



**SP Distribution Annual  
Environmental Report**  
2023/2024

# Contents

[A message from our CEO](#)

---

[High level highlights](#)

---

[Purpose of this report](#)

---

[Who we are](#)

---

[Sustainable Business Strategy & SDGs](#)

---

[Commitments update](#)

---

[Performance dashboard indicators](#)

---

[Key priority areas](#)

---

[Sustainable Society](#)

---

[Supply Chain Sustainability](#)

---

[Climate Action](#)

---

[Action for Nature](#)

---

[Circular Economy](#)

---

[Data and assurance](#)

---

[Key Performance Indicators annex](#)

---

[Commitments annex](#)

# A message from our CEO

I'm delighted to introduce the first RIIO-ED2 Annual Environmental Report. This is a pivotal moment and the actions we take matter. At SP Energy Networks our vision is to be a fully sustainable networks business for people and planet.

In this report, we provide an overview of our environmental and sustainability performance and give progress updates on our RIIO-ED2 commitments. A full list of our commitments giving a detailed update on each can be found in our RIIO-ED2 Annual Environmental Report Commitment annex at the end of this report.

We continue to plan the development of our network to ensure we deliver value and benefits for people and communities across our licence areas, whilst ensuring none of our customers are left behind. We are committed to becoming a fully sustainable networks business and will play our part in enabling societal decarbonisation whilst implementing improvements to achieve our goal of a net positive impact on people and planet.

We have committed to publish an [Annual Just Transition Report](#), following the publication of our Just Transition Strategy in 2023, which we did for the first time in September 2024. The first of its kind for a UK electricity network company, this strategy showcases our strong track record of prioritising the needs of our communities and articulates our future plans to support customers and enable transformational change to ensure a more sustainable future for all. We also launched our Year of Sustainability during 2023, a fresh approach to internal communication and training to provide all our staff with the knowledge they require to play their part in the sustainability transition.

We are in a climate and biodiversity crisis. We must halt the UK's loss of biodiversity and focus on the restoration of the 50% of our plants and animals that have disappeared since the industrial revolution. In 2024 SPEN launched our [Action Plan for Nature](#), recognising our role in delivering Nature Positive by 2030 and detailing our commitments and actions we plan to deliver through innovation and partnerships.

As a business, we are proud to be leading the way towards a Net Zero Greenhouse Gas (GHG) future. We have set validated Science-Based Targets (SBTs) across all scopes to ensure we are reducing our direct and indirect carbon footprint in line with the latest climate science to ensure global warming is limited to 1.5°C above pre-industrial levels. During the year we reduced our Scope 1 and 2 GHG emissions (excl. Losses) by 36% from our 2018/19 SBT baseline.

Our actions to become a fully sustainable networks business are already being recognised, as we achieved Planet Mark certification for the 8th year in a row. We have started the transition from diesel to hydrogenated vegetable oil (HVO) for our generators. This year our carbon emissions from generator fuel use were reduced by over 30% by switching to HVO, see [Generator fuel use](#) section for recommendations on 'Responsible sourcing of HVO'.

We are acutely aware that we cannot decarbonise without bringing our supply chain along with

us. That's why we have been working closely with the Supply Chain Sustainability School to support our suppliers and make sure they have the necessary tools to begin mapping out their own route to Net Zero GHG. Already, 63% of our priority distribution suppliers are meeting our environmental sustainability standards in our contracts.

I am proud of the positive impact we are making, and I want our staff to continue to feel empowered by working for a company that takes proactive steps to act on global and local issues. We want to empower and deliver social, environmental and economic benefits within the communities we serve to deliver a just transition for all. We are only at the start of the long journey to Net Zero GHG, but we will be continuing to work in collaboration with all our partners while taking bold actions to create a better future for all.

**Nicola Connelly**  
CEO, SP Energy Networks



**Contents**

# High Level Highlights

## Year of Sustainability

In April 2023, we launched our Year of Sustainability campaign with the aim to deliver 12 months of knowledge-sharing opportunities, case studies, workshops and challenges to help prepare us for working towards a sustainable future. For further details please go to the [Delivering a Sustainable Network](#) section below.



## Switch to HVO for generators

We have started the transition from diesel to hydrogenated vegetable oil (HVO) for our generators. This year our carbon emissions from generator fuel use were reduced by over 30% by switching to HVO. We have partnered with the Supply Chain Sustainability School and other partners who operate in the built environment, to develop guidance for the responsible sourcing of HVO, see [Generator Fuel Use](#) section for further information.

## Planet Mark Certification

This year we achieved Planet Mark Business Certification of our Business Carbon Footprint for the 8th year, in accordance with ISO 14064-3 (2019). Planet Mark's Code of Practice adheres to the highest of recognised standards and is administered by an independent Advisory Panel composed of leading academic and industry experts.



## Iberdrola ESRS Gap Analysis and Double Materiality review

During 2023 we performed a sustainability due diligence and double materiality review in line with European Sustainability Reporting Standards (ESRS) guidance and in conjunction with our parent company Iberdrola SA. This aims to assess our operational impact and financial materiality allowing us to implement mitigations, set objectives and measure our performance.

## Global Good Awards 2023

We were delighted to be recognised as a finalist by the Global Good Awards for our commitment to supporting regional and national ambitions as well as our own sustainable business strategy. We achieved a bronze award for Sustainable Supply Chain of the Year and for the 2nd year in a row, achieved silver for Climate Action: Race to Net Zero category.



## Independent Net Zero Advisory Council

An independent group of energy industry experts that we created to bring the voice of customers and stakeholders into the heart of its business marked its first anniversary in 2023.



# Purpose of this Report

This Distribution Annual Environmental Report for regulatory year 2023-24 (1st April 2023 to 31st March 2024) published on 31st October 2024, provides a comprehensive update of our performance against key metrics and our ongoing progress to deliver our [RIIO-ED2 Environmental Action Plan](#) commitments. It sets out our key activities to progress these commitments and gives examples of how we are supporting the societal transition to a low-carbon economy whilst seeking to minimise our impacts on the environment.

