



11. We will care for the environment and communities

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What this stakeholder priority is about

This priority is about the steps we, as a responsible business, will take to improve the environment and serve communities and society. It covers our contribution to tackling climate change, reducing waste, improving the natural environment and improving the visual impact of our assets. It also covers how we support local communities, wider society, act as a responsible employer and promote ethical practices in our supply chain.

What you have told us so far

You have told us that you want us to continue to enhance the environment and make a positive lasting difference by:

- enhancing the environment by reducing our greenhouse gas (GHG) emissions, improving the natural environment and the visual impact of our assets in protected landscapes, for everyone to enjoy
- making a positive and long-term contribution to society and the communities we work in.

Supporting the fuel poor and vulnerable attracts mixed views – we have addressed this by prioritising education and employment and by funding our local community commitments both via consumer bills and our business.

What we will deliver

For the environment, we will:

- reduce our scope 1 & 2 GHG emissions by at least 34%¹ by 2025-2026, and 50% by 2030 in line with a net zero pathway
- show **SF₆ leadership**, taking brave steps to help the market develop faster to meet needs
- reduce our office energy use by 20% and source **100% renewables** for our metered electricity
- replace **100% of our fleet** with electric vehicles, where market alternatives are available today

¹ Target changed from July plan, previously stating 45% from a 2012/13 baseline - now stating 34% from a 2018/19 baseline - is

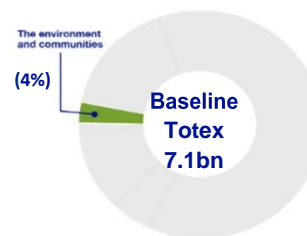
- achieve **net-zero GHG** emissions for our construction activities by using PAS 20280
- **act as leaders** with tools and data to advance environmental good practice
- improve the natural environment at our sites by increasing the **environmental value** of our non-operational land by 10% by 2025-2026
- improve the **visual impact** of our assets at specific sites, which will improve natural landscapes for people to enjoy
- use **circular economy** principles to minimise the amount of waste produced and maximise reuse

For communities and society, we will:

- **support those affected by our construction** activity with up to £7.5m of investment
- **focus on low income communities** providing access for **6,000 young people** to skills development, tracking their progress to potential employment
- create an **Urban Improvement Provision** to improve our assets or public spaces in areas of **urban disadvantage**
- drive our **real living wage** commitment further into the supply chain, by verifying at Tier 1
- require an annual upskill of **5% of the technical headcount** and **drive responsible** practices further into the supply chain

The total cost of delivering these baseline proposals is £255m. This represents 4% of the overall business plan as reflected in figure 11.1 below.

Figure 11.1 Proportion of expenditure



compatible with our verified 50% reduction by 2030, as defined by the Science Based Institute to deliver a net zero pathway



1. What this stakeholder priority is about

We are facing an unprecedented global emergency. **Urgent action against climate change** is required if we are to prevent further increase in events which could entirely change life as we know it today, especially for those in **vulnerable circumstances**. We fully support the UK government's introduction of legislation to achieve net zero by 2050. Our work to facilitate a low- carbon future energy system is covered in chapter 7 *We will enable the ongoing transition to the energy system of the future*. This chapter focuses on our commitment to **net zero** and the **ecological crises**, through our direct impacts on the environment and communities.

Our vision is to exceed the expectations of our communities. We believe that we, as a business that operates both nationally and locally, have a great opportunity to support citizens of **disadvantaged** backgrounds earn more, and fully participate in society and the green transition. Our commitments will focus on achieving **social**



mobility outcomes via our community touchpoints, enabled by **skills education** and **employment**, as a practical fit for our business expertise. We will also continue to listen to the needs of those we impact. These areas of focus are shown in the diagram above. This chapter is structured around two main areas:

1. **Enhancing the environment**, which includes:
 - i) our climate commitment and sustainability leadership
 - ii) enhancing the natural environment and preserving precious resources
 - iii) improving the visual impact of our assets in protected landscapes
2. **Making a positive contribution to society** and the communities we work in, which includes:
 - i) supporting local communities
 - ii) supporting wider society
 - iii) community prosperity through employment and our supply chain

Consumer value proposition (CVP)

The CVP looks at the value we are providing above Ofgem's minimum requirements that we can robustly monetise. This chapter contains the following CVP items:

- CVP5 - Caring for the natural environment (value of £14.67m)
- CVP6 - Supporting local urban communities (value of £22.58m)

For more detail, please see chapter 5.4 and the CVP annexes ET.07 to ET.07C.

2. Track record and implications for T2

2.1 Enhancing the environment

We have an Environmental Management System (EMS) that is certified to ISO14001:2015 (an international standard that specifies requirements for an effective EMS, covering all our operational and non-operational businesses in the UK). For further information on this system, please refer to annex NGET_A11.01 EMS.

In 2019 we published our Electricity Transmission Environmental Future strategy, [here](#), which outlines our performance and targets in the T1 period.

i) Our climate commitment and sustainability leadership

Our climate commitment focusses on the GHG emissions that our business is directly (scope 1&2) and indirectly (scope 3) responsible for. SF₆ is the only current financially rewarded output in the environmental topic.

SF₆ incentive performance - SF₆ is a particularly potent GHG. It has a global warming potential (GWP) 23,500 times stronger ([according to the latest IPCC data](#)) than CO₂. In the T1 period we were incentivised to reduce harmful GHGs from SF₆ leakage and to support the transition to low GHG alternative gases. The incentive allows a calculated leakage as a % of total volume, discounting volume from replaced assets. We have delivered a solid performance against the defined leakage allowance, saving 11.8tonnes or 283,000tCO₂e and forecast a total reward of ~£12m. This is illustrated in figure 11.2 below. For further details, please see our T1 period reporting [page](#) and annex NGET_ET.06 ODIs, which details the methodology for current SF₆ gas leakage measurement.

Figure 11.2 SF₆ incentive performance



Track record for T1 incentive output		
GHG Performance	T1 O/P	T1 Performance
SF ₆ leakage	Incentive	Average 16% ahead of target



Innovation in the T1 period - to materially benefit climate change (for further information see annex NGET_A12.02 Innovation)
 We continue our three main SF₆ work streams:

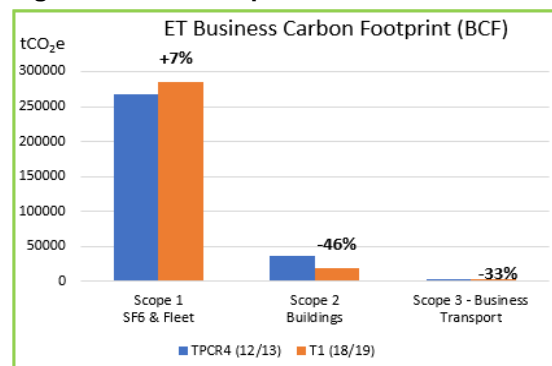
- **new build alternative gases** – we were the first to trial g³ (GWP:346) on gas insulated busbar (GIB) at Sellindge
- **retrofit gas alternatives** – investigating replacement of SF₆ in switchgear
- **leak repair techniques** – working with Cardiff University to study long term effectiveness and performance in an electric field.

ii) Other environmental performance

During the T1 period, we have decreased our scope 2 and scope 3 GHG emissions considerably but, due to a poor performing year on SF₆ in 18/19, our scope 1 emissions have increased by 7% overall from the end of the TPCR4 period. A different approach for SF₆ and fleet emissions is required for the T2 period to create greater reduction. Please see table 11.3 which compares 2012/13 to 18/19 ET GHG performance.

Innovation in the T1 period. In 2015, we developed an innovative tool with AECOM to recognise and account for the value of natural assets (Natural Capital)
 the benefit is biodiversity enhancement, habitat protection, access to **green spaces for communities**, carbon capture and potentially lower site maintenance costs.

Figure 11.3 ET GHG performance 2012/13 to 2018/19



As well as having a regulatory incentive for SF₆, we have a self-imposed ambitious target of 20% reduction in the T1 period which was set in the March 2019 environmental strategy. In 2018/19, the overall increase in SF₆ was principally due to an increase in leak rates at the highest leaking sites. Assessments have been made on these assets and repairs have been prioritised to achieve the best cost, risk and performance balance. We still work hard to achieve our 20% voluntary reduction target; our opinion however is that reactive repair alone is not a sustainable solution to SF₆ emissions reduction. An outline of our other voluntary environmental performance can be seen in table 11.4 below.

