Trent.</p> <p><a href="#">More information on section 4.3.1.</a></p>	
Commit to reporting on actual percentage of suppliers (by value) meeting the code	We have reported progress against this commitment in our Annual Environmental Reports.	We have not added this as commitment, but we will report progress against our commitment in our Annual Environmental Report as we have done during the RIIO-T2 period for all our commitments.	5
<b>Waste and circular economy</b>			
Update procurement processes to embed Circular Economy principles	<b>RIIO-T2 commitment:</b> Align our Procurement Strategy to international recognised standards, e.g., ISO20400 Sustainable Sourcing Standard. Circular economy is central to sustainability messaging, and waste management is a key part of achieving ISO 20400.	<p>In RIIO-T3 we are focusing further on circular economy principles.</p> <p>We will improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard – procurement is a big focus area on BS 8001.</p> <p><a href="#">More information on section 4.3.2.</a></p>	5

Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
<p>Adopt targets for:</p> <ul style="list-style-type: none"> <li>o zero waste to landfill by at the latest 20XX;</li> <li>o recycle and reuse materials as a percentage of total measurable materials where feasible by at the latest 20XX; and</li> <li>o commitments to reporting on actual waste to landfill, recycling and reuse as a percentage of total.</li> </ul>	<p><b>RIIO-T2 commitments:</b></p> <ul style="list-style-type: none"> <li>o Maintain 100% landfill diversion in construction</li> <li>o Maintain 80% recycling in construction</li> <li>o Increase our operational and office recycling rates from 45% and 46% (respectively) to 60%.</li> <li>o Reduce the waste tonnage (from a 2018/19 baseline) and water use (from a 2019/20 baseline) at our offices by 20%.</li> </ul> <p>We report waste to landfill, recycling, and reuse as a percentage of total in our Annual Environmental Reports.</p>	<p>We have not added this as a commitment as this is now considered BAU. We will continue to report progress against these KPIs in our Annual Environment Report.</p> <p>We are moving away from these KPIs because we will have achieved these targets within RIIO-T2. We are focusing more on resource use and less in waste reporting as per the waste hierarchy principles. In RIIO-T3 we will:</p> <ul style="list-style-type: none"> <li>o Improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard,</li> <li>o Achieve zero avoidable waste in construction projects by 2031 and</li> <li>o From 2026 specify for at least 10% recycled / reused content in key construction materials by 2031.</li> <li>o From 2026, specify for at least 10% recycled / reused content for construction projects.</li> </ul> <p><a href="#">More information on section 4.3.2.</a></p>	5
<b>The natural environment</b>			
<p>Adopt an appropriate tool to assess net changes in biodiversity from different options for new connections and network projects;</p>	<p><b>RIIO-T2 commitment:</b> Deliver Net Gain by at least 10% or greater in environmental value (including biodiversity) on all construction projects (Including those delivered by third parties on our land). We use the DEFRA Biodiversity Tool to assess net changes.</p>	<p>In RIIO-T3 we will continue to use the DEFRA Biodiversity tool to assess net changes. We are also exploring other tools that will help use report on additional environmental and social benefits.</p> <p><a href="#">More information on section 4.3.2.</a></p>	5

Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
Set out what the materiality threshold should be for new connections and network projects that require reporting on biodiversity	<b>RIIO-T2 commitment:</b> Any scheme with a temporary or permanent impact on the natural environment, is in scope for our net gain commitments. This goes above and beyond requirements of having a materiality threshold.	In RIIO-T3 we will continue with this approach. We will deliver at least 10% or greater Biodiversity Net Gain (or equivalent in Wales) with wider environmental and societal benefits for all construction projects requiring formal planning or consenting and deliver at least 10% Biodiversity enhancement with wider environmental and societal benefits for all voluntary non-statutory construction projects  <a href="#">More information on section 4.3.2.</a>	5
Regularly report on changes in natural capital and ecosystem services provision (using an appropriate methodology) if a company has an EAP commitment that is directly linked to such measures in its RIIO-T3 business plan/price control	<b>RIIO-T2 commitment:</b> Increase environmental value of non-operational land by 10% against a natural capital/ biodiversity baseline. Back in 2015 we developed a tool to measure the environmental and societal value of our land. This tool uses a 'natural capital evaluation approach that monetises the 'ecosystem services' that are provided by our land. The Natural Capital Values represented in the tool are estimated over 30 years.	In RIIO-T3 we will continue to deliver on the partnership agreements that we committed to in RIIO-T2. However due to the pressure on non-operational land, we are shifting our focus to work with grantors and identify areas below or around our existing linear assets (primarily OHL's but also potentially underground cables in some areas) to implement new management interventions that will create areas of improved wildlife linear patterns, that would then link existing areas of nature and contribute towards improving the connectivity and resilience of existing sites and ecosystem services. We will use the principles of natural capital to report on any changes made to the land and associated ecosystem services.  <a href="#">More information on section 4.3.2.</a>	5

Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
In accordance with the National Parks and Access to the Countryside Act 1949 (Section 11A), report on actions taken to assess and remedy the impacts of activities conducted within National Parks	In RIIO-T2 we have reported on actions we have taken to remedy impact in National Parks. This has been reported in our Annual Environmental Report.	In RIIO-T3 we will continue to report our impact and remedy actions in our Annual Environmental Report.	4
<b>Reducing SF6 inventory</b>			
Adopt a reduction target for IIG leakage over the course of RIIO-ET3 consistent with their science-based target for the company's BCF	<b>RIIO-T2 commitment:</b> Reduce our SF6 leakage by 33%% by 2026 from a 2018/19 baseline.	In RIIO-T3 our commitment is to reduce our SF6 leakage by 50% by 2030 from a 2018/19 baseline.  <a href="#">More information on section 4.3.1.</a>	5
Minimise new additions of SF6 inventory on the network in RIIO-ET3 i.e., only in instances where it is the most cost-effective option on the basis of a life cycle assessment;	<b>RIIO-T2 commitment:</b> to take bold steps to tackle our SF6 emissions and stimulate the market to more rapidly meet our stakeholders needs. All of our new 132kV equipment is now SF6-free and we were among the first transmission utilities to adopt fully SF6-free gas-insulated 400kV switchgear.	In addition to our SF6 leakage reduction target, in RIIO-T3 we are also committing to no longer install SF6 where there is a technically, commercially and time viable alternative.  We are keen to further reduce SF6 usage but recognise that this is dependent on the development and availability of new SF6-free technology by equipment manufacturers. We seek to collaborate with manufacturers to find viable alternatives and will adopt these as early as we can.  <a href="#">More information on section 4.3.1.</a>	5
Have economic and efficient interventions to address the worst leaking	In RIIO-T2, consideration has been given to the most impactful but economical and deliverable actions while also targeting assets across the transmission network with	To achieve the 2030 SF <sub>6</sub> emission target, investment must be made to target active SF <sub>6</sub> leaks, while also targeting assets	5

Ofgem's minimum requirements	RIIO-T2 commitment / progress	RIIO-T3 commitment	Maturity levels
existing SF6 equipment on the network	the highest risk of developing new SF6 leaks. Our focus has been on fixing our top 20 leakers.	across the transmission network with the highest risk of developing SF <sub>6</sub> leaks. A critical step in overcoming the challenging SF <sub>6</sub> emission abatement targets for us is to progress from reactive SF <sub>6</sub> leak repairs to a programme of well-timed, well-planned preventative interventions.  <a href="#">More information on section 4.3.1.</a>	1
Report on total IIG leakage using a common TOs' methodology.	During the RIIO-T2 period we have created an SF6 working group across TOs to understand the differences in reporting and create a common methodology for the RIIO-T3 period.	We will continue to work with the TOs to develop a common methodology. We have made a sectoral commitment to continue to improve on the accuracy of our data, aligning with evolving best practice and collaborating with other TOs to ensure a consistent approach.  <a href="#">More information on section 6.5</a>	
<b>Manage technical and non-technical losses</b>			
Implement a strategy to efficiently manage both technical and non-technical losses on the TO's network over the long term. Including to: • commit to reporting on the progress of implementing the losses strategy and associated performance measures; and • contribute to the evidence base on the proportion of losses that	<b>RIIO-T2 commitment:</b> Create a transmission losses strategy.  In FY23, we updated our transmission losses strategy which has been signed off at executive level. Our strategy outlines how we account for transmission losses in equipment specifications and procurement processes, as well as when making investment decisions.	In RIIO-T3 we are making a commitment to implement a strategy to efficiently manage both technical and non-technical losses.  Our focus in RIIO-T3 will be to ensure transmission losses are minimised as much as can be economically justified. Success will be evaluated by ensuring our strategy and practice of minimising losses is best practice and we are innovating to reduce losses further. We will report on our progress as per all our other commitment in our Annual Environmental Report.	3

<b>Ofgem's minimum requirements</b>	<b>RIIO-T2 commitment / progress</b>	<b>RIIO-T3 commitment</b>	<b>Maturity levels</b>
network companies can influence/control.		More information on section 4.3.1.	