# Who we are

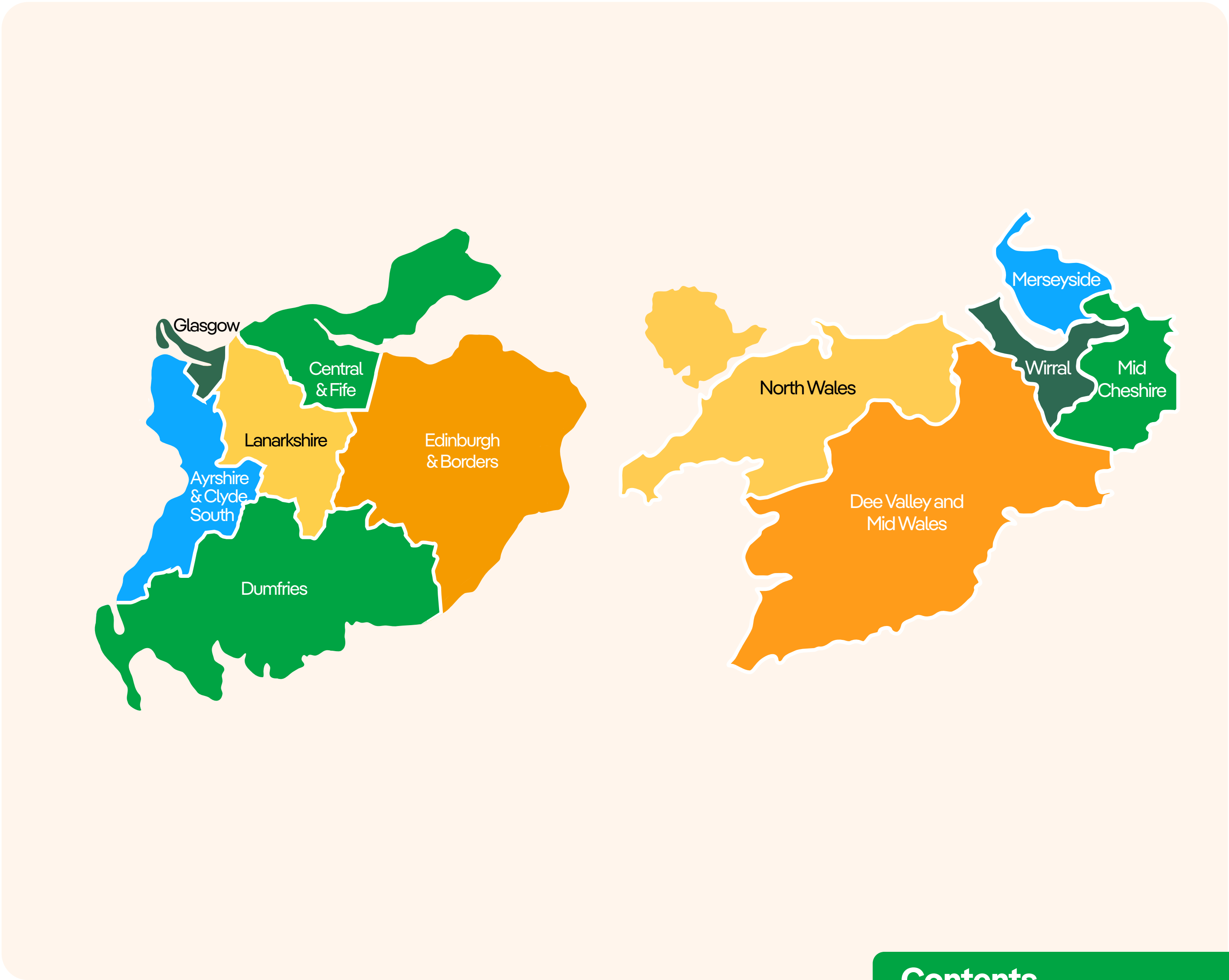
SP Distribution plc (SPD) and SP Manweb plc (SPM) are wholly owned subsidiaries of SP Energy Networks (SPEN). SPEN is a subsidiary company of ScottishPower UK plc, which is in turn part of the [Iberdrola Group](#), one of the world's largest sustainable utility companies and a Dow Jones Sustainability Index and Global 100 listed company. It's our job to move electricity to and from homes and businesses over our network. We operate in three of the UK's largest cities (Liverpool, Glasgow & Edinburgh) accounting for 1.6m (43%) of our customers, as well as three significant rural areas (North Wales, Scottish Borders and Dumfries & Galloway). Our highly trained and specialist staff work 24/7 to maintain the performance and safe condition of our electricity network, respond to customer enquiries and restore the supply as quickly as possible when a fault occurs on the network. Please visit our website for more information: [What We Do - SP Energy Networks](#).

Overhead lines  
**38,000km**

Underground cables  
**69,000km**

Substations  
**34,000**

Distribution workforce  
**2,600** | **2,500**  
internal employees | contractors



[Contents](#)

# Sustainable Business Strategy

A sustainable electricity network connects renewable energy from generators to consumers. Whilst SPEN distributes energy from all sorts of generators, we are building the network to facilitate more renewable generation to meet the UK's Net Zero GHG ambitions. While building and operating our network to deliver renewable energy, we must ensure that our operations are sustainable from an environmental, social and economic perspective.

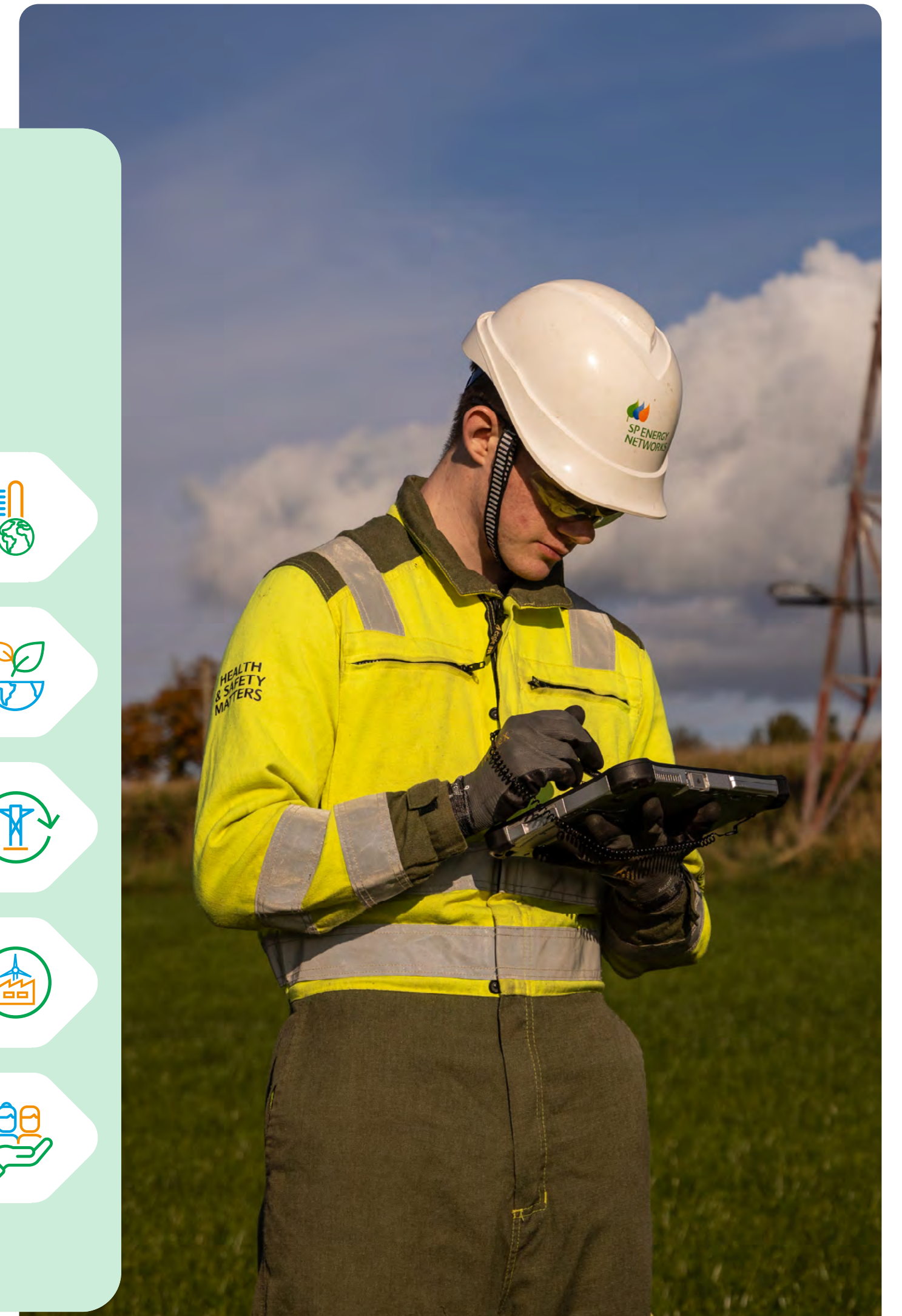
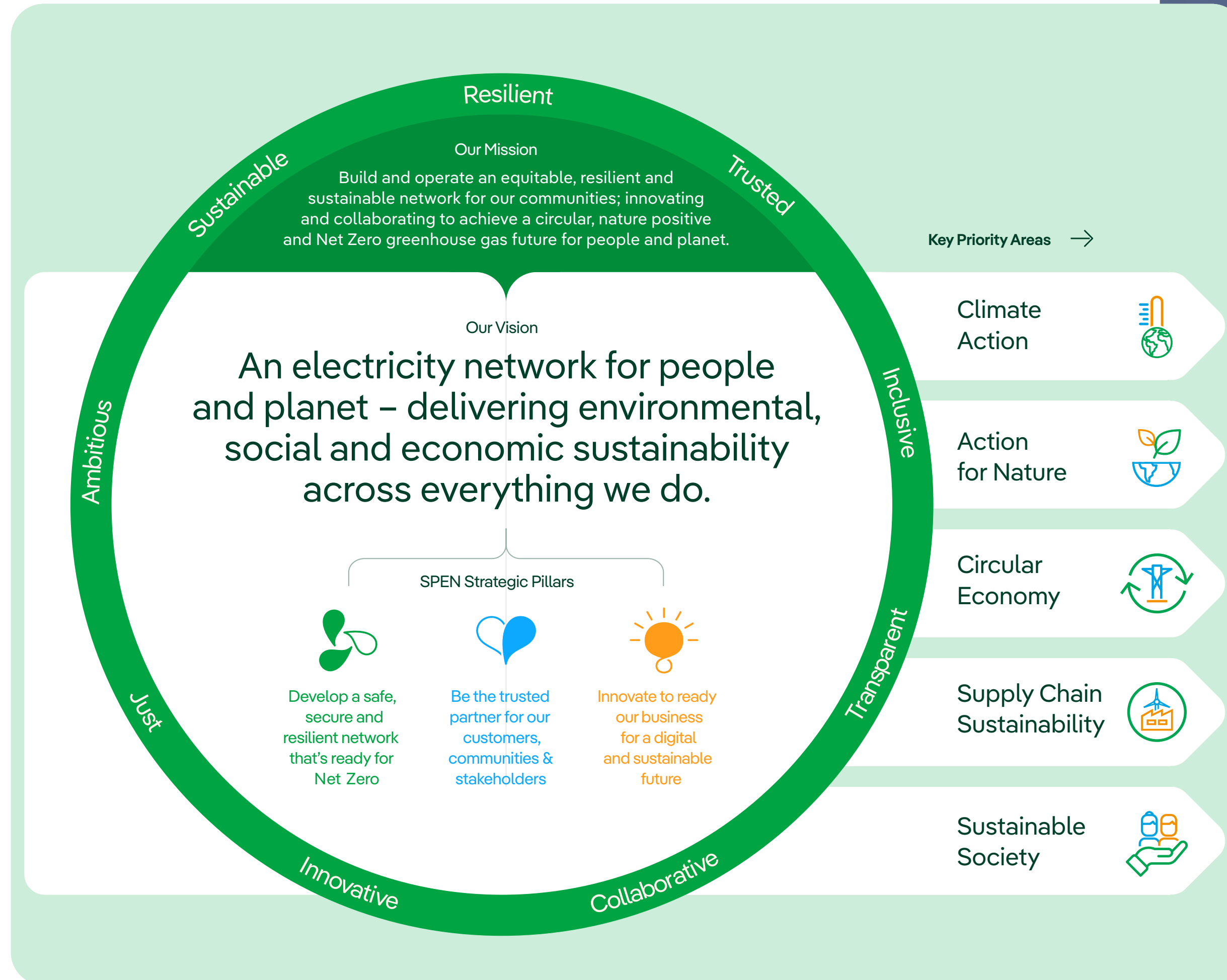
Our [Sustainable Business Strategy](#) has been developed through several years of collaboration with our stakeholders and is regularly updated in response to internal and external policy developments. Our aim in publishing this Strategy is to develop and share our approach to meeting the climate and biodiversity emergencies while delivering social, environmental and economic value to our customers and stakeholders.