Table 11.4 T1 environmental performance

	Category	Voluntary Commitment	T1 Performance at 2018/19	
Climate and leadership	SF₆ leakage	Yes – 20% reduction in controllable BCF	7% increase on 2012/13 leakage	
	ET Fleet		30 vehicles purchased for EV pilot	N/A
	Buildings		Decreased energy usage by 46% in our offices	N/A
	Mileage		Decreased carbon from business travel by 33%	N/A
	Capital Carbon	Yes - 50% reduction in carbon intensity from 2015/16 to 2020/21	From 2015/16 to 2018/19 we achieved a 50% reduction in carbon intensity, from 232 to 117tCO ₂ e per £1m of construction spend	
	Supply Chain	Yes – 80% of suppliers reporting through the carbon disclosure process (CDP)	96% of Top 250 National Grid suppliers reporting through CDP	
	Leadership – no T1 target		<ul style="list-style-type: none"> • Engaged closely with TO peers to share ways to standardise processes on capital carbon and net gain • Engaged with a variety of environmental groups, e.g. The Aldersgate Group, We Mean Business, Business in the Community and CDP • Embedded an internal carbon price in to our network development progress • Created a new environmental page on our website to transparently share our environmental performance with our stakeholders 	
Resources and waste	Natural Capital	Yes - Improve natural capital on 30 sites and achieve net gain on all major build projects by 2020	<ul style="list-style-type: none"> • 29 of 30 sites and 34% natural capital increase at the sites • on track for net gain on major construction projects • collaboration with over 40 local groups and organisations like the Wildlife Trusts, councils and local beekeepers 	
	Waste	Yes - Reuse/recycle 100% of recovered assets, 100% landfill diversion from our offices and 95% on operational sites and remove all single use plastic from sale by 2020	<ul style="list-style-type: none"> • asset recovery to be measured from 2019/20 • today 95% of office, 93% operational waste is diverted from landfill with 45% of operational waste recycled • on track to remove all single use plastics from sale in our offices by 2020 – video here 	



iii) Improving the visual impact of our assets in designated landscapes

We run a scheme called the Visual Impact Provision (VIP) project to reduce the visual impact of our existing transmission infrastructure (overhead lines) in England and Wales in National Parks and Areas of Outstanding Natural Beauty (AONBs). As part of the T1 framework, Ofgem allocated £500m (2009/10 prices) from which the three British transmission owners could apply to fund projects to improve designated landscapes. We established an extensive engagement process with stakeholders to select and deliver projects, including creating an independent Stakeholder Advisory Group (SAG). Ofgem approved our VIP policy and process; using these, we identified overhead line sections suitable for undergrounding and a larger number of opportunities for smaller landscape enhancement projects.

Any project approved by Ofgem during the T1 period will be funded from the £500m provision, regardless of when the spend occurs. To date, we have been awarded £120m (2018/19 prices) to deliver a project in the Dorset AONB, of which 90% is allowed in the T1 period and the remaining 10% in T2. The Dorset project will replace 8.8km of overhead line near Dorchester with an underground cable, permanently removing 22 pylons from the landscape. We anticipate making further funding submissions for major undergrounding projects during the T1 period and our baseline forecast for the T2 period reflects spend if these were approved.

Launched in May 2016, the Landscape Enhancement Initiative offers grants of up to £200,000 for local visual improvement projects. Each of the 30 National Park Authorities and AONB Partnerships covered by the initiative can submit applications for projects. These are assessed by a sub-committee of the independent Stakeholder Advisory Group, before making a funding submission to Ofgem. As of 31 March 2019, Ofgem has approved £1.6m of LEI projects. This funding will be passed directly to the independent organisations who are leading on delivering these LEI initiatives.

We recognise that there will be short-term landscape impacts during construction. However, the long-term benefits will outweigh this, as outlined by the Dorset planning committee. This would be similar for all the VIP projects: *'...Natural England is satisfied that the temporary impacts are far outweighed by the long-term benefits of the scheme.'* - **Natural England.**

Figure 11.5 Planned removal of a section of overhead line in the Dorset AONB



Innovation – for the future

We have been working hard on innovations which will reduce the cost and environmental impact of future underground transmission.

- We've been exploring a version of gas-insulated line which uses a gas mix with a lower GWP than SF₆ – the benefit being **whole-life cost reduction and reduced environmental impact**.
- We are also testing 'liquid soil' at Cardiff university. This **new backfill material is innovative** as it can conduct heat away from a cable better than standard backfill – resulting in the use of higher cable ratings, rather than installing larger more expensive cable.

Innovation in the T1 period- Dorset project

- Placing the **cable in a duct** rather than directly burying it - the benefit is **faster reinstatement of land with less disruptive maintenance and eventual replacement**.
- **Jointing** - cables must be joined together on site, normally under a tent system. Here, using a new container system to house the jointing and welding equipment – the benefit is **higher quality and productivity compared to before**.
- Reduced joint bays - cable manufacturers have designed **new transport**, meaning longer lengths of cable can be added to a single drum - the benefit being **reduced vehicle movement and fewer joints**.

2.2 Making a positive contribution to society and the communities we work in

i) Supporting local communities and wider society –

we engage local communities around our major construction projects to understand how we can minimise the impact on their lives and look for opportunities to leave a positive legacy. Some of our achievements in this respect, for the UK in the T1 period include:

- achieving 50% local employment (30/60) against a required 17% on the Hinkley project, on track to engage with all 237 of the local schools to inspire STEM and upskilling 150 people every year (prioritising the hard to reach) – 50% going on to employment
- raised £2.24m for our charities of the year
- through matched giving, funded £1.25m to charities chosen by our employees
- supported over 5,000 hours of community volunteering
- we have so far invested £137m for 32,000 first-time central heating systems to many UK vulnerable consumers through the Warm Homes Fund
- We have funded £1.55m of community grant projects near to our construction activities or operations



ii) Community prosperity through employment and our supply chain - we passionately believe that having an inclusive and diverse workforce as well as a supply chain that focuses on human rights,

will help us thrive. Further information is provided in annex NGET_A11.02 Inclusion and Diversity Policy. Some of our achievements in these respects, for the UK, are listed below:

Social Mobility	BAME	Gender	Support for SMEs	Supply chain – modern slavery	Supply chain – real living wage
Top 50 employers- Social Mobility Foundation 2018	Best 'UK Employers for Race - top 70 list' from 'Business In The Community' (BITC)	-gender pay gap of 4% (we strive for 0%) against UK industry average of 15% -secured a place on The Times Top 50 Employers for Women	A target for 33% of contract spending should be with small and medium-sized enterprises by 2020	"National Grid are part of a small cluster of leaders tackling modern slavery and human trafficking." - Business & Human Rights Resource Centre.	"It felt good to have a pay rise, I can support my family more and I don't have to borrow money to support myself..." - 14Forty employee , after 2018's real living wage uplift for 26 contractor employees
Social mobility employer Index #31	nearly doubled our UK core BAME from 8% ² to 14% (18/19 average)	% UK core female from 18% ² to 20% (18/19 average), against a UK industry average of 11%	UK regulated businesses achieved our annual target of 27% SME contract spending last year	Business and Human Rights Resource Centre ranked us 12th in its FTSE100 Modern Slavery rating index.	Members of Living Wage Foundation since 2015

3. What our stakeholders are telling us

A summary of our engagement activities and outcomes is provided in table 11.6 below, alongside what trade-offs have been made and how

stakeholders have influenced the plan. The engagement log contains detailed information on our engagement approach and outcomes. This can be found in annex NGET_A11.08 Engagement log.

Table 11.6 Summary of our engagement

	Engagement relating to the Environment
Purpose and approach	To understand our stakeholders' views about our impact on the environment, including carbon emissions and local environmental impacts and the improvements we could make. Establish the values business and domestic consumers feel they should pay for certain visual impact activities and which projects would deliver the most value.
What stakeholders and consumers have told us	<ul style="list-style-type: none"> All stakeholders, especially consumers, want us to take ambitious action on climate change and potentially use carbon offsetting to make relevant activities carbon neutral as well as adopting responsible use of assets. We should reduce the overall volume of SF₆ we leak and continue efforts to find alternative insulating gases. Recent consumer testing has indicated that reducing emissions is almost as important as safety and reliability. With no associated costs, 60% of consumers want us to be a carbon neutral business by 2030 or 2040 with younger citizens and women being the most supportive. Some consumers said they'd prefer our efficiency savings to be channelled in to environmental investments. We should make investment decisions based on the whole-life cost of each option, including the cost of carbon, and use this approach to help minimise our overall carbon emissions. We should minimise the local impact of construction on the environment. We should achieve environmental net gain at our construction projects, provided the costs are reasonable. We should be more ambitious in improving biodiversity. We have an established assessment methodology for assessing the VIP project priorities, created by an independent landscape specialist and an independent Stakeholder Advisory Group, consulted on and approved by Ofgem. This methodology, along with extensive engagement reduced the shortlist down to 12 potential projects and then prioritised four for initiation in the T1 period. Regarding the cost of the T1 VIP projects, most bill payers (66%) found it acceptable for the cost of VIP to be socialised via household bills.