## Appendix F - EAP targets optioneering

**Table 14 Optioneering summary**

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/ scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
<p>Deliver scope 1, 2 and 3 emissions reductions in line with a 1.5 Science Based Targets and ensure that 80% of our supply chain have formally committed to the same.</p>	<p>The basis of our scope 1 and 2 SBT is from FY19 and scope 3 SBT is from FY20</p> <p><u>Scope 1 emissions</u> = 278,811 TCO<sub>2</sub>e</p> <p><u>Scope 2 emissions</u> = 1,314,763 TCO<sub>2</sub>e</p> <p><u>Scope 3 emissions</u> = 462,211 TCO<sub>2</sub>e</p>	<p><b>Gov policy:</b> UK government policy – Net Zero by 2050</p> <p><b>UNFCC Paris Agreement:</b> – legally binding international treaty on climate change to hold ‘the increase in the global average temperature to well below 2 degrees above pre-industrial levels.</p> <p><b>IPPC recommendation:</b> Limit warning to 1.5 degrees</p>	<p>Balancing the need of decarbonising the grid at pace and reducing our own environmental impact</p> <p>Reputation</p> <p>Sector Leadership</p>	<p>Have carbon reduction targets not accredited by the SBTi</p>	<p>Scope 1 and 2 emissions reduction in line with SBTi</p>	<p>Scope 1, 2 and 3 emissions reduction in with SBTi</p>	<p>Scope 1, 2 and 3 emissions reduction in with SBTi and a commitment for our supply chain to commit to the same</p> <p>(selected option)</p>	<p>We aim for our targets to be ‘science-based’ since they align with the climate science detailed in 2015 Paris Agreement. SBTi provides a clear and credible pathway for businesses. It meets the minimum requirements of the business plan guidance. We cannot meet supply-chain related emissions without our supply chain making the same commitments.</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
Driving sustainable operations through 50% reduction in SF <sub>6</sub> emissions, 20% energy efficiency improvement in our substations and only purchasing zero emission vehicles for our fleet.	<p>SF<sub>6</sub> baseline for FY19 = 272,000TCO 2e</p> <p>Substation energy use in FY23 = 101,540,56 kWh</p> <p>Fleet baseline 2026 = 836 vehicles</p>	<p><b>Gov Policy</b> = Foreseeable F-Gas regulation changes</p> <p>Labour to reinstate 2030 ban on sales of new cars running solely on petrol or diesel</p> <p>Energy Savings Opportunity scheme</p>	<p>Increased costs for consumers</p> <p>Cost of energy</p> <p>Grid decarbonisation</p> <p>Deliverability (supply chain and operational need)</p> <p>Reputation</p> <p>Sector Leadership</p>	Have a reduction target for SF <sub>6</sub> only	Have a reduction target for SF <sub>6</sub> and zero emissions vehicles in our fleet	Have a reduction target for SF <sub>6</sub> , zero emissions vehicles in our fleet and an energy efficiency programme (selected option)	N/A – Do nothing was never a credible option as we will not be able to deliver our SBT.	SF <sub>6</sub> , energy use and operational transport are elements of our scopes 1 and 2 emissions that we have direct control of. To have a credible climate transition plan to achieve our SBT we need to have targets across all areas. How each target was optioneered can be found in the investment plan annexes.
Deliver our construction projects as low carbon intensity as possible, as set out in our Net Zero Infrastructure Roadmap	<p>Embodied carbon of projects measured at key stage gates.</p> <p>Portfolio reporting carried out</p>	<p><b>PAS2080 certification</b> - carbon management in infrastructure.</p> <p>Infrastructure is associated with half of UK Greenhouse</p>	<p>The pace of delivery, particularly in the context of ASTI</p> <p>Some low carbon initiative and products</p>	Do nothing	Deliver carbon reductions in line with best practice, but do not invest in compensation	Deliver carbon reductions in line with best practice. Maintain a level of investment in carbon compensation to continue to support the markets develop and that	Deliver net zero construction	Stakeholder feedback was clear that we should continue our focus on low carbon construction, with some stakeholders



Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
and invest in carbon compensation projects, that also deliver social and/or nature benefits from constructing our infrastructure .	for RIIO-T3 projects.	Gas emissions of which 30% are directly attributed to the construction, operation and maintenance of infrastructure assets.	<p>come at an increased cost. Especially for more developing parts of the market.</p> <p>Some low carbon solutions are less established and therefore more risk must be accepted, or additional controls put in place</p> <p>Reputation</p> <p>Sector Leadership</p>			<p>also deliver social and/or nature benefits</p> <p>(selected option)</p>	<p>4</p>	<p>suggesting we do even more.</p> <p>The cost to maintain carbon neutral construction from RIIO-T2 would be significant due to the rapid increase in price for carbon compensation projects. Therefore, considering the significant increased costs alongside consumer value we did not feel it would be justifiable.</p> <p>However, we did have some positive feedback form stakeholders, and strong signals from</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
								external sources, that supporting the UK carbon markets develop, and investing in high quality projects that deliver wider benefits for the environment/people was worthwhile and important. Therefore, we are proposing to just maintain a level of investment consistent with that awarded in RIIO-T2 for FY26.
Achieve net zero emissions for our office estate by 2030.	The baseline for this target is taken to be FY25 Anticipated FY25 emissions c. 1,410t.CO2e	<b>UK Green Business Council “Paris Proof” decarbonisation glide path.</b> The "Paris Proof"	Cost of offsets / Cost of energy  Grid decarbonisation	Do nothing - rely on Grid Decarbonisation. It does not address commodity cost risk and does not	Net Zero by 2030 by offsetting - does not address commodity cost risk.	Net Zero by 2030 on an “efficiency first” basis. It addresses commodity cost challenge and Reflects best practice.	Accelerate Target (Net Zero by 2025) - Not considered technically viable for	The purpose of this target is to drive energy efficiency and ensure our offices are reflective of our role in