## Our Sustainability Priorities

We have a clear picture of our sustainability impacts through:

- Stakeholder engagement
- Our environmental management system
- Delivery of our actions to date.

From these impacts, we have created five priority areas for action, identified by the icons to the right of this graphic.



[Contents](#)

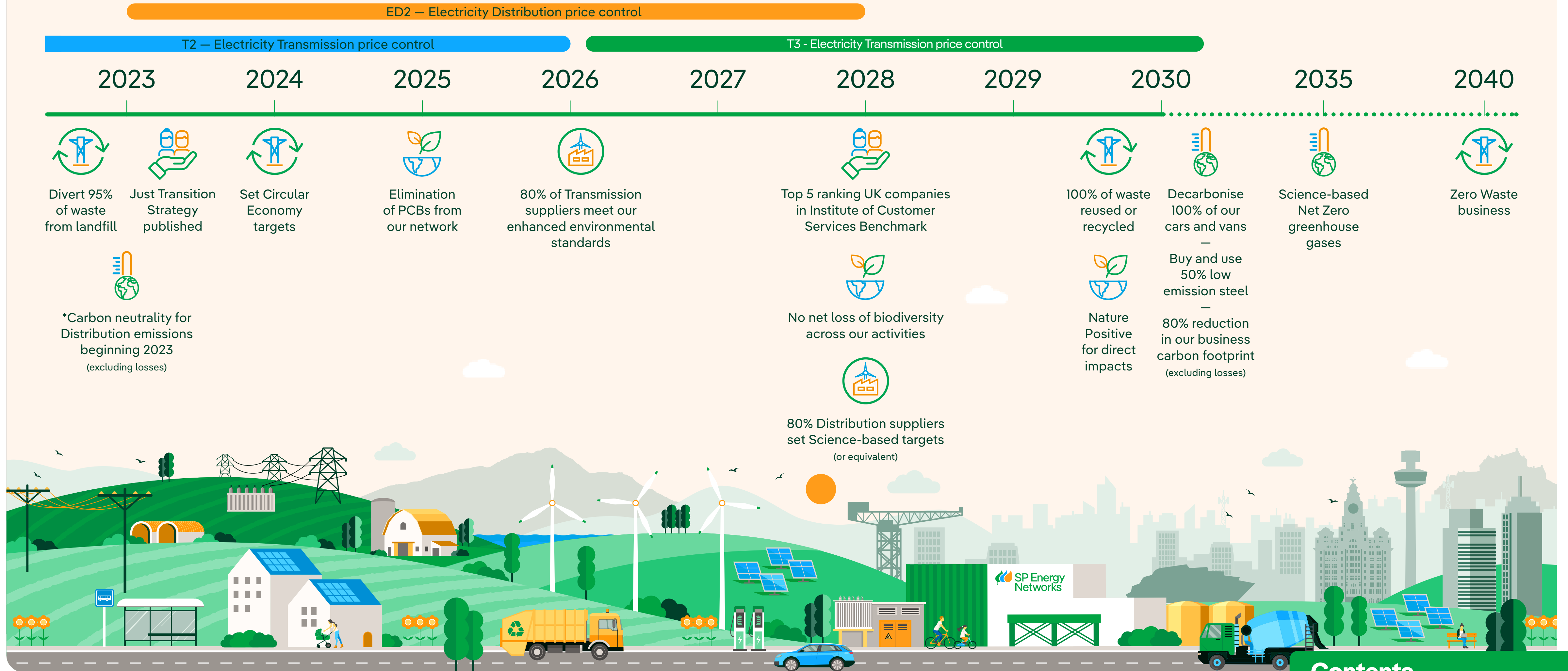
## Our Roadmap to a Sustainable Network

The Roadmap below shows our sustainability goals and targets on our journey to 2040.

T2 (2021 to 2026) is the current Ofgem price control for Electricity Transmission network businesses, (this is the way we are funded to deliver the network). The T2 targets illustrated are outlined in our [Transmission Environmental Action Plan](#).

ED2 (2023 to 2028) is the current Ofgem price control for Electricity Distribution network businesses, the ED2 targets illustrated are outlined in our [Distribution Environmental Action Plan](#).

\*carbon is used to refer to all GHG emissions, our metric is CO2e.



## UN Sustainable Development Goals

As part of the global Iberdrola group, we align with the United Nations Sustainable Development Goals (SDGs) and actively use the SDGs to guide the development of our business plans and strategies.

As an electricity network operator, our core reason for being focusses on enabling the connection of clean energy generation to our network and transporting this to end users. Therefore, our greatest contributions are to goals:



When considering the breadth of our activities in areas such as Net Zero GHG work and skills, network construction and maintenance, working collaboratively, diversity and inclusion, digitalisation and customer service we make a significant contribution, directly or indirectly, to the wider SDGs. Through internal and external collaboration, we mapped the SDGs to our key sustainability priorities, at the centre of our SDG wheel. The long SDGs on the infographic represent our direct contribution, and the shorter indirect. As our supply chain contributes to each of the 4 priority areas in the infographic, it has not been mapped separately. Our supply chain accounts for many of the indirect contributions.

The mapping exercise also identified areas of opportunity to enhance our contribution to the SDGs:

- Climate change resilience: integrated in our Climate Action and Action for Nature Priorities
- Water efficiency and protection: integrated in our Circular Economy and Action for Nature Priorities.
- Sustainable Society and Circular Economy: distinct priority areas.