² Note these 2012/13 statistics included the Gas distribution business and our 2018/19 values do not



Key trade-offs and how engagement influenced our plans	<ul style="list-style-type: none"> • There is a wide mixture of views on visual impact from those most impacted stakeholders who feel that we should do anything possible to avoid negative visual impact, and are willing to pay for this to those who are less impacted and don't want to pay. Whilst the views are mixed, stakeholders feel that the current stakeholder-led approach, assessing visual impact on a case-by-case basis, is robust, therefore the decision to continue the T1 approach into the T2 period is valid and supported by nationally representative consumer data. • In shaping our proposal to meet net zero, the option to remove the risk of SF₆ leaks through the use of non-SF₆ cable makes a trade-off against the £150m investment to achieve a 34% reduction.
How we've responded to the Independent Stakeholder Group / Challenge Group	<ul style="list-style-type: none"> • Following the Independent Stakeholder Group challenge, we provided data on our external industry benchmarking exercise and undertook engagement with external experts to validate the ambition of our targets. Because of the comprehensive engagement with vehicle manufacturers we have reduced our investment plan from 70% EVs by 2026 to 60% based on current and forecast availability of suitable vehicle products. • For VIP – the Independent Stakeholder Group asked us to provide value for money and innovation information which was included in July's draft submission. • The RIIO-2 Challenge Group requested details of our proposed greenhouse gas targets, justification for cost and ambition. In response to this, and our ambition to support net zero, we have set out our two key investments relating to fleet and SF₆ as well as detailing our roadmap to net zero in the executive summary.

Engagement relating to the Communities	
Purpose and approach	<ul style="list-style-type: none"> • To understand the views of local communities and how we can best support them. • To understand the areas where our business activities affect society and understand how we can maximise our total societal impact (TSI – meaning the total benefit to society from a company's products, services, operations, core capabilities, and activities).
What stakeholders and consumers told us	<ul style="list-style-type: none"> • We should engage deeply with local communities affected by our construction projects. We should do more to help such local communities and consumers are willing to pay a material amount for us to carry out more community activities but this always comes out at one of the lowest priorities overall as the beneficiaries are narrower than the overall carbon goals. • We should be a responsible and sustainable business. We should work closely with business, our supply chain and consumers to achieve shared goals. • Our investors expect us to make our contribution to society a central axis of our long-term strategy, leading the energy transition. • Our total societal impact work suggested that we will have by far the biggest effect by advancing clean energy systems. Our contribution could be large in each area of electricity, transport and heat. Interviews and surveys also highlighted the priority that the public places on securing and accelerating the energy transition and doing so in a way that ensures fairness and equal access to the benefits of the transition. • However, through our consumer qualitative research, against a value of £10m per year, strong support was seen for improvements in disadvantaged communities as <i>'people should be able to be proud of where they live and some people don't have a choice'</i>.
Key trade-offs and how engagement influenced our plans	<ul style="list-style-type: none"> • Most engagement supports doing more for local communities, and that minimising the impact on local communities is a priority. However, there are some organisations (particularly organisations that have direct interests in new connection projects) that are more ambivalent about impacts on local communities. The view of these organisations has been largely downgraded given these commitments would do little to negatively impact their interests and that consumer research overall supports our community proposals. • Supporting the fuel poor and vulnerable attracts opposing opinions. Some feel it should be a given whilst others feel it's not our role. We have addressed this by prioritising education and employment and by shared funding of our community commitments via both consumer bills and our business which is supported by the consumer acceptability testing and research. Further community impact will be measured by the engagement we undertake for large infrastructure projects.
Response to the Independent Stakeholder Group / Challenge Group	<ul style="list-style-type: none"> • The Independent Stakeholder Group asked us to clarify what our visual amenity policy was in deprived areas. We have created an additional commitment to improve our assets or public space in deprived communities as a direct response to this challenge – this has received excellent support from consumers in our acceptability testing workshops on the assumption that Ofgem approves efficient costs and impacted stakeholders select the projects to be completed. • Following a suggestion also from the Independent Stakeholder Group that we should provide centralised resilience advice, we concluded that this is more appropriate for distribution networks due to their direct connections to the relevant organisations.



4. Our proposals for the T2 period

The table below outlines how, what stakeholders told us, links to the proposals we are making and the consumer benefits. Further environmental commitments are listed in our annex NGET_A11.05 Environmental Action Plan

Table 11.7 Our proposals for the T2 period

Stakeholder Topics - Environment	Our proposals	Baseline	Output	Output type/ NGET /UK/ Group	Consumer benefit
1.i) Environment – our climate commitment and sustainability leadership	1 of 3 net zero pathway investments towards a science based target (SBT) of 34% scope 1 & 2 emissions reduction i) agree funding with Ofgem and deliver a targeted SF₆ asset replacement programme ii) leakage control ODI – volumes to be independent of replacement programme. iii) stop designing with 132kV SF ₆ assets in new builds by 2021 iv) stop using 275/400kV SF ₆ assets in new builds by 2024 (once two solutions are available), sending clear market signals to support this (in 2020) v) continue to use collaboration and innovation to develop alternative technologies so that we no longer have to buy equipment that uses SF ₆ as an insulating gas. Measure: tCO₂e	280,472 tCO ₂ e in 2019 (using AR5, SF ₆ = 23,500 times CO ₂)	-33% Scope 1 emissions (SF ₆), down to 187,916 tCO ₂ e by 2026	NGET i) Uncertainty Mechanism (UM) or ODI >£150.00m - not in baseline ii) ODI – not in baseline iii) & iv) Commitment (no funding request)	Reduces the impacts of climate change , cleaner air in urban areas and climate progress across industry
	2 of 3 net zero pathway investments towards a science based target (SBT) of 34% scope 1 & 2 emissions reduction i) Operational fleet - replacing 100% with alternative fuel vehicles, where alternatives are available today (2019) ii) this commitment translates to 60% ET fleet replacement at today's market availability iii) the benefit will be a 54% reduction in ET fleet emissions and -1% of scope 1 emissions iv) we will install and maintain charge points across 234 ET sites to enable our fleet commitment v) work with DNOs to ensure efficient use of infrastructure. Measure: % vehicle replacement	3.59% (30/836) electric fleet in 2019	60.00% (499/836) electric fleet by 2026, -1% scope 1 emissions	NGET i)-v) PCD (£47.49m in baseline) ODI for above 60% replacement - not in baseline	
	3 of 3 net zero pathway investments towards a science based target (SBT) of 34% scope 1 & 2 emissions reduction - Purchased electricity – We will focus on an efficiency-first approach to decrease the carbon emissions from our office energy use by 20% - We will purchase 100% of our metered electricity from renewable sources. Measure: tCO₂e and date of renewables contract	19,279 tonnes of CO ₂ e in 2019	15,432 tonnes CO ₂ e, and renewable sources -100% scope 2 emissions	NGET Commitment (no funding request)	
	- We will continue to report annually on the actions we have taken to reduce the transmission losses induced by our network as well as any activities that have impacted on the losses. Measure: Actions taken	LO to report on actions	LO to report on actions	NGET Special license condition 2K	