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
	– TBC at year end.	methodology indicated the needs for very steep cuts in energy demand, which they applied to office buildings.	<p>Deliverability (supply chain and operational need)</p> <p>Reputation</p> <p>Sector Leadership</p>	demonstrate NG commitment to network decarbonisation.	Exposes NG to reputational risk of perceived “greenwashing”.	(selected option)	current estate. Limited by Scope 1 emissions opportunities	supporting the net zero transition.

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
Deliver 10% or greater Biodiversity Net Gain alongside wider environmental benefits for all developments requiring formal planning or consenting, including 10% Biodiversity enhancement for voluntary non-statutory construction projects.	Voluntary adoption of 10% env value including (Biodiversity) for all NGET construction activities	<p><b>Gov policy: Environmental Act 2021</b> 10% BNG for developments under Town &amp; Country Planning Act – NSIPS (Nov 2025)</p> <p><b>UK 25 Year Environment Plan</b> - driving implementation of terrestrial and marine net gain including commitment to embed environmental net gain.</p> <p><b>Welsh Gov Policy</b> - updated the national planning policy for biodiversity (October 2023)</p>	<p>Increased costs for higher BNG % - vs Environmental outcomes approach</p> <p>Deliverability (onsite vs offsite BNG)</p> <p>Reputation</p> <p>Sector Leadership</p> <p>Delivery pathways - self delivery, partnership, government credits</p>	<p>A minimum of 10% BNG for all construction schemes requiring planning plus wider environmental and societal benefits</p> <p>10% Biodiversity improvements and wider env benefits for construction projects not requiring planning permission or consent</p> <p>(selected option)</p>	<p>10% BNG for NSIP schemes, 15-20% for T&amp;CPA construction projects - 20% for Permitted development schemes – all delivered alongside wider environmental benefits</p>	<p>20% BNG for construction schemes requiring formal planning or consenting</p>	<p>20% BNG for all construction projects regardless of planning regime, irrespective of whether it needs a permission or consent.</p>	<p>As part of the Nature Positive consultation there was support for a level of consistency across all construction activities, as well as support to pursue better environmental outcomes beyond increased BNG %</p> <p>There was caution around using the DEFRA Metric for non BNG activities, however reflected the need for flexibility – Our Stakeholder and amenity policy commits to mitigate the</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
		<p><b>Kunming-Montreal Global Biodiversity Framework:</b> In Dec 2022, countries came together to agree Kunming-Montreal Global Biodiversity Framework, a path to halt biodiversity loss and restore nature by 2050.</p>						<p>impacts of our works and seek opportunities for enhancement,</p> <p>Consistent commitment across all NGET development types and aligned with TOs (Transmission Owners) – incorporates delivery of wider environmental and societal benefits aligned with stakeholder expectations.</p> <p>In delivering our construction activities regardless of planning requirements we must seek to prevent further loss and fragmentation of Nature.</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
								Will seek opportunities to optimise outcomes that may lead to increased % BNG

<p>We will seek to deliver marine improvements for projects impacting the marine environment and work with grantors to deliver nature connectivity.</p>	<p>We do not currently have a baseline for this target</p>	<p><b>Gov policy:</b> consultation on BNG requirements for marine projects.</p> <p>There is increasing recognition of the need for greater action to restore the marine environment in the face of a continued decline in marine biodiversity.</p> <p><b>State of nature report:</b> The UK is one of the most nature-depleted countries in the world. The State of Nature report has shown that since the 1970s 41 per cent of all UK species surveyed have declined, while 15 per cent of species within the UK are said</p>	<p>In the developing market the trade-offs have not been fully assessed</p>	<p><b>External delivery</b> -of marine - enhancement - The design, delivery and management of the marine environmental enhancement is fully outsourced to an external delivery body, who takes on all the risk of delivery and ongoing liability. This is an approach that has been developed by organisations such as ‘<a href="#">Environment Bank</a>’ terrestrially, where you can draw down on BNG units to discharge conditions.</p> <p><b>Natural Grid:</b> Not have a natural grid programme</p>	<p><b>Internal Delivery</b> - A team is set up internally within National Grid to develop and deliver our portfolio of marine environmental enhancement projects. This would include identification of sites that meet a project needs in the local/regional area; the development of techniques, attainment of required consents; and ongoing management and protection of the sites.</p> <p><b>Natural Grid:</b> Focus on the NG vegetation management for wider enhancement of nature</p>	<p><b>Hybrid Delivery</b> - A lean team is set up within National Grid to develop partnership frameworks with potential delivery partners (Wildlife Trust, RSPB, National Trust, ██████ to deliver marine environmental enhancement projects. Our partners would help us with the identification, development and management of sites, which would meet our regional and project specific objectives for marine enhancement. Examples of this included the Orsted and Yorkshire/Lincolnshire Wildlife Trust Partnership</p> <p><b>Natural Grid</b> Have a programme to influence the work with grantors in land also not managed by NG to</p>	<p><b>Industry Regional Partnership</b> -We look to pool our resources with other developers in the region we are working in to deliver a joined-up approach to marine environmental enhancement. This would allow projects to be delivered in a more co-ordinated way and that maximised the benefits for the marine environment. It could also promote innovation and allow novel techniques</p>	<p>In a developing area, the Hybrid delivery model allows us to take advantage of the knowledge and expertise in this field that already exists with potential partners and makes us an informed client enabling us to shape future legislative requirements and policy and meet our future needs and do not hinder development and delivery of our projects.</p> <p>Working with grantors provides an opportunity to facilitate our contribution to nature recovery and help to build trust and support of new infrastructure and future</p>
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to be  
threatened with  
extinction.