## SDG & Key Priority Area Mapping



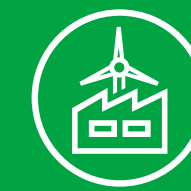


# Commitments update

We have numerous, ambitious RIIO-ED2 commitments which span across our Key Priority Areas, the 26 Principle Commitments are listed below. The progress towards meeting these commitments is also highlighted within the relevant sections of this report and more details on all 71 commitments can be found in the Commitments Update Annex [HERE](#).



Sustainable Society



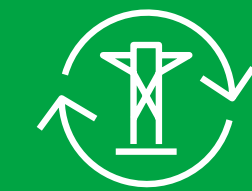
Supply Chain Sustainability



Climate Action



Action for Nature



Circular Economy

Key Priority Area	Commitment	Units	Target	Actual	RAG	Status Update
Sustainable Society	We will publish our Just Transition Strategy by the start of RIIO-ED2. We will embed the principles of a Just Transition into our business planning throughout RIIO-ED2 and continue to engage our customers and stakeholders to understand local needs. We will review our progress via an independent annual review.		Strategy Published	Strategy Published	G	Our Just Transition Strategy was published in March 2023. Our first annual report will be issued during 2024.
	We will embed environmental sustainability considerations in our business processes whilst maintaining and continually improving our ISO14001 certified Environmental Management System. This will enable us to achieve 'beyond compliance' environmental performance and our sustainability goals.		Yes	Yes	G	During regulatory year 2023/24 SPEN maintained our certification of ISO14001 with an external surveillance audit of our Environmental Management System. We are continuing to embed the recommendations and opportunities from this report into our internal systems.
	We will continue to provide transparent reporting of our environmental and sustainability performance by publishing an annual report of our progress against all environmental and sustainability commitments – in line with metrics and a format developed in collaboration with the other DNOs.		Report Published	Report Published	G	This Annual Environmental Report has been created to provide an update on progress towards meeting our commitments to stakeholders. The report provides a narrative update, case studies and relevant KPIs to present our performance against targets.
	We will improve the quality of environmental data collected and analysed at all stages of the asset lifecycle, investing in enhanced IT systems and formalising data sharing collaborations with key stakeholders.		Development of Data Strategy	Data Strategy publication in progress	G	The Sustainability Data and Reporting Strategy has been drafted, and we are finalising of the Sustainability Digitalisation route map, thereafter final review, approval and publication of the strategy expected Q4 2024.
	We will continue to ensure that our staff, contractors and suppliers have the skills and knowledge to allow us and our supply chain to move beyond compliance and achieve our Sustainability Goals, by identifying and ensuring delivery of appropriate environmental training.	%	90%	99%	G	For calendar year 2023 99% of staff environmental training was delivered, exceeding our 90% target. 45% of our contractors and suppliers have completed some Supply Chain Sustainability School training.
Supply Chain Sustainability	We will further enhance environmental sustainability standards and performance metrics in our contracts by 2023 and will collaborate with our supply chain to target more than 80% of RIIO-ED2 suppliers (by value) meeting these standards.	%	>80% by 2028	63%	G	63% of our Distribution suppliers (by value) meet our environmental sustainability standards. We are holding internal workshops to identify actions to increase this % to 80% during ED2.
Climate Action	We will deliver efficient and economic actions to reduce our scope 1, 2 & 3 business carbon footprint by 67.2% by 2035 from a 2018/19 baseline, in line with validated Science-Based Targets aligned to a 1.5°C pathway.	% reduction from 18/19 baseline (Scope 1&2 excl Losses)	-21%	-36%	G	The most significant reductions from our 2018/19 baseline were due to a decrease in emissions associated with depot and substation energy use and the introduction of HVO to replace diesel. Scope 3 emissions accounted for approximately 43% of our emissions. One of the priority actions is to increase the accuracy of Scope 3 reporting which will allow us to track performance.
	We will minimise our carbon footprint to achieve Net Zero carbon by 2035.					We achieved Planet Mark Business Certification of our Business Carbon Footprint for the 8th year, in accordance with ISO 14064-3 (2006). We are ahead of our Science-Based Target set for 2023/24.

[Contents](#)

## Commitments update

Key Priority Area	Commitment	Units	Target	Actual	RAG	Status Update
Climate Action	We will achieve Carbon Neutrality by 2023 for our Scope 1 & 2 business carbon footprint excluding Losses.	tCO <sub>2</sub> e offset	17,373	0	A	We have not yet offset our emissions in this first year of RIIO-ED2. We are working on a contracting strategy to ensure all offsetting is robust and aligns with the Oxford Principles for Carbon Offsetting and will offset for all relevant past emissions in subsequent years of ED2.
	We will decarbonise our operational fleet by 2030, replacing 100% (over 800) of our cars and vans with electric alternatives in line with the Iberdrola EV100 commitment and will seek to further accelerate this to 2028.	%	84%	5%	A	We have replaced 36 of our petrol / diesel cars and small vans with electric alternatives to date. We are behind our target; electric alternatives to our larger vans which must travel long distances and carry heavy loads are not yet commercially available and the introduction of charging infrastructure has been challenging. Our Fleet Team are seeking solutions to accelerate the transition to electric vehicles where we can during RIIO-ED2.
	We will reduce our SF <sub>6</sub> leakage by 10% over the RIIO-ED2 period compared to RIIO-EDI.	%	3%	8%	G	During the regulatory year 2023/24, we exceeded our first year target of a 3% reduction in SF <sub>6</sub> leakage. It is important to note that the leakage reported here pertains solely to the quantity of SF <sub>6</sub> required to top-up assets to replace gas that has leaked, and does not account for any gas lost during operation from assets disposed of at end of life (at a level that did not require top-up to ensure ongoing asset operability).
	We will analyse our generator use and set targets for reduction in carbon emissions to be achieved by end of RIIO-ED2.	kgCO <sub>2</sub> e per MWh	267	203	G	We have set a target to reduce generator emissions per MWh of power supplied by 76% by the end of RIIO-ED2. We are targeting a linear reduction towards our target. We are ahead of our target for 2023/24.
	We will continue to purchase green electricity through a 100% UK-based renewable energy tariff backed by Power Purchase Agreements (PPA) for all our buildings. Beyond this, we will reduce our buildings and substations energy consumption by a minimum of 15.2GWh (8%) over the RIIO-ED2 period.	GWh	0.2	0.0	A	The GHG emissions from Buildings electricity was almost zero (some offices remain on a standard tariff) in 2023/24 as the electricity we purchased was through a REGO tariff backed by Power Purchase Agreements (PPA). Energy efficiency measures were carried out on 155 substations, the works included replacement of all heating, lighting and controls to bring into line with the latest Civil specification. We are awaiting data relating to the GWh energy saved which will be reporting in next years report. For offices and depots, no energy efficiency works have been carried out yet, but we anticipate that works will shortly proceed within 6 of our strategic offices and depots.
	In RIIO-ED2, we will continue to implement our Losses Strategy to avoid an estimated 36 GWh of network losses, thereby limiting losses to a lower level than would otherwise be the case.	GWh	1.9	0.9	A	We are proactively mitigating an increase in technical losses through our programme of early replacement of high loss transformers. Progress in SPM is on target - the estimated losses savings are slightly lower due to a change in the losses modelling assumptions. Progress in SPD is slower than expected as we have replaced fewer secondary transformers than planned. We are also not progressing with two primary transformer replacements in RIIO-ED2, as these did not provide best value for money for the customer. It is possible we will replace these assets in future due to other drivers. Our external Revenue Protection Inspection activities (activities we carry out to prevent, detect and recover electricity losses caused by interference with the electricity supply) continue to have a large impact with over 20MWh of losses savings from interventions as a result of this programme.
	We will continue to implement our 2021 Business Travel Policy to reduce business travel emissions by at least 580 tCO <sub>2</sub> e during RIIO-ED2.	tCO <sub>2</sub> e saved	116	132	G	The implementation of our Travel Policy has led to approximately 75% reduction in combined miles travelled by rail and domestic flights (using 2019/20 as a baseline year). We estimate that this has led to a saving of 132 tCO <sub>2</sub> e in 2023/24.
	We will require strategic suppliers to set Science-Based Targets within 5 years, aiming for 80% of our supply chain by value.	%	80% by 2028	44%	G	44% of our suppliers have set SBTs to date. We are holding internal workshops to identify actions to support our suppliers and move towards 80%.