	<p>- Substation usage - We will create a substation energy efficiency programme Measure: tCO₂e</p>	Ad hoc initiatives	Energy efficiency upgrades	NGET Commitment (no funding request)	
	<p>- Capital carbon - Achieve net-zero carbon construction by 2025/26 by further implementing PAS2080, supported by an offsetting policy and based on current business assumptions that 180,000tCO₂e can be offset with up to £2.5m. Measure: tCO₂e</p>	31,000 tonnes of CO ₂ e in 2019	~0 tonnes of CO ₂ e in 2026	NGET -PCD (£2.50m in baseline)	
	<p>- Business transport - Reduce carbon emissions for our business transport by 10% from T1 to end of T2 - reduce vehicle use by promoting rail and virtual meetings and promote EVs on company car scheme and install electric car charging points at ET substations Measure: tCO₂e</p>	3,494 tCO ₂ e, T1 average	3,145 tCO ₂ e in 2026	NGET Commitment (no funding request)	
	<p>- Supply chain - 75% of National Grid's top 250 suppliers (by category/spend) will have carbon reduction targets Measure: % of suppliers with reduction targets</p>	49% with emissions targets	75% with emissions targets	NG Group -Commitment (no funding request)	
	<p>- We will lead in transparency on capital carbon and natural capital using data and tools to collaborate and drive environmental progress Measure: We aspire to a consistent industry approach to capital carbon and natural capital by 2026</p>	Individual company strategies	We aspire to a consistent network approach	NG UK Commitment (no funding request)	
<p>1.ii) Environment – enhancing the natural environment and preserving precious resources</p>	<p>-10% increase in environmental value on all non-operational land by the end of the T2 period – prioritising deprived urban areas. -The ET estate is currently 2798 hectares and environmental value is measured in Biodiversity units and £ natural capital Measure: £ natural capital and Biodiversity units #</p>	Baseline to be defined in 2021	+10% on 2021 baseline by 2026	NGET Commitment to 10% ODI above 10% (no funding request)	<p>Better local environment for communities, improved ecosystems and reduced climate change.</p>
	<p>- Deliver 10% net gain in environmental value (including biodiversity) on all construction projects (including those delivered by third parties) Measure: #projects and % net gain</p>	Baseline to be defined in 2021	+10% net gain on all construction projects from 2021	NGET Commitment - no funding request)	
	<p>- We will reduce the waste we create at our offices (waste tonnage) by 20% from a 2019/20 baseline - Reduce water use in our offices by 20% by the end of RIIO-2 compared to a 2019/20 baseline Measure: tonnes and # litres</p>	-Water and waste to be baselined in 2019/20	-20% water use and waste tonnage from 2020 to 2026	NG UK Commitment (no funding request)	<p>Reduced consumer bill and finite resource use.</p>
	<p>-We will recycle 60% of our office and operational waste - On construction projects, we will achieve zero waste to landfill and we will increase the recycling or reuse materials by 2026 - baseline and set a target for construction waste recycling - we will reduce the waste intensity of our construction projects year on year Measure: % of waste recycled, % to landfill and tonnes of waste / £100,000</p>	46% office recycling 45% operations in 2019 -2019/20 waste intensity baseline	60% office and operational recycling by 2026	NG UK (office) and NGET Commitment (no funding request) ODI above 60%	



	- We will maintain our high standards of oil containment and pollution management Measure: # litres of oil lost in to environment	Maintain agreed ENA/EA standards for cable leaks	NGET Commitment and LO (no funding request)		
	- We will implement the ISO20400 sustainable sourcing process Measure: alignment to ISO20400	Gap analysis complete	Align with ISO20400	NG UK Commitment (no funding request)	
	- We will pilot and implement circular economy principles across the business Measure: # of pilots that implement circular economy principle, circularity metric defined and process to purchase products that can be recycled/reused.	No standards yet	Align with BS8001 – circular economy standard	NGET Commitment (no funding request)	
1. iii) Environment – improving visual impact	- Existing infrastructure in designated landscapes - We will continue with the stakeholder-led approach for Visual Impact project Provision project selection. Measure: # of kms of overhead line removed	Dorset in progress	Dorset and other T1 funded projects	NGET PCD (£202.36m currently in baseline subject to T1 funding submissions)	Improved areas of beauty for society to enjoy

Stakeholder Topics - Communities	Our proposals	Baseline	Output	Output type	Consumer benefit
2.i) Communities -supporting local communities <i>*here we define a 'major project' as one lasting a year or more</i>	- Communities close to a major* project - assign up to £7.5m (0.3%) of construction projects to focus on local employment and STEM engagement with every local state owned school -continue to fund the community-led grant scheme of up to £20k near to a construction project and £10k near our operations Measure: £m spent, # of schools engaged and % local employment	Engagement & employment driven by DCO £1.55m on community grants in T1	100% state School STEM engagement and local employment	NGET Commitment (no funding request) NG UK for grant scheme	Enabling more diverse citizens to take part in the green transition and improved community spaces – helping to build pride and wellbeing in the local area.
	- Communities close to assets - stakeholder-led prioritisation of budget to benefit urban disadvantage through an <u>Urban Improvement Provision</u> by improving our assets or public spaces (focused in the top 30% most deprived areas, per the index of multiple deprivation (IMD)). Measure: stakeholder group satisfaction & # of projects implemented in IMD1.0-3.0	Currently no fund	To be defined by stakeholder-led panel	NGET UM (£50.00m) <i>-not in baseline</i>	
2. ii) Communities – supporting wider society	- Provide skills development which will increase employment potential for 6000 people, focussing on the low-income communities we serve Measure: #people trained	Graduate, academy and apprentice training	6,000 external people trained by 2026	NG UK Commitment (no funding request)	Supports vulnerable consumers nationally, using core skills and expertise
2. iii) Communities – prosperity through employment	- We want to better represent the communities we serve and we will increase our hires from diverse backgrounds every year - We will report transparently on our entire workforce representation at all levels Measure: % of BAME and % offemale	UK Core: 14% BAME 20% female Group 18% BAME 24% female	Focus on increasing diversity annually	Group Commitment (no funding request)	Improved employee wellbeing and ability to serve our



and the supply chain -Further supply chain commitments are listed in annex NGET_A11.06 Ethical Procurement Action Plan	- We require all our suppliers, to pay the real living wage to their UK workers and will verify this at Tier 1 in relevant categories. Measure: # of individuals with wage increase as a result of National Grid commitment	Contractual obligation only	Contract verification to Tier 1 for relevant categories	NG UK Commitment (no funding request)	stakeholders Access to opportunity, fair pay and skills development can support social mobility.
	- Promote skills development in the supply chain by requesting that a minimum of 5% of the supply chain technical headcount is upskilled annually Measures: # of suppliers signed up to Skills Accord and % technical headcount under training plans	Technical headcount numbers calculated annually	5% of technical headcount trained annually	NG UK Commitment (no funding request)	
	- Use influence to identify and address potential human rights exploitation in the supply chain Measure: Modern Slavery Index (MSI) rating #	MSI #12	MSI #	NG UK Commitment (no funding request)	
	- Promote equal opportunities in the supply chain Measure: # events supported to identify and # of projects using CompeteFor (a tool used to advertise opportunities in the supply chain)	27% contracting with SMEs in 2019	#events #CompeteFor projects	NG UK Commitment (no funding request)	
We also have a proposal for an environmental scorecard associated with this topic which will drive us to push further beyond our baseline commitments. For further information please see annex NGET_ET.06 Output Delivery Incentives. For further information on our two proposed uncertainty mechanisms, please see annexes NGET_ET.12 Uncertainty mechanisms, ET.12A Uncertainty mechanism snapshot table, and NGET_A11.09 SF ₆ uncertainty mechanism					

5. The justification for our proposals

5.1 Enhancing the environment

We must act now to achieve net zero. Inaction could cost more to future consumers and risks escalating disastrous climate events. Our commitments for the environment and communities are influenced by net zero, global and government ambitions, stakeholder, society and end consumer impacts. We are signatories to the United Nation’s Global Compact, support their strategy to achieve the Sustainable Development Goals (SDGs) by 2030 and [report annually on our sustainability commitment](#). These goals promote prosperity while protecting the planet. Information on how these SDGs map to our business is [here](#) and how they map to our Environmental Action Plan is in annex NGET_A11.05. We have engaged with external experts to confirm that our commitments are stretching, as well as performing an external benchmarking exercise for our environmental and procurement activities. These can be found in annexes NGET_A11.03 Environmental Benchmarking and NGET_A11.04 Procurement Benchmarking.

It is important to us that we put back more than we have taken away and we leave a positive legacy for the long term. Guided by our construction [stakeholder, community and amenity policy](#), we already look for opportunities to enhance the environment and provide other lasting community benefits for those affected. For example, we have improved public pathways, planted trees, created new public spaces and even donated finds from archaeological investigations to local museums. One of the key challenges to becoming more sustainable is culture change and to address this we have included leadership targets in annex

NGET_A11.05 Environmental Action Plan (EAP).

These include both internal targets - to enable our employees to become leaders for change - and external activities to drive the agenda beyond our network.

i) Our climate commitment and sustainability leadership

Our stakeholders have been clear that they want us to focus on decarbonisation of our own business as the highest priority in this plan topic. As well as the increased awareness of society around the impacts of GHG emissions, the government has now legislated net zero which we fully support. The four largest direct contributors to our emissions are:

- electrical line losses, where electricity is lost as heat when transmitting electricity
- leakage of insulation gases that we use in our equipment, primarily SF₆ – scope 1
- transport – the fuel emissions from our operational fleet vehicles – scope 1
- energy use from our buildings – scope 2.