deliver positive  
outcomes for  
nature, business  
and landowner  
  
(selected option)

to be  
trialled, as  
the risk  
would be  
shared  
across  
multiple  
projects.

management  
approaches.

**Natural  
Grid** - Aim  
to deliver  
improved  
land  
manageme  
nt on all of  
our assets.



Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
Disclose our nature-related risks and opportunities and influence our supply chain to manage nature and ecological risks.	N/A	<b>Global frameworks:</b> Taskforce for Nature Related Disclosure (TNFD) set out to support a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes. Their recommendations for assessing and disclosing impacts and dependencies on nature strongly align with the goals of the Global Biodiversity Framework and are expected to be adopted into national regulations over time.	Legal requirements vs corporate commitment  Delivery of wider benefit could come at higher costs  Reputation  Sector Leadership	Do nothing	Wait for TNFD Mandatory reporting requirements to be enforced in the UK	Utilise bespoke tools developed as a sector to assess impacts of supply chain in a consistent way – utilise data to inform setting or appropriate targets align to the TNFD.  (selected option)	Become a TNFD early adopter	Under The Global Biodiversity Framework agreed at COP15 –Target 15 requires businesses to assess, Disclose and Reduce Biodiversity-Related Risks and Negative Impact  Expectation of stakeholders to align with defined frameworks to assess and report impacts and reductions.  As part of the Nature Consultation there was strong support for aligning our approach with

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
								<p>existing and emerging Nature frameworks such as TNFD and Science Based Targets for Nature, as well as making a contribution to global goal of Nature Positive. Our supply chain approach and tools will enable us to understand our impacts in a much more transparent and coherent manner and highlight areas where we could reduce our negative impacts.</p> <p>We decided to not become a TNFD early adopter as this is</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
								something we may want to commit as NG group, not just NGET.
Improve our circular economy maturity levels and aim to be in the 'engaged' level in BS8001 circular economy standard, with zero avoidable waste and 10% recycled / reused content in construction by 2031.	<p><u>BS8001 RIIO-T2 gap analysis maturity baseline:</u> basic</p> <p><u>Zero avoidable waste:</u> baseline to be produced in 2026</p> <p><u>Recycling content:</u> baseline to be produced in 2026</p>	<p><b>UK gov policy:</b> The UK government has set a goal of zero avoidable waste by 2050</p> <p><b>The planetary boundaries framework:</b> Six of nine planetary boundaries are being crossed, while simultaneously pressure in all boundary processes is increasing. The new study is the third major assessment of the planetary boundaries</p>	<p>Delivery of wider benefit could come at higher costs</p> <p>Reputation</p> <p>Sector Leadership</p>	Do nothing – though this will not Business Planning Requirements expectations	Continue to focus on the usual waste KPIs: landfill diversion and recycling	Shift focus to resource use and circular economy using best practice frameworks like BS8001 / the Construction Leadership Council pathway for 2030 zero avoidable waste in construction / and WRAP guidance on recycling content  (selected option)	Best in class for resource use and circularity – zero avoidable waste by 2030 in construction and operations	<p>Given the constraints of finite resources, it's imperative that we alter our approach to material consumption, reconsider the consequences of extraction, and ensure equitable global access to these resources.</p> <p>There may also be wider benefits for the business from taking this approach in terms of supply chain resilience and new materials reuse that might otherwise have</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
		framework, first introduced in 2009. It is the first to provide a complete check-up of all nine processes and systems that maintain the stability and resilience of our planet.						gone to waste. We have decided to use best practice frameworks but aim to not be best in class due to additional costs that would come to the business to replicate some of the bolder ambitions set by companies such as Microsoft.
Assess our water footprint and work with industry and our supply chain to identify opportunities to improve water use and minimise wastewater generation.	N/A	<b>WWF 2023 report</b> - has revealed that a looming water crisis endangers water resources and freshwater ecosystems valued at approximately \$58trn annually, with significant implications for food security, human well-	Delivery of wider benefit could come at higher costs  Reputation  Sector Leadership	Do nothing	Commit to having a better understanding of our water footprint within our wider value chain including construction and supply chain  (selected option)	Commit to be water positive and invest in critical water restoration projects.	N/A	Although water was always perceived as being an immaterial environmental aspect to our business, we're thinking more critically about its usage throughout our offices, operations, construction, and supply