[Contents](#)

## Commitments update

Key Priority Area	Commitment	Units	Target	Actual	RAG	Status Update
Action for Nature	We will continue to target zero environmental regulatory interventions and notifiable breaches.	No.	0	1	R	There was one regulatory intervention in December 2023 in SPM which resulted in a written warning. No further enforcement action was taken by the environmental regulator.
	We will implement Pollution Prevention Plans at 100% of our RIIO-ED2 132kV projects.	%	100%	100%	G	Pollution Prevention Plans were implemented for all 132kV projects in 2023/24.
	We will reduce the volume of fluid (oil) used to top up our pressurised cables by around 3,490 litres (10%) by replacing 19.429km of our leakiest fluid filled cable.	km	0.000	0.000	G	The Kirkby and Bootle Circuits are both in the RIIO-ED2 plan and programmed for sectional completion between 2025 and 2027. This will further reduce and continually improve our leakage rate.
	We will continue to proactively minimise the impacts of noise resulting from the construction, maintenance and operation of our electrical infrastructure and take timely action to rectify noise complaints from our plant and sites.	No.	6	9	A	We received 9 noise complaints in the 2023/24 reporting year, these were investigated and fully rectified. Through compliance with our Noise Management Procedure, we are continuously educating colleagues on how to better manage noise.
	We will eliminate PCBs from our network by the end of 2025, in line with legislation and the risk-based industry approach agreed with the environmental regulators.	No. of assets changes	4,024	2,166	A	Work is progressing on the planned removal of PCB contaminated (or potentially contaminated) sealed assets to ensure that we meet the given deadline of 31 December 2025 for the removal of these assets from our Distribution network. In line with our plans, developed via the ENA PCB Working Group, we are continuing to identify contaminated equipment. This Contaminated Equipment Disposal Plan involves a challenging rate of equipment replacement, and we are intending to comply with the deadline.
	We will use low carbon alternatives to concrete bunding for our RIIO-ED2 retrofit projects where technically feasible.	No.	41	43	G	We have used lower carbon concrete on 43 of the projects for the RIIO-ED2 period in Primary Projects, for Plinths / Bunds. (Concrete mix that contains 40% GGBS replacement for Portland cement).
	We will deliver 10% enhancement of biodiversity on 25 hectares across our existing network, on our non-operational land and existing linear infrastructure through collaboration with landowners, communities and local wildlife groups.	hectares	5	0	A	Year 1 of RIIO-ED2 was used to develop a process for selecting sites for potential enhancement and carrying out the necessary surveys. The working group created a pipeline of suitable sites across the SPM and SPD network site portfolio. Baseline assessments were then conducted at a number of these sites to identify biodiversity enhancement opportunities.
	We will remove 35km of overhead lines in Areas of Outstanding Natural Beauty, National Parks, and National scenic areas	km	4.0	5.0	G	In SPM, we've completed visual amenity works in Tyn Llwydan and work is planned for completion at Rhos Mynach, Angelsey in 2024. There are an additional 11 projects in the works during 2024, 2025 and 2026. SPD also have a number of visual amenity projects in the pipeline including at Holy Island.
Circular Economy	We will divert 100% of our waste from landfill by 2030, excluding compliance waste.	%	95%	94%	A	In 2023 we diverted 94.3% of waste from landfill, just short of our 95% target. We plan to get this back on track in 2024 to meet the 2030 target. We are increasing our data gathering abilities by investing in an enhanced waste and materials digitalisation recording system for our supply chain.
	We will establish a baseline and targets for waste reduction per £1m of total annual expenditure, to be achieved by the end of RIIO-ED2 and 2030 in line with our zero waste to landfill date.		Baseline Established	In Progress	A	Baseline being established, targets to be set during 2024.

# Performance Dashboard

## Climate Action

 **36%** Reduction in Scopes 1 & 2 including Business Travel (excl. losses) from 18/19 SBT baseline

 **39%** Reduction in Scopes 1 & 2 (excl. losses) from last year

 **10%** Reduction in SF<sub>6</sub> emission from last year

 **8** Years of continuous certification to the Planet Mark

 **934MWh** Losses avoided


## Circular Economy

 **94%** Waste diverted from landfill

## Supply Chain



Supply Chain Sustainability School partner

 **63%** Suppliers (by value) meeting our enhanced environmental standards

 Development partner for SBCC

 **44%** Suppliers with Science-Based Targets

## Sustainable Society

 **8%** Gender pay gap

 **91%**  AA1000 AccountAbility Stakeholder Engagement Performance






 **5km** Overhead lines undergrounded for visual amenity

 ISO 14001 Environmental Management certification

## Action for Nature

 **100%** Pollution prevention plans implemented on 132kV projects

 **1** Reportable environmental incidents

-  Green arrow improvement from prior year
-  Red arrow deterioration from prior year
-  Up arrow increase in value
-  Down arrow reduction in value
-  Dash no change

[Contents](#)

# Delivering a more sustainable network

Our vision is to be an electricity network for people and planet – delivering environmental, social and economic sustainability across everything we do. We embed the principles of sustainability in our decision-making. We work with our stakeholders to efficiently manage and develop our networks in support of the low-carbon transition, and to achieve neutral or positive environmental and social impacts. Our actions to become a sustainable networks business will drive our supply chain and support our customers and communities to become more sustainable. During the remainder of RIIO-ED2, we will continue to drive industry-wide collaboration for the benefit of all customers and will keep engaging our environmental stakeholders through our Sustainability Stakeholder Working Group.



[Sustainable Society](#)



[Supply Chain Sustainability](#)



[Climate Action](#)



[Action for Nature](#)



[Circular Economy](#)



# Sustainable Society

## Achieving the sustainability step-change

Activities to improve our sustainability build on a strong foundation of environmental management and compliance. We are committed to environmental compliance and preventing pollution and have embedded processes to ensure this in our business activities. Our ongoing certification to the International Standard for environmental management, ISO14001, which we have held for over a decade, provides evidence of this.

### Status update

During regulatory year 2023/24 SPEN maintained our certification of ISO14001 with an external surveillance audit of our Environmental Management System. We are continuing to embed the recommendations and opportunities from this report into our internal systems.

We are continuing to partner with the Supply Chain Sustainability School to provide training to our staff, contractors and supply chain.

We have rolled out internal Leading and Managing with Sustainability training courses to increase our leaders' and managers' understanding of sustainability, our commitments as a business and what role they can play in turning these commitments into a reality. Between April 2023 and March 2024, 63 senior managers and members of the executive team from across our licences have taken part in this training.

This year, we have continued to make progress on our commitments and have begun developing an environmental data and reporting strategy. This

strategy outlines our vision for data collection and analysis, as well as the necessary tools and timelines to achieve our goals. More details can be found in the Data and Assurance section at the end of the report.

The Independent Net Zero Advisory Council (INZAC), an independent group of energy industry experts created by SPEN to bring the voice of customers and stakeholders into the heart of our business, marked its first anniversary this year. The INZAC brings together 15 external experts to provide challenge and specialist knowledge to both the distribution and the transmission sides of the business - a first for the industry.

Last year we published our [Just Transition Strategy](#), the first of its kind for a UK electricity network company. This strategy showcases our strong track record in prioritising the needs of our communities and demonstrates our future plans to support customers and enable transformational change to ensure a more sustainable future for all.

The publication of the strategy came at a pivotal time for the UK's energy system, with the cost of living and the energy security crisis underlining how important it is that no one is left behind as a result of the transition to Net Zero GHG.

In September 2024, we published our first [SPEN Annual Just Transition Report](#), summarising the steps we have taken so far to embed the principles of a fair and equitable transition into everything we do.



[Case Study - Year of Sustainability >](#)

[Commitments & Metrics](#)

[Contents](#)

### Year of Sustainability

In April 2023, we launched our Year of Sustainability campaign. The aim of this campaign was to deliver 12 months of knowledge-sharing opportunities, case studies, workshops and challenges to help prepare us for working towards a sustainable future.