Figure 11.8 sets out our vision for how we can achieve a net zero pathway and what we need from Ofgem and the supply chain to achieve this. For more detail on our industry targets for net zero, please see the Executive Summary, net zero section and chapter 7 *We will enable the ongoing transition to the energy system of the future.*



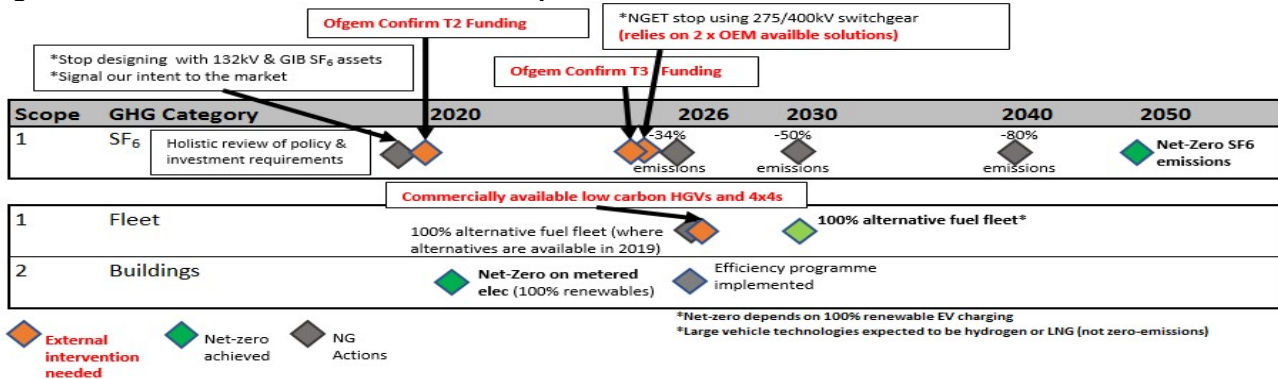
Transmission Line Losses

Category	Output	Cost (£m)
Transmission line losses	- report annually on the actions taken to reduce transmission losses – special license condition 2K	0.00

Key drivers – the largest source of carbon emissions is from transmission line losses (~1.5% of total)

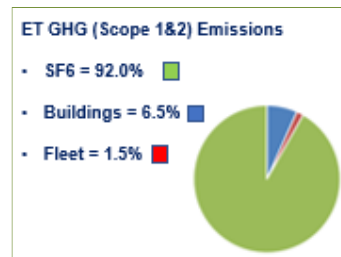
electricity transmitted and 1,295,484tCO₂e in 2018/19), which increases as the distance between generation and demand are increased. This is primarily influenced by the generation mix at any moment and the resulting system operation. As electricity generation continues to decarbonise, the carbon emissions from the losses will decrease. A transmission owner can influence only a small portion of losses through the assets they select for the system infrastructure.

Figure 11.8 Controllable GHG net zero roadmap



Options considered – We factor these losses in to our whole life value framework by applying a different carbon price to different conductors, which is how we select investments that are economically justified. For example, when selecting a transformer, loss capitalisation figures are applied to the investment. This capitalised loss figure is used in the tender evaluation ensuring that a lower cost/higher loss transformer is not favoured over a higher cost/lower loss unit. There is a trade-off between the reduction of losses and the associated increase in material costs required to achieve such a reduction. For the T2 period, we will improve how we report what we have done about transmission losses each year as part of our annual report on our EAP and to review our Transmission Loss Strategy - Special Condition 2K 2014, please see annex NGET_A11.11 T1 Transmission losses strategy.

Figure 11.9 England and Wales ET GHG emissions



Key drivers – SF₆ is the largest controllable element of our direct emissions at ~280,500tCO₂e in 2018/19. The RIIO-2 business plan guidance mandates a Science Based Target

(SBT), which externally verifies targets to limit global warming by 1.5 degrees Celsius. The SBT Institute have confirmed that ours would be a **50% reduction by 2030**, from a 2018/19 baseline. Our interim target for 2026 is calculated as 34% assuming a linear pathway. Given the SBT must be reached by scope 1 and scope 2 independently, and that fleet accounts for only 1.6% of scope 1, SF₆ alone must be reduced by at least 33%. In our recent consumer research, 60% of consumers want our business to be net zero by 2030 or 2040. SF₆ is a strategic issue for the energy industry, country, and indeed the world. We believe that to meet our stakeholders' needs **we must be more ambitious** than the SBT pathway defined.

SF₆ Emissions – Scope 1

Category	Output	Cost (£m)
SF ₆ Emissions Reduction UM	Reduce GHG emissions from insulating gases by at least 33% in the T2 period	UM
Leak detection and repair	Continue with leakage control through our incentive	ODI
Build with clean assets available now	Stop designing with 132kV SF ₆ assets in new builds by 2021	0.00
Plan to build with infrastructure with clean assets	Stop using 275/400kV SF ₆ assets in new builds by 2024 (once 2 solutions are available), sending clear market signals to support this (in 2020)	0.00
Total:		Dependant on output

Options considered – We are building on a set of principles developed from the initial draft investment programme, outlined in our October submission to allow: 1) the flexibility to respond to changing leaks within T2, 2) the flexibility to assess the best intervention for the asset and leak and 3) the ability to stretch beyond the Science Based Target (SBT) net



zero pathway. This uncertainty mechanism will fund us to make reductions in SF₆ emissions with the long-term aim for continued and permanent reduction that our stakeholders expect to see from us.

Ofgem asked that we provide information on what is needed to remove SF₆ from our system and where the carbon price is sensitive. **These investments are carbon price sensitive and the cost of carbon doesn't currently cover the investments required within this mechanism, with a focus on longer-term benefit.** There are two proposed treatments within this mechanism which we have named level 1 and level 2 below.

Level 1 – For reductions in SF₆ emissions up to our SBT net zero pathway in the T2 period, we are considering an approach which will build a value of SF₆ leakage reduction (or prevented) in £/kg.yr. For level 1, the uncertainty mechanism funding in £/kg.year would be based on the value delivered and expected period of effectiveness (life of the intervention). This rate will need to be defined through engagement with Ofgem ahead of T2.

Level 2 – For reductions in SF₆ emissions beyond the SBT net zero pathway in the T2 period, we propose an extension to the level 1 approach which would use the same mechanism but it would require a different calibration for the funding rate in £/kg.yr because in level 1 the simplest assets with the highest leak rate will have already been targeted. Thus, the remaining assets will be more complex and the volumes of leaks will be smaller, requiring us to spend more to get the same benefit. We expect level 2 to be defined by a non-linear calculation.

We will engage with Ofgem and consumers to fully develop this approach over the coming months, aiming to have both parts of the mechanism in place for the start of the T2 period in 2021. SF₆ reporting for the T2 period is covered in business plan data table *A6.5_IIGs_SF6_Incentive*, and all other emissions in table *A4.3BCF*.

Cost certainty – the specific £/kg.yr will need to be defined through additional consumer and stakeholder engagement ahead of the T2 period. Further information is provided in annex NGET_A11.09 SF₆ Uncertainty Mechanism and NGET_ET.12 Uncertainty mechanisms.

Fleet Emissions – Scope 1

Category	Output	Cost (£m)
Purchase and maintain 100% low carbon fleet, where market alternatives are available today (2019)	2 of 3 investments towards -34% emissions - to achieve a SBT net zero pathway -reduction of ~54% fleet emissions and -1% of scope 1 - we will install and maintain charge points across ET sites to enable our fleet commitment - work with the DNOs to ensure infrastructure efficiency. - ODI above 60%	PCD 36.05 11.43
Total:		47.49

Key drivers – The need to rapidly decarbonise the transport sector is recognised. Transport is the largest single sector contributing to Britain's emissions and also a major contributor to poor air quality in many of our cities, which is responsible for around [40,000 deaths a year](#)³. We have 836 commercial vehicles in our fleet, made up of panel vans, 4X4s and HGVs, and this contributes to 1.6% and ~4,500tCO₂ per year of scope 1 emissions.

Options considered – We want a 100% low carbon fleet by 2026, but today product availability limits us to 60%. We hope that by 2030 there will also be commercial availability of, low carbon 4x4s and HGVs so that we can complete the transition to alternative fuel fleet vehicles. We considered continuing with diesel vehicles throughout the T2 period and although ~£6m additional investment is needed for the EV switch, at a total of £36.05m, we will achieve a 54% reduction in GHG emissions and a 60% reduction in air pollutants by 2026. This will then be the starting point for the T3 period. The calculated societal benefit for improved air quality and climate mitigation is ~£0.5m. We also expect cost parity in the T3 period once EV technology has matured. Our 60% alternative fuel fleet plan has been verified through engagement with all mainstream low carbon vehicle manufacturers as well as some start-up businesses. Any progression beyond this could only be realised by changes in manufacturer product availability.

There is a strong requirement for charging infrastructure to support the fleet. As we are unable to rely on home charging being sufficient for longer distance travel or multiple users and there is uncertainty about the development of public infrastructure in the T2 period, we must install vehicle charging points at 234 of our 273 sites to service 60% of the fleet. The cost of this is £11.43m for installing and maintaining this charging infrastructure over the T2 period and this cost is now included in our baseline numbers. We will take a **Whole System** approach, working with the DNOs to ensure optimum rollout of charging infrastructure.