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
		being, and the environment.						chain. We have a role to play in effective water management. 'Embodied water' is the latest challenge for the building industry. Due to limited use of water in our operations we do not think becoming water positive would provide the benefits we would want for higher costs to consumers.
Build on our certified environmental management system to reduce oil contamination risk through improved	N/A	ISO 14001  Environmental Risk: Transformer oil is harmful to the environment It is non-biodegradable, toxic,	Delivery of wider benefit could come at higher costs  Financial risk  Reputation  Sector Leadership	Commit to retain certification to ISO14001 as part of our newly integrated Management System	Commit to retain certification to ISO14001 for its newly integrated Management System + reducing risk associated with oil	Commit to retain certification to ISO14001 for its newly integrated Management System + having an oil leakage target for the business	Commit to retain certification to ISO14001 for its newly integrated Management System + reducing risk	Having a certified environmental management system ensures NGET has a recognised approach to managing the risk associated with its

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
asset management and using alternatives to oil filled installations where viable		<p>bioaccumulative and difficult to dispose of safely. When burned, it can form even more toxic products, such as chlorinated dioxins and chlorinated dibenzofurans. Oil that has leaked from transformers can pollute surface waters and groundwater alike.</p> <p>Any oil that escapes to controlled waters (surface or groundwaters) is a strict liability crime that can incur fines or imprisonment,</p>			contamination through improved asset management practices		<p>associated with oil contamination through improved asset management practices + focus on oil filled installation where available</p> <p>(selected option)</p>	<p>operations, taking advantage of the opportunities it recognises in the spirit of continual improvement. It helps to increase the credibility of our approach to our external stakeholders, improve our reputation and identify cost savings, also helping to reduce company insurance costs. Highlighted in recent incidents, leakage oil can be released to the environment. We therefore added a specific commitment to reduce the risks associated with oil leakage from our asset</p>

Environmental aspect	Does a baseline exist? And performance measured?	Is there a specific government policy/scientific target	Trade-offs considered	Optioneering				Justification
				1	2	3	4	
		most likely through prosecution under the Water Resources Act (1991).						infrastructure by having an improved asset management practices. We are also focusing on alternatives to oil filled installation as this is better for the environment.

## Appendix G - Environmental Risks Analysis

**Table 15 Environmental Risk Analysis**

Category	ID	Aspect	Impact	Influence	Op condition	Inherent Risk Scores*			Residual Risk Scores			Relevant Procedure**
						Cons	Like	Score	Cons	Like	Score	
Cables	1	Oil leakage from network assets	Contamination of ground/water	High	Abnormal	4	5	20	3	4	12	NG/ET/BP_040
Cables	2	Electricity transmission energy losses	Global warming potential	Low	Normal	3	4	12	3	3	9	NG/ET/BP_041
Fleet	3	Operational vehicle emissions	Global warming potential	Medium	Normal	4	4	16	3	4	12	NG/ET/BP_041
Oil Management Unit	4	Buildings gas, electric and other fuel use	Global warming potential	High	Normal	3	3	9	3	2	6	NG/ET/BP_041
Oil Management Unit	5	Oil leakage from network assets	Contamination of ground/water	High	Abnormal	4	3	12	3	2	6	NG/ET/BP_040
Overhead Lines	6	Fugitive SF6 emissions	Global warming potential	High	Abnormal	5	2	10	5	1	5	NG/ET/BP_041
Overhead Lines	7	Visual impact of assets	Visual impact	High	Normal	2	5	10	2	3	6	NG/ET/BP_042
Overhead Lines	8	Noise and odour from operating the network	Noise/odour nuisance	Medium	Normal	2	3	6	2	2	4	NG/ET/BP_042
Overhead Lines	9	Electricity transmission energy losses	Global warming potential	Low	Normal	4	5	20	4	4	16	NG/ET/BP_041
Project work	10	Disposal of assets	Depletion of natural resources	High	Normal	3	3	9	2	3	6	NG/ET/BP_039
Project work	11	GHG emissions from construction	Global warming potential	High	Normal	4	5	20	4	3	12	NG/ET/BP_214
Project work	12	Resource use from construction	Depletion of natural resources	High	Normal	4	5	20	3	4	12	NG/ET/BP_212