This innovative approach to our internal communications targeted all employees and focussed on the roles each of us must play. The campaign gave our employees the tools and information to continue their journey towards building the necessary skills to embed sustainability best practices into their daily work and current and future projects.

Highlights of the Year of Sustainability include:

- The number of employees upgrading their vehicles to EVs through our EV Salary Sacrifice Scheme tripled
- A 37% increase in the number of employees registering to the Supply Chain Sustainability School, accessing a wealth of information
- An increase in the number of volunteering days inside working hours of 136 days, with further sessions in the pipeline
- New ways of working, improved practices and new collaboration platforms set up, including on-the-ground knowledge sharing and collaboration sessions with the SPEN executive team and environmental professionals, and further enhanced sustainability and environmental internal engagements

### Legacy of the campaign

Though the Year of Sustainability campaign is over, our work to embed sustainable practices throughout our organisation is continuing. The way we work with our supply chain, plan our projects and design our processes are rapidly changing. The legacy of this campaign will be continued through sharing sustainability knowledge and tools across the company.



## Commitments



<p>We will embed environmental sustainability considerations in our business processes whilst maintaining and continually improving our ISO14001 certified Environmental Management System. This will enable us to achieve 'beyond compliance' environmental performance and our sustainability goals.</p>	<p>G</p>
<p>We will continue to provide transparent reporting of our environmental and sustainability performance by publishing an annual report of our progress against all environmental and sustainability commitments – in line with metrics and a format developed in collaboration with the other DNOs.</p>	<p>G</p>
<p>We will improve the quality of environmental data collected and analysed at all stages of the asset lifecycle, investing in enhanced IT systems and formalising data sharing collaborations with key stakeholders.</p>	<p>G</p>
<p>We will continue to ensure that our staff, contractors and suppliers have the skills and knowledge to allow us and our supply chain to move beyond compliance and achieve our Sustainability Goals, by identifying and ensuring delivery of appropriate environmental training.</p>	<p>G</p>
<p>We will embed a process for Initial Environmental and Sustainability Reviews (IESRs) for all relevant projects, to identify potential environmental issues and opportunities at the earliest stage.</p>	<p>G</p>
<p>We will publish our Just Transition Strategy by the start R110-ED2. We will embed the principles of a Just Transition into our business planning throughout R110-ED2 and continue to engage our customers and stakeholders to understand local needs. We will review our progress via an independent annual review.</p>	<p>G</p>

Metrics		
Year	2023-2024	
ISO14001:2015 certification	Certification	Yes
Training Plan Delivery Staff	Completion %	99%
Training Plan Delivery Contractors	Completion %	45%



# Supply Chain Sustainability

Having a strong relationship with our supply chain is essential for the successful delivery of our sustainability plans. Our diverse suppliers offer various services throughout the entire lifecycle of assets, from design to disposal. We collaborate with our suppliers not only to ensure safe, efficient and compliant works but also to minimise environmental impacts, deliver enhanced environmental standards and promote industry-wide environmental best practices. We are fortunate to have a wide range of expertise and services within our supply chain.

## Status update

To further enhance our engagement with our supply chain, we are working internally on an engagement plan that will put our supply chain at the centre of delivering our commitments. Supply chain engagement is a critical component for the delivery of carbon reduction, circular economy implementation and an overall increase in sustainability. We have assessed the top 80% of our supply chain by spend, and 61% of our supply chain (by value) are meeting our standards for SPM and 65% for SPD. We are on track to meet our target of 80% by the end of RIIO-ED2.

We are continuing to work with the Supply Chain Sustainability School (SCSS) and have hosted events on green steel, biodiversity improvement and carbon reduction.

Our ongoing membership, at the Partner level, of the SCSS for the duration of RIIO-ED2 provides all the training and other materials necessary for our supply chain to up-skill and to meet our sustainability standards.

We will maintain our Partner status in the SCSS due to the significant benefits both SPEN and our suppliers have realised from access to quality training materials.

We have monthly contract meetings with our supply chain. To deliver our commitment to optimise benefits and reduce environmental impacts, we will be engaging with our suppliers to allow them to propose innovative solutions for improvement in areas such as GHG emissions and resource use. We will be conducting a pilot focusing on biodiversity improvement and inviting our suppliers to propose innovative approaches to grounds maintenance.



[Commitments & Metrics](#)

[Contents](#)

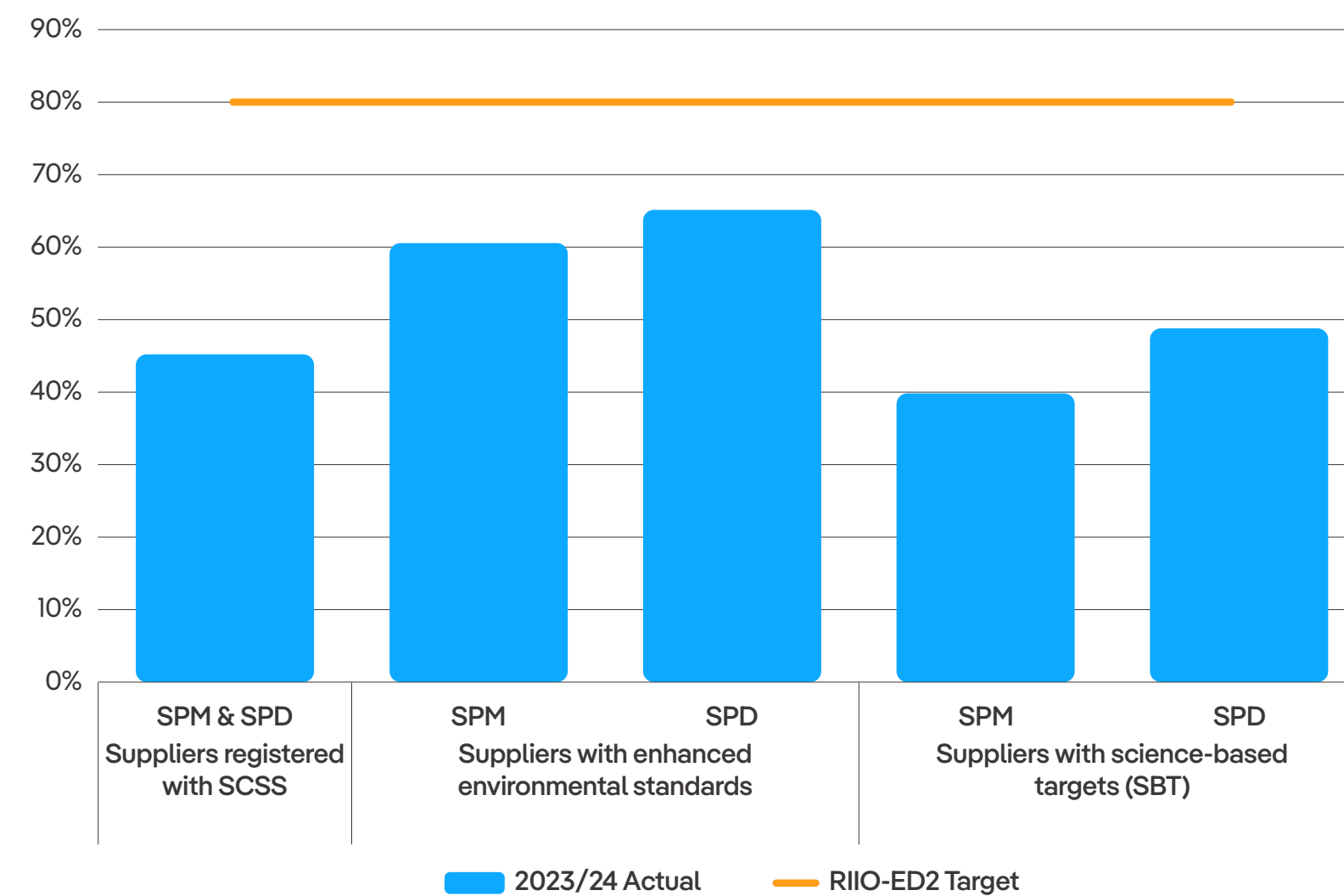
## Commitments



	We will further enhance environmental sustainability standards and performance metrics in our contracts by 2023 and will collaborate with our supply chain to target more than 80% of RIIO-ED2 suppliers (by value) meeting these standards.	G
	We will increase consideration of environmental sustainability in our procurement processes in line with ISO20400 Sustainable Procurement Standard, including a carbon metric as a minimum.	G
	We will continue to be a Supply Chain Sustainability School Partner, requiring contractors and suppliers for all new contracts to become members and undertake relevant sustainability and environmental training.	G
	We will engage with suppliers early in the development of projects to enable them to propose environmental improvements at concept and design stages.	G
	We will engage with suppliers throughout the duration of their contracts to continue to reduce impacts and optimise benefits.	G
	We will require strategic suppliers to set Science-Based Targets within 5 years, aiming for 80% of our supply chain by value.	G

## Metrics

Supply Chain Sustainability



# Climate Action

The most effective way for us to mitigate climate change is by connecting low-carbon technology to decarbonise society. While we do this, we must also reduce the carbon footprint of our business operations, and make sure our network is resilient to the effects of climate change.