Cost certainty – Cost justification is based on quotations provided directly by vehicle manufacturers and quotations for charging infrastructure at a sub-set

³ per the Royal College of Physicians



of pilot substations. Details can be found in annex NGET_A11.10 EV Fleet Justification Report.

Buildings Emissions – Scope 2

Category	Output	Cost (£m)
100% renewable sources for metered electricity at offices and substations	3 of 3 investments towards 34% emissions reduction to achieve a SBT and a net zero pathway - PCD	0.00
Efficiency First - Offices	We will decrease the carbon emissions from our office energy use by 20%	0.00
Efficiency First - Substations	We will create a substation energy efficiency programme	0.00

Key drivers – Buildings emissions account for all of our scope 2 emissions as defined by Ofgem and are currently around 19,000 tCO₂e annually and 6% of our total business carbon footprint.

Options considered – There are limited options when switching energy provider besides ensuring a competitive deal and a guaranteed renewable supply. There is a risk that as commitments to renewables become more mainstream for businesses, renewable tariffs will become more expensive. This additional premium for a renewable tariff is currently 1-1.5% on top of standard tariffs, and could increase further. Therefore, we will focus firstly on the efficiency of our energy use, reducing it down by 20% in our offices and implementing an efficiency programme in our substations too. We will then ensure additional renewable generation is secured and contracted long-term, to meet our needs, which will both protect consumers from potential market induced premiums, and contribute to the additional clean generation that is needed on the grid. Within our energy efficiency programme, there will be many options for improvement including switching to LEDs, installing solar power and improving the efficiency of buildings. We believe that many of the options will have a clear pay-back period within the T2 period and therefore no funding is requested for this work.

Indirect Emissions Reduction - Scope 3

Category	Output	Cost (£m)
Business travel	Reduce carbon emissions for our business transport by 10%	0.00
Capital carbon (construction)	Net-zero emissions – based on applying PAS 2080 and current business assumptions	2.50
Supply chain emissions	75% of National Grid's top 250 suppliers (by category/spend) will have carbon reduction targets	0.00
Total:		2.50

Key drivers – There are GHG emissions associated with our construction projects. These 'capital carbon' emissions are from the extraction of raw materials to make equipment, transport, manufacture and finally installation of this equipment on our sites. These are not included in our business carbon footprint (BCF) calculations but at ~31,000tCO₂e, are currently equivalent to ~9% of our BCF (excluding losses). As

well as benefitting the climate, there is a direct correlation between reducing capital carbon and reducing cost on our projects. Our data shows that saving 10% of carbon correlates to up to 4% reduction in capital costs. However, it is difficult to fully attribute savings to efficiencies that are solely driven by a focus on carbon. As well as our own direct emissions, we have started to track our supply chain carbon through the carbon disclosure process, where we can generate even larger societal benefits.

Options considered – To minimise carbon from our construction projects, we follow the principles of build less, build clever and build efficiently, as outlined in PAS2080. During the T1 period, we have successfully implemented many initiatives enabling us to design and build more efficient projects, one example includes reusing foundations as the new default which was a significant change to our civil engineering specifications. We have also developed a carbon hotspots report so we can target these areas where our emissions are highest. In addition, are working with procurement to ensure that carbon reduction is embedded within our contract frameworks, pushing the improvements through our supply chain.

For the T2 period, we will continue to further align to PAS2080 and embedding best practice and carbon reduction opportunities with the ambition to achieve net-zero carbon construction by the last year of the T2 period. We will offset any remaining emissions that cannot be eliminated cost effectively or technically. There are several offsetting options available to us including afforestation, reducing deforestation, supporting woodland management, energy efficiency projects and supporting community renewables. Our focus will follow a best practice framework using a hierarchy which starts with the use of our own land in the first instance, then within the local communities impacted by our projects and then using national projects to achieve the best environmental and social outcomes.

Cost certainty – Using our current estimates for the T2 period and the carbon impact of historically tracked schemes in the T1 period, our conservative estimate against a forecast £870m of capital delivery schemes capex in 2025/26, will equate to a maximum of 180,000tCO₂e (approx. 207tCO₂e/£1m spend). A value of £2.50m to offset this been estimated, using an approximate carbon price of £13/tonne of CO₂ and assuming that this offsetting is achieved through afforestation. This estimate is based on two quotes, one from the Woodland Trust to purchase 750,000 trees to offset the 180,000 tCO₂e at £2.70m and the second from the Carbon Trust at £2.30m. We are confident that as this forecast spend is in the last year of the T2 period, we will have better defined the chosen option and associated costs. There is a risk that increased sustainability in business will drive up offsetting or low carbon material costs. Therefore, we



will cap the offsetting spend at £2.5m, to protect consumers from the risk of increase in offsetting costs in 2026.

Sustainability leadership

Category	Output	Cost (£m)
Lead in transparency on natural capital and capital carbon	We aspire to a consistent industry approach to capital carbon and natural capital impact evaluation	0.00
Lead in responsible business reporting	An annual report detailing progress on our environmental and fairness focused charter commitments	0.00

We are industry leaders on reducing carbon in capital projects and on our approach to natural capital. We will openly share expertise, data and tools with our stakeholders, primarily the other TOs, with the aim of accelerating improvements across the Whole System.

We will be **advocates for sustainable and responsible business** across industry and with our consumers by:

- publishing a transparent annual report of progress on our responsible business commitments
- being active members of industry and working groups
- continuing to engage with the public through our education centres and community events.

To show environmental leadership in our own organisation, we will:

- develop a **culture** which empowers employees to reduce their environmental impacts
- embed sustainability in our decision making by expanding our approach to carbon pricing and looking at other areas of environmental impact
- implement employee remuneration driving accountability for environmental performance.

ii) Enhancing the natural environment and preserving precious resources

Category	Output	Cost (£m)
Improving environmental value by 2% annually	10% increase in environmental value on all non-operational land by the end of the T2 period, prioritising deprived urban areas. ODI above 10%.	0.00
Construction project net gain	10% net gain on all construction projects including 3 rd party works	0.00
Waste and water usage	20% water (litres) and waste (tonnage) reduction	0.00
Recycling	Zero waste to landfill for Construction. Baseline and set a target for construction waste recycling in 2020/21. Achieve 60% for ops and office	0.00
Oil Management	We will maintain our high standards of oil containment and pollution management	0.00
Sustainable sourcing	We will implement the ISO20400 sustainable sourcing process	0.00
Extending asset life, designing for reuse / recycling and using recycled materials	We will implement circular economy pilots across the business	0.00

Drivers – The 2019 report by [RSPB, The State of Nature](#), suggested that the UK is one of the most nature-depleted countries in the world. More recently the [UK Government's 25 Year Environmental Plan](#), published in January 2018, sets out a comprehensive long-term approach to protecting and enhancing the environment. The vision at the heart of the plan is that the current generation will be the first to leave the environment in a better state than it was found.

Additionally, the Natural Capital Committee's recommendation to the UK Government, calls for organisations to create their own register of natural capital that they are responsible for, is a responsibility that includes maintaining the quality and quantity of the assets listed. We expect a 10% net gain to be legislated circa 2022 for all construction projects subject to the Town and Country Planning Act.

Options considered – We own significant areas of land across the UK, 2798 hectares for ET. When we construct and maintain our assets, we have an impact on the land and local habitats, and therefore want to ensure we leave the land in a better state by following the principles of net gain in environmental value (and biodiversity). If left unmaintained, natural habitats will depreciate with time.

We will use our natural capital valuation tool to build a natural capital inventory of assets we own and are responsible for and will include Biodiversity. We plan to increase the value and resilience of our natural assets, to make sure they can deliver the ecosystem services that we and our wider beneficiaries need, in the most cost-effective way possible.

We will work collaboratively in the T2 period to develop and pilot a robust methodology for assessing natural capital impacts and opportunities associated with electricity transmission activities. The approach will reflect best practice and complement the biodiversity net gain methodology. We will also expand our approach of achieving a net gain in environmental value in major work by applying it to all construction projects that impact our non-operational land. We will not seek funding for these outputs.

Throughout the T2 period, we will continue to focus on resource use throughout the asset lifecycle of procurement, operation, refurbishment and decommissioning. We have also set specific targets for our construction programme, which we will work with our contractors to deliver. Some of these will be baselined over the remainder of the T1 period so that we can set quantitative targets for the T2 period.