Category	ID	Aspect	Impact	Influence	Op condition	Inherent Risk Scores*			Residual Risk Scores			Relevant Procedure**
						Cons	Like	Score	Cons	Like	Score	
Project work	13	Disturbance/removal of habitats from construction (land and aquatic environments (including marine))	Damage to biodiversity	High	Normal	4	5	20	4	3	12	NG/ET/BP_214 NG/ET/BP_216
Project work	14	Noise and odour from construction projects	Noise/odour nuisance	High	Normal	3	5	15	2	3	6	NG/ET/BP_042
Project work	15	Project waste	Contamination of ground/water	Medium	Normal	5	5	25	3	4	12	NG/ET/BP_039
Refurbishment Centres	16	Noise and odour from operating the network	Noise/odour nuisance	Medium	Normal	2	3	6	2	2	4	NG/ET/BP_042
Refurbishment Centres	17	Visual impact of assets	Visual impact	High	Normal	2	3	6	2	2	4	NG/ET/BP_042
Refurbishment Centres	18	Operational waste	Depletion of natural resources	Medium	Normal	4	4	16	3	3	9	NG/ET/BP_039
Refurbishment Centres	19	Disposal of assets	Depletion of natural resources	High	Normal	3	4	12	2	4	8	NG/ET/BP_039
Refurbishment Centres	20	Hazardous material use, storage, and disposal	Contamination of ground/water	Medium	Normal	3	4	12	2	3	6	NG/ET/BP_007
Refurbishment Centres	21	Oil leakage from network assets	Contamination of ground/water	High	Abnormal	4	3	12	2	3	6	NG/ET/BP_040
Refurbishment Centres	22	Buildings gas, electric and other fuel use	Global warming potential	High	Normal	3	4	12	3	3	9	NG/ET/BP_041
Substations	23	Fugitive SF6 emissions	Global warming potential	High	Abnormal	5	4	20	4	4	16	NG/ET/BP_041
Substations	24	Visual impact of assets	Visual impact	High	Normal	2	5	10	2	3	6	NG/ET/BP_042
Substations	25	Noise and odour from operating the network	Noise/odour nuisance	Medium	Normal	2	4	8	2	3	6	NG/ET/BP_042
Substations	26	Oil leakage from network assets	Contamination of ground/water	High	Abnormal	4	5	20	3	4	12	NG/ET/BP_040

Category	ID	Aspect	Impact	Influence	Op condition	Inherent Risk Scores*			Residual Risk Scores			Relevant Procedure**
						Cons	Like	Score	Cons	Like	Score	
Substations	027	Electricity transmission energy losses	Global warming potential	Low	Normal	3	4	12	3	3	9	NG/ET/BP_041
Substations	28	Operational waste	Depletion of natural resources	Medium	Normal	4	4	16	3	3	9	NG/ET/BP_039
Substations	29	Buildings gas, electric and other fuel use	Global warming potential	High	Normal	3	4	12	3	3	9	NG/ET/BP_041
Substations	30	Hazardous material use, storage, and disposal	Contamination of ground/water	Medium	Normal	3	4	12	2	3	6	NG/ET/BP_007
All	31	Fire	Damage to natural environment	Low	Emergency	5	3	15	2	2	4	NG/ET/BP_041
All	32	Flood	Damage to natural environment	Low	Emergency	5	3	15	2	3	6	NG/ET/BP_046
All	33	Vandalism	All	Low	Emergency	5	3	15	2	1	2	
All	34	Extreme weather events (heat, extreme cold)	Damage to natural environment	Low	Emergency	5	3	15	2	3	6	NG/ET/BP_046
Procurement	35	Associated GHG emissions from procured goods and services	Global warming potential	Medium	Normal	4	5	20	3	4	12	NG/ET/BP_041
Procurement	36	Associated resource use from procured goods and services	Depletion of natural resources	Medium	Normal	4	5	20	3	4	12	NG/ET/BP_039
Procurement	37	Associated waste from procured goods and services	Depletion of natural resources	Medium	Normal	4	5	20	3	4	12	NG/ET/BP_039
Procurement	38	Associated damage to the natural environment from procured goods and services	Damage to natural environment	Medium	Normal	4	4	16	3	3	9	NG/ET/BP_046

Category	ID	Aspect	Impact	Influence	Op condition	Inherent Risk Scores*			Residual Risk Scores			Relevant Procedure**
						Cons	Like	Score	Cons	Like	Score	
Project work	39	Disturbance of contaminated land	Contamination of ground/water	High	Abnormal	4	4	16	3	3	9	NG/ET/BP_051
Project work	40	Hazardous material use, storage, and disposal	Contamination of ground/water	Medium	Normal	4	4	16	3	4	12	NG/ET/BP_007
Project work	41	Visual impact of construction	Visual impact	High	Normal	3	5	15	2	3	6	NG/ET/BP_042
All	42	Species disturbance or damage (including nesting birds and marine environments)	Damage to natural environment	High	Normal	5	4	20	2	4	8	NG/ET/BP_228, NG/ET/BP_046