Our targets for decarbonising our network are deliberately challenging. To achieve them, we will need transformation at every level of our business.

## Greenhouse Gas Emissions

We first published our business carbon footprint (BCF) in 2013/14. Our BCF includes key emissions which we directly control or have the most influence over (Scope 1 and 2 excluding losses and Scope 3 Business Travel).

In 2022 we went a step further, setting validated Science-Based Greenhouse Gas Targets (SBT) for all direct and indirect emissions. Our reduction targets are aligned with what the latest climate science deems necessary to meet the goals of the Paris Agreement – pursuing efforts to limit warming to 1.5°C. Our SBT includes all the scopes outlined below.

Recognising the need to be ambitious, we then set an aspirational target to pursue efforts to reach Net Zero GHG by 2035 – which exceeds our SBT. We are in the process of submitting this for validation by the SBTi.

**Scope 1:** Direct emissions associated with fuel used, SF<sub>6</sub> and other refrigerant gas leakage which occur from assets we own or control.

**Scope 2:** Indirect emissions associated with energy consumed in assets we own or control and electricity lost as we transport electricity from supply to our customers.

**Scope 3:** All other emissions which occur as a result of our activities. These are upstream emissions predominantly associated with our supply chain.



[Scopes 1&2 BCF Charts >](#)

[Case Study - Planet Mark Validation >](#)

[Commitments & Metrics >](#)

## Status update

Our BCF emissions (excluding losses) have decreased by approximately 39% from last year. We are on track to reach our medium-term target of an 80% reduction in greenhouse gas emissions by 2030 (set in 2013/14). The most significant reductions, relative to last year, were a decrease in emissions associated with substation energy use (due to securing a Green tariff for the full year) and the introduction of HVO to replace diesel (to provide temporary power via mobile generators).

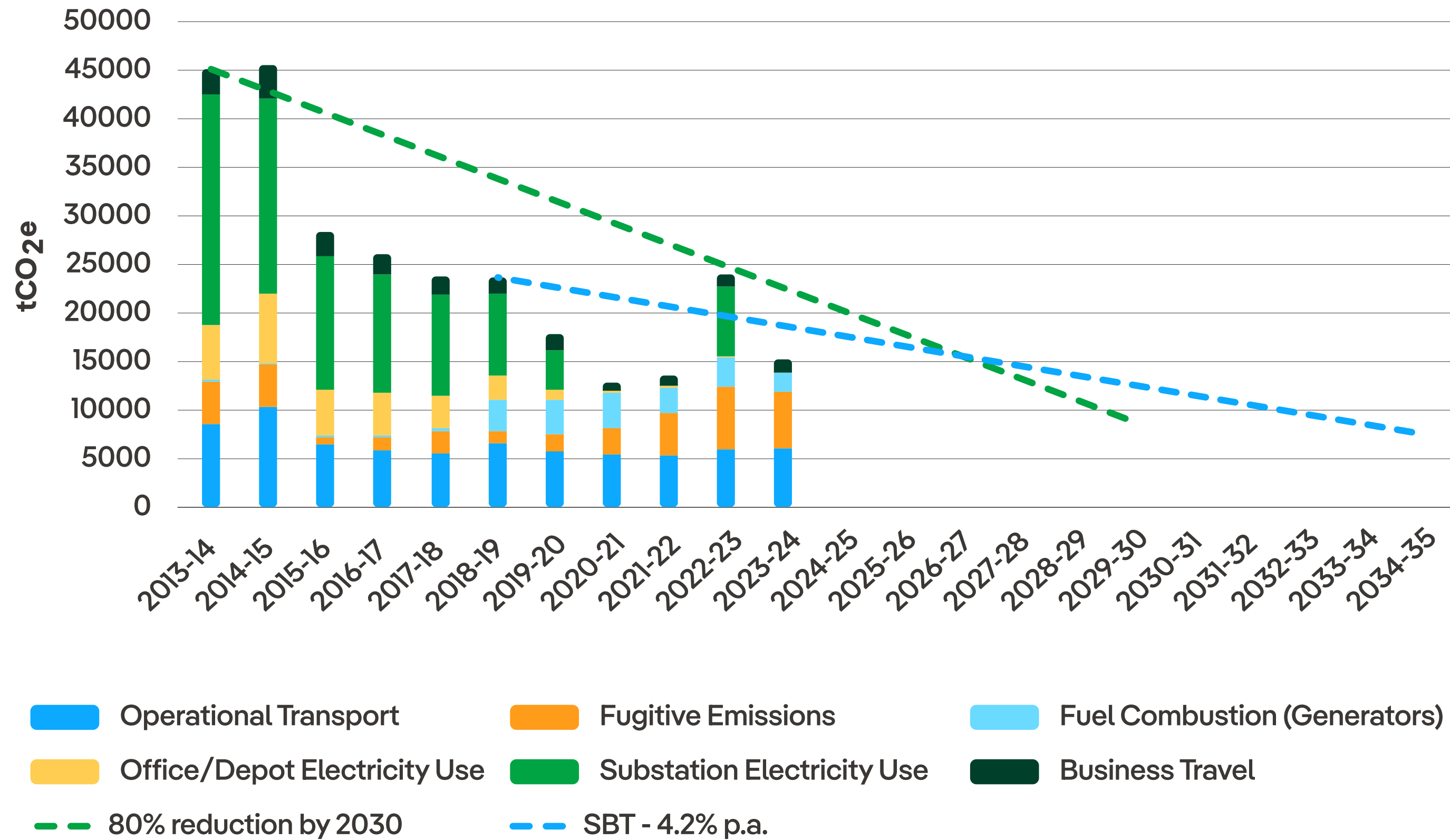
Overall emissions associated with losses increased by 8%. This was driven by two factors:

1. An increase in the carbon intensity of UK grid energy caused by more carbon-intensive fossil fuels being consumed to produce electricity relative to the previous year.
2. An increase in the overall electricity lost during energy transfer through the grid to where it is used.