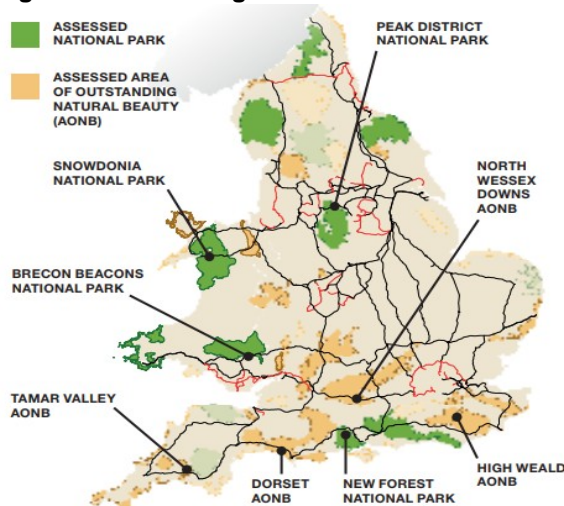
iii) Improving the visual impact of existing infrastructure in designated landscapes

Category	Output	Cost (£m)
Visual Impact Provision	# of kms of overhead line removed from designated landscapes	202.36
Total		202.36

Key drivers – We have received feedback from consumers in several large studies (willingness to pay/acceptability testing) demonstrating that people support the undergrounding of existing pylons to improve landscapes. This is especially important in National Parks and Areas of Outstanding Natural Beauty, where our pylons can be considered to have a negative visual impact. Ofgem’s 2018 sector specific consultation concluded that there should be a T2 provision for reducing visual impact in designated landscapes, and that the Landscape Enhancement Initiatives (LEI), which historically is for lower-cost projects, should also continue. On average, over 10m visitors spend over £1bn in National Parks each year, which provides an economic benefit to the local area. Per our 2016 acceptability study, 66% of people in the lowest income group have visited National Parks, which demonstrates how people from all walks of life would benefit from the improvement of our natural landscapes.

Options considered – We will continue with the robust stakeholder-led process for selecting VIP projects for the T2 period, which has received excellent feedback. The Stakeholder Advisory Group (SAG) have reviewed the original shortlist of projects identified, aiming to select several projects for approval within the T2 period. We have not yet carried out detailed design work to confirm their feasibility. However, we have estimated that the cost of delivery of these could range from £50m - £750m, depending on the number of new T2 projects that are approved. This is within the cost limit identified in the latest Willingness to Pay study, and much of the spend would fall in the T3 period. We have included a forecast of £202.36m in the T2 baseline business plan

Figure 11.10 The original shortlisted sites for VIP



to cover the cost of completing projects that have, or we hope will have, been approved by Ofgem during the T1 period.

VIP methodology – Below is an outline of the steps within the robust project selection process, set up in the T1 period.

- Landscape and visual impact assessment – identifying sections of overhead lines that have the most significant impacts on the landscape.
- Development of options – exploring the technical feasibility of schemes with input from environmental and landscape consultants.
- Progression to development – we assess the merits of each option by comparing it against the VIP guiding principles.
- Agree schemes – development of the chosen projects to allow an informed funding application to be sent to Ofgem. This includes a planning application for each scheme and associated tenders for their construction.

Cost certainty – To ensure value for money on the T1 projects, we are running specific market tenders. For Dorset, Ofgem undertook a rigorous bottom-up cost analysis exercise where they agreed that our procurement process was robust and approved efficient costs (£120m of £122m in 2018/19 prices). The £2m reduction was associated with identified risks that hadn’t materialised and some of the non-tendered costs. We have a dedicated team who continue to compare our undergrounding costs with previous projects so that we can benchmark this with received tenders.

For new VIP projects in the T2 period, the size of the provision will be set based on new willingness to pay studies and other relevant information. As in the T1 period, this provision will be released during the T2 period by TOs making successful funding submissions. Ofgem’s decisions in this area mean that it is not appropriate for us to define these projects now in our baseline business plan, because we are not seeking funding as part of this price control review process. For LEI projects, Ofgem have decided that the T2 funding will be set at an indicative 2.5% of the final provision. A stakeholder-led change for the T2 period is that the £200,000 individual project limit has been removed, which stakeholders feel could lead to more ambitious projects being proposed. We also propose to improve the T1 period process by appointing a grant management company to oversee the funding applications from stakeholders, which will streamline the process. In line with Ofgem’s consultation, we are proposing that the independent sub-panel of the SAG would decide on the funding requests for the LEI and report annually on project delivery and expenditure.

We will continue to work with Ofgem, the Scottish TOs and other stakeholders to assess the size of the T2 provision for new projects. For further information on



our proposal for the T2 project provision, please see annex NGET_A11.12 VIP Project Provision Proposal. If you would like to submit your views, please contact the VIP team, visualimpact@nationalgrid.com

5.2 Making a positive contribution to society and the communities we work in

The recent '[State of the Nation' report from the Social Mobility Commission](#) presented worrying findings that social mobility has stagnated. More must be done by all both public and private sectors to support citizens of disadvantaged backgrounds earn more and contribute equally to shaping our society.

We want a future where disadvantaged citizens have the same opportunities to take part in the green transition as the rest of society. We also believe that as an engineering business, it is vital to commit to maximising the current workforce and stimulating the industry pipeline of future engineers for this purpose.

To meet our vision to 'exceed the expectations of our communities', our commitments will focus on social mobility outcomes through education and employment, continuing to listen to the needs of the communities we impact.

i) Supporting local communities

Category	Output	Cost (£m)
Communities impacted by construction	Communities close to a major project - assign up to £7.5m of construction projects to focus on local employment and STEM engagement with every local state owned school - above what is mandated through planning	0.00
Community-led grants	A community-led investment, where a local project can apply to us for up to £20k where they are impacted by our construction works and £10k near our operations.	0.00
Communities impacted by operation	Urban Improvement Provision (UIP) to improve our assets or public spaces near to our operations.	50.00 - not in baseline
TOTAL	*major project - defined as lasting 1 year or more, in this case	50.00

Key drivers – We recognise that whenever we are developing our transmission network, it can impact and be disruptive for a community. We receive consistent feedback that we should take care of the communities we work in and do more to support them, where this fits with our core skills. The Independent Stakeholder Group have also asked us to consider our visual impact policy in urban areas.

Options considered – As a large employer of STEM skillsets, we have a fantastic opportunity to engage and stimulate an interest in these subjects. We initially looked at engaging with every school in and around a construction project, however, we have decided to focus on state schools and those in **deprived communities first**. This will enable us to prioritise our strategic direction on supporting low income communities to achieve social mobility outcomes. As

well as inspiring the future workforce, we will prioritise the current **local workforce** for our work on major construction projects.

We know that in some cases, education and employment alone might not be the right fit and therefore have decided to continue to offer the **community-led grant scheme** through the T2 period. This scheme offers communities impacted by our work, the opportunity to choose their own positive enhancement project.

We have responded to a challenge from the Independent Stakeholder Group by creating a commitment to **disadvantaged urban communities**. Having received strong support from consumers, through our acceptability testing workshops, we believe this commitment will add value. We propose that the fund would be governed by an independent stakeholder group, consisting of regional representation and an independent chair. Projects would be proposed to the group for assessment and prioritised against a hierarchy which looks to improve our existing assets first, then close public space or improving our assets in other areas where there are known asset opportunities. These projects could include, for example, green spaces, substation screening or heating local sites from our transformers.

Cost certainty - We will refer to this commitment as the Urban Improvement Provision (UIP) and we propose a maximum pot size of £50m. We will liaise with the Scottish TOs to assess whether this provision would also be relevant in Scotland. This provision been calculated based on the VIP pot size of £500m equalling £4.14 in the willingness to pay results for National Parks. Consumers were willing to pay an additional £0.67 for visual improvements outside of National Parks. Taking the same ratio against the two values, across the three TOs, this amounts to circa £86m in total with 58% of that being £50m for spend in England and Wales.

ii) Supporting wider society

Category	Output	Cost (£m)
UK Skills Pipeline	Provide skills development which will increase employment potential for 6,000 people, focussing on the low-income communities we serve	0.00

Key drivers – Our stakeholder opinions on support for the **vulnerable and fuel poor** are mixed because we don't have direct consumer contact. We strongly believe however that everyone in the energy system has a responsibility to help those in fuel poverty.

Nationally, the STEM shortage continues. The [Engineering UK 2018 report](#) showed that engineering



companies will need 203,000 more people with Level 3+ engineering skills every year, to meet demand up to 2024.

Options considered – As well as looking to inspire future generations locally to our construction projects, we have an opportunity to impact the national skills pipeline. We are developing national and local skills development partnerships and initiatives, with a focus on the lower income communities we serve. We aim, across the UK businesses to give access to 6,000 young people from these communities over the next five years, tracking their progress from first interaction right through to potential employment in National Grid, our partners, our suppliers, or adjacent companies and industries. We will also focus all our employee volunteering towards developing skills for low income communities to take part in the green transition.