**\*Figure 34 Risk Score Matrix**

Consequences/ Likelihood Matrix		Likelihood				
		Highly Unlikely (1)	Unlikely (2)	Possible (3)	Likely (4)	Highly Likely (5)
Consequences	Catastrophic (5)	5	10	15	20	25
	Serious (4)	4	8	12	16	20
	Moderate (3)	3	6	9	12	15
	Minor (2)	2	4	6	8	10
	Nothing (1)	1	2	3	4	5

**Likelihood Scale**

**Rating    Descriptor    Definition (whichever is most likely)**

5	Highly Likely	Continuous or frequent event which occurs at least once a week.
4	Likely	Event which occurs at least once a month.
3	Possible	Event which occurs at least once a year.
2	Unlikely	Event which occurs at least every 10 years.
1	Highly Unlikely	Event which occurs less than once every 10 years.

### Consequences Scale

Rating	Descriptor	Definition
5	Catastrophic	Causes major environmental impact
		Large scale incident involving regulators
		Major corrective actions required with potential for prosecution and fines
4	Serious	Causes a serious environmental impact
		Incident involving regulators
		Corrective actions required
3	Moderate	Moderate environmental impact which can be contained
		May require reporting to the regulator
		Corrective actions may be required
2	Minor	Minor incident which is easily contained
		Unlikely to require reporting to the regulator
		Minor corrective actions may be required
1	Negligible	Very small or negligible environmental impact
		Does not require reporting to the regulator
		No corrective actions required

**\*\*Procedure Refs:**

NG/ET/BP\_007 Control, Transport and Storage of Substances Hazardous to Health

NG/ET/BP\_039 Waste Management

NG/ET/BP\_040 Protection of the Water Environment

NG/ET/BP\_041 Management of Greenhouse Gas Emissions

NG/ET/BP\_042 Statutory Nuisance

NG/ET/BP\_046 Land Management & Biodiversity

NG/ET/BP\_051 Land Contamination

NG/ET/BP\_212 Sustainable Construction

NG/ET/BP\_214 Carbon Management in Construction

NG/ET/BP-216 Environmental Net Gain

NG/ET/BP\_228 Bird Management

## Appendix H - Glossary

<b>°C</b>	Degrees Celsius
<b>AIS</b>	Air Insulated Switchgear
<b>AER</b>	Annual Environmental Report
<b>ASTI</b>	Accelerated Strategic Transmission Investment
<b>BAU</b>	Business As Usual
<b>BNG</b>	Biodiversity Net Gain
<b>BPG</b>	Business Plan Guidance
<b>CCC</b>	Climate Change Committee
<b>CIT</b>	Carbon Interface Tool
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>CLC</b>	Construction Leadership Council
<b>EAP</b>	Environmental Action Plan
<b>EJP</b>	Engineering justification report
<b>EIC</b>	Engineering Innovation Centre
<b>EELS</b>	Environmental, Education, Learning and Skills
<b>EMS</b>	Environmental Management System
<b>ESG</b>	Environmental, Social, Governance
<b>EPD</b>	Environmental Product Declaration
<b>DNO</b>	Distribution Network Owner
<b>GIS</b>	Gas Insulated Switchgear
<b>GB</b>	Great Britain
<b>GHG</b>	Green House Gases
<b>GBF</b>	Global Biodiversity Framework
<b>GRS</b>	Global Recycled Standard
<b>HVO</b>	Hydrotreated Vegetable Oil
<b>ICE</b>	Internal Combustion Engine
<b>IIG</b>	Insulation and Interruption Gases
<b>IEA</b>	International Energy Agency
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>LCET</b>	Low-Carbon Energy Transition
<b>LRNS</b>	Local Nature Recovery Strategies
<b>NBS</b>	Nature-Based Solutions
<b>NESO</b>	National Energy System Operator
<b>NGET</b>	National Grid Electricity Transmission
<b>NGH</b>	National Grid House
<b>NRN</b>	National Recovery Network
<b>TNFD</b>	Taskforce for Nature Related Disclosures

<b>TCO<sub>2e</sub></b>	Tonne of carbon equivalent
<b>TO</b>	Transmission Owner
<b>SBT</b>	Science Based Targets
<b>SBTi</b>	Science Based Targets Institute
<b>SBTN</b>	Science Based Targets for Nature
<b>SDG</b>	Sustainable Development Goals
<b>SF<sub>6</sub></b>	Sulphur hexafluoride
<b>UN</b>	United Nations
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UK</b>	United Kingdom
<b>WGBC</b>	World Green Building Council
<b>WWF</b>	World Wide Fund for Nature
<b>ZAW</b>	Zero Avoidable Waste
<b>ZEVs</b>	Zero Emissions Vehicles

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