We received a suggestion from the Independent Stakeholder Group that we should work with organisations that support vulnerable consumers to provide centralised resilience advice. These organisations connect to distribution networks, not transmission, and so it's not appropriate for us to deal with them directly. However, we will continue to play an active part in local resilience forums, including working with DNOs where relevant.

iii) Community prosperity through employment and our supply chain

Category	Output	Cost (£m)
Inclusion and diversity	Increase numbers of diverse hires every year and transparently report on workforce diversity.	0.00
Living wage champion	We require all our suppliers, to pay the real living wage to their UK workers and will verify this at Tier 1 in relevant categories.	0.00
Supply chain skills	Request that a minimum of 5% of the supply chain technical headcount is upskilled annually.	0.00
Modern slavery and human rights	Address potential supply chain human rights risks and continue to measure our position in the index of modern slavery .	0.00
Supply chain equal opportunities	Promote equal opportunities in the supply chain .	0.00

Key drivers – Being disadvantaged means that there are more barriers a person must overcome before they or their family can change their circumstances. People from **working class backgrounds** face the highest levels of unemployment. We believe more needs to be done to champion social mobility outcomes within business.

Diversity and inclusion are also very important to us because **by being diverse** we amplify the range of ideas and innovation that our people can generate as well as enabling our people to thrive in a culture that represents the communities we serve.

Our reach as a business is wider than our direct impacts. In the same way as our daily activity can drive change, we want our **procurement activities** to drive a positive environmental, social and economic impact too.

Options considered – We have signed the [social mobility pledge](#) and we will work towards adopting apprenticeship and recruitment practices that **remove barriers to entry** and **promote a level playing field**.

We have committed to pay all our employees and contractors working in the UK the **real living wage** as defined by the Living Wage Foundation (LWF). In the T2 period, we will now assure this is being applied at Tier 1, in relevant low wage categories. We will also request that Tier 2 sub-contractors do the same.

We need to expand our ambition for inclusion and diversity from our current focus on minority group representation to greater inclusion as an essential characteristic for our leaders and workforce. This approach will offer support across all diversity groups. We believe that we, and the wider energy industry, should be more representative of, and reflect, all aspects of diversity in the communities we serve. Every year, we will increase the number of hires from diverse backgrounds at a greater proportion than within the overall National Grid workforce today. We are committed to transparency and reporting annually on our progress on BAME and female representation on our Board, at Manager level, amongst new joiners, and our workforce as a whole.

We will use our position as a large purchasing organisation to drive positive change down the supply chain. We will further embed sustainability and responsible sourcing in the procurement tender process and be more proactive through our contract management in the T2 period. We will hold our suppliers to account in relation to the Supplier Code of Conduct and encourage adoption of the Supplier Code of Conduct beyond our Tier 1 suppliers.

Our investment expenditure on the environment and communities is relatively small because costs are mostly embedded in the way we construct and operate our network. Although the VIP programme started at the beginning of the T1 period, because of our extensive engagement with stakeholders, the first project (in Dorset) only gained approval in 2019 and is due to complete in 2022. Therefore, expenditure increases in 2020. Our plan includes our best view of the projects we have started in the T1 period. For further information, please see annex NGET_A11.06 Ethical Procurement Plan Action Plan.

Cost justification – Past successful engineering and asset management efficiencies are built into our forecast costs for this stakeholder priority. We are making stretching commitments to future efficiencies, applying a **£1.3m productivity commitment** to improve the productivity of our people by 1.1% year on year. Further detail is provided in Chapter 14 – *Our total costs and how we provide value for money*.



6. Our proposed costs for the T2 period

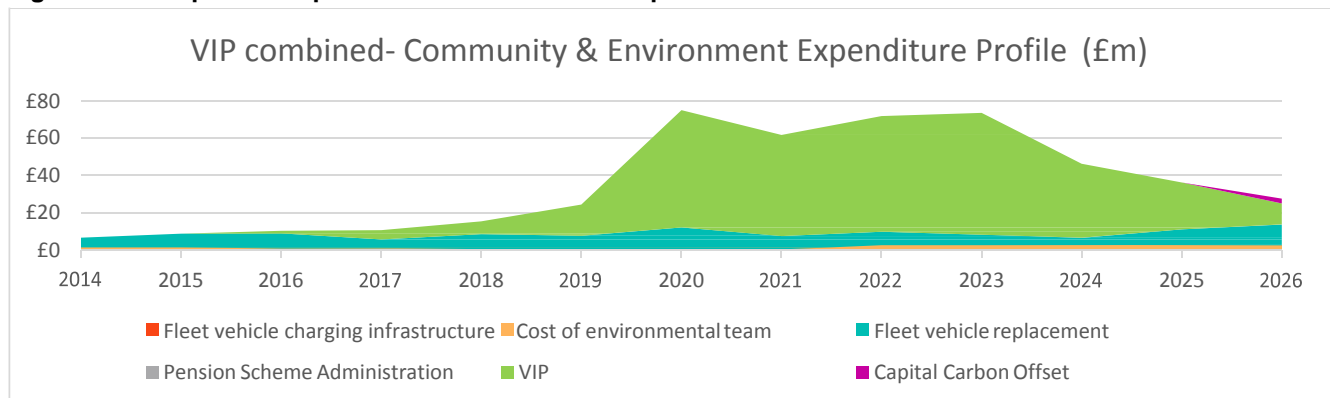
Table 11.11 Proposed baseline costs

Baseline proposals £m 2018/19	21/22	22/23	23/24	24/25	25/26	T2 Total	T2 Annual	T1 Annual	Subject to native competition	Internal historical benchmarks	External benchmarks
Environment team	0.51	0.51	0.51	0.51	0.51	2.54	0.51	0.99	✓	✓	✓
Fleet vehicles	7.19	5.66	3.80	8.30	11.11	36.06	7.21	7.41	✓	N/A	✓
Fleet vehicle charging	2.24	2.28	2.41	2.36	2.14	11.43	2.29	-	✓	✓	✓
Capital carbon offset	-	-	-	-	2.50	2.50	0.50	-	✓	N/A	✓
VIP - Dorset	11.35	0.41	-	-	-	11.76	2.35	13.23	✓	✓	✓
VIP - Snowdonia, Peak East and North Wessex Downs	50.36	64.49	39.40	25.08	11.26	190.59	38.12	4.82	✓	✓	✓
Sub Total	71.65	73.35	46.12	36.25	27.52	254.88	50.98	26.45	High cost confidence		
Pension allocation						0.48					

*Business Plan Data Table Reference Opex for environment team, fleet maintenance and offsetting costs D4.5 CAI, fleet & charging capex D4.3a, VIP C2.26

Additional UM proposals	21/22	22/23	23/24	24/25	25/26	T2 Total	T2 Annual	T1 Annual	T1 Total	Proposed as UMs
Urban Improvement Provision (UIP)	10	10	10	10	10	50.00	50.00	0.00	N/A	Proposed as UMs
SF ₆ Emissions Reduction UM	TBD	TBD	TBD	TBD	TBD	150.00	30.00	0.00	N/A	
Total	TBD	TBD	TBD	TBD	TBD	200.00	200.00	0.00		

Figure 11.12 Expenditure profile across the T1 and T2 period



7. How we will manage risk and uncertainty

For net zero – we will work with Ofgem ahead of the start of the T2 period to confirm an appropriate Uncertainty Mechanism which will allow investment to flex for critical SF₆ interventions. We need flexibility to do due diligence on the right solutions which balance existing work and system access, with technical solutions, our emissions targets, ambitions and affordability, in-line with stakeholder needs.

For VIP - Ofgem agreed the funding for the Dorset T1 period visual impact project based on a latest assessment of the costs of the scheme. We will go through an approval process with the other T1 period schemes with Ofgem using the most up-to-date costings. This will give us fixed allowances for these

projects. For new T2 period VIP projects, the SAG will conduct the agreed assessment process to

determine which are the most beneficial projects.

Once the SAG has identified the T2 period schemes and done more detailed costings, we will need to apply to Ofgem for the funding, which they will scrutinise in detail and if applicable, approve the funding within the T2 period. This process means the decisions on funding will reflect the most up-to-date cost estimates. We will continue to work with Ofgem, the Scottish TOs and other stakeholders to assess the size of the T2 provision for new VIP projects. For further information on our proposal for the T2 project provision, please see annex NGET_ A11.12 VIP T2 Project Provision Proposal. For details of our proposed Uncertainty Mechanisms, please see annexes NGET_ET.12 and NGET_ET.12A.