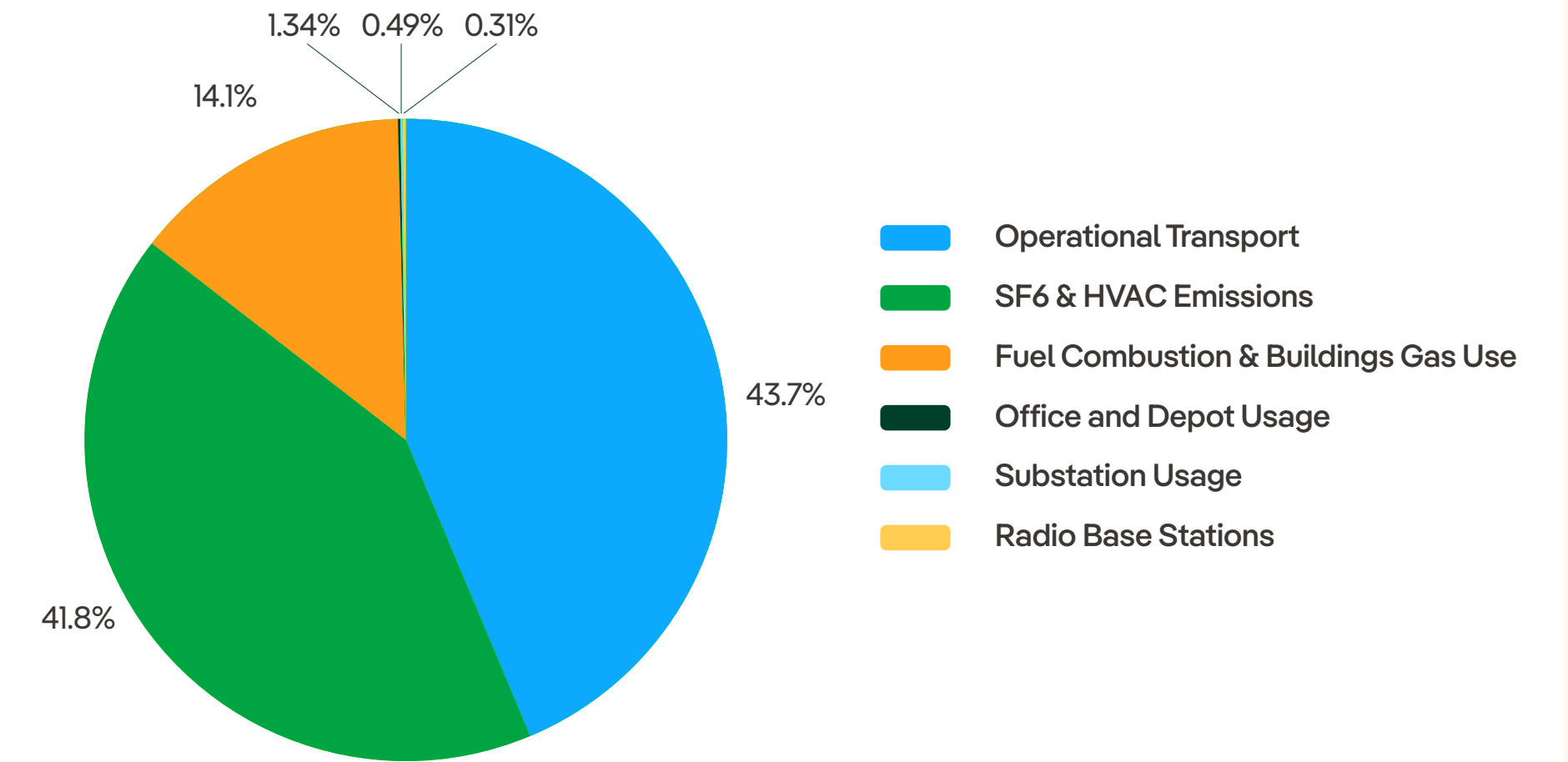
Although this caused our overall Scope 1 and 2 emissions to increase, we are still in line with the reduction required to meet our Science-Based Target.

[Contents](#)

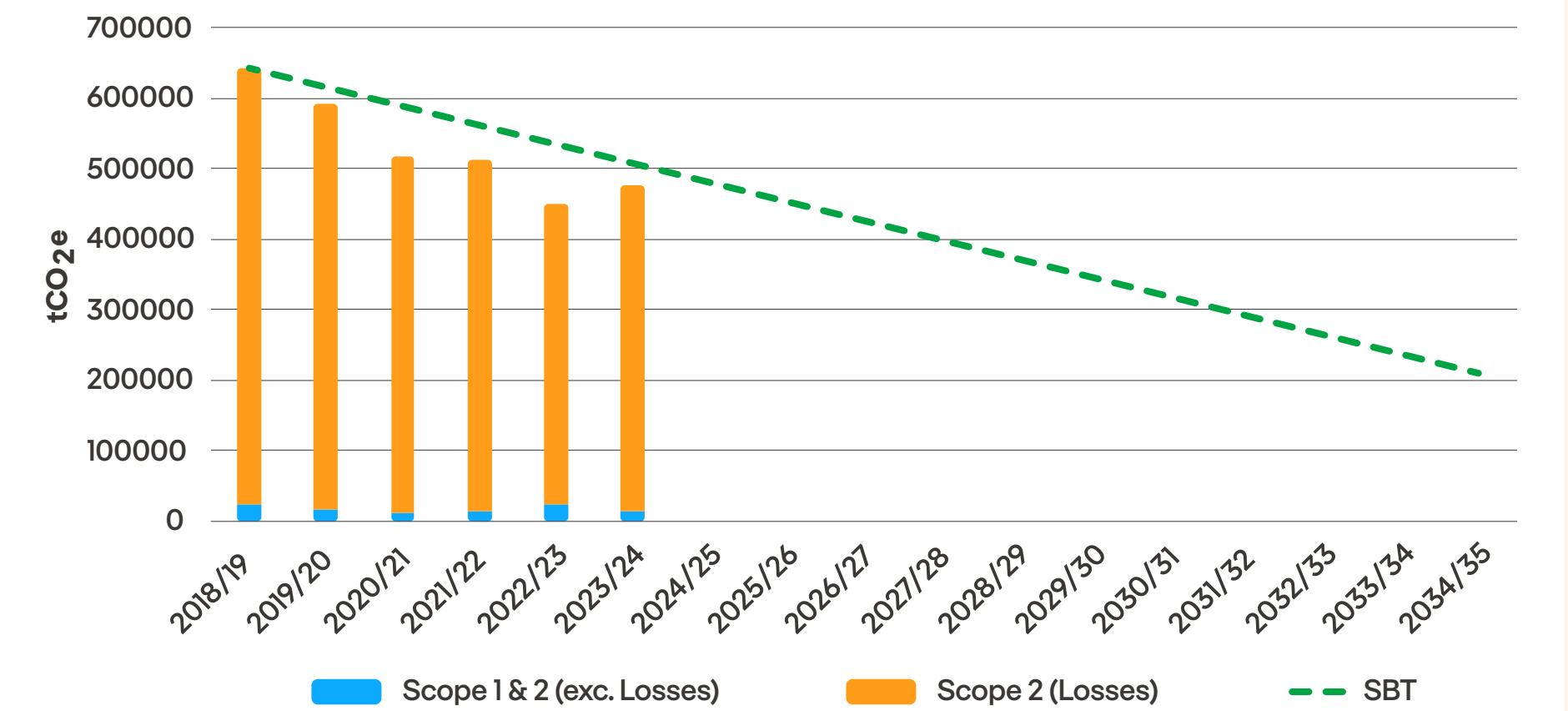
### Business Carbon Footprint Scope 1 & 2 (excl. Losses, inc. Business Travel)



### BCF Scopes 1+2 excluding Losses for Distribution



### Scopes 1+2 (inc losses) with SBTi Target



### Planet Mark Validation



This year we achieved Planet Mark Business Certification of our Business Carbon Footprint for the 8th year, in accordance with ISO 14064-3 (2006). Planet Mark's Code of Practice adheres to the highest of recognised standards and is administered by an independent Advisory Panel composed of leading academic and industry experts.

Planet Mark is partnered with Cool Earth, the award-winning charity helping rainforest communities to protect nearly 100,000 hectares of biodiversity-rich rainforests across three continents.



**PlanetMark**

## Commitments



We will deliver efficient and economic actions to reduce our scope 1, 2 & 3 business carbon footprint by 67.2% by 2035 from a 2018/19 baseline, in line with validated Science-Based Targets aligned to a 1.5°C pathway.

G

We will minimise our carbon footprint to achieve Net Zero GHG by 2035.

G

We will identify metrics, and associated targets, for RIIO-ED2 to track the impact of implementing actions and the overall progress towards our carbon reduction targets.

G

### Metrics

Emissions in tCO <sub>2</sub> e	Scope	Baseline (2018/19)	Previous Year (2022/23)	Current Year (2023/24)
Operational Transport	1	6,536	5,917	6,087
Fugitive Emissions	1	1,272	6,506	5,827
Fuel Combustion & Building Gas Use	1	3,235	3,010	1,967
<b>Total Scope 1</b>		<b>11,043</b>	<b>15,433</b>	<b>13,881</b>
Building Energy Use	2	10,947	7,313	55
<b>Total Scope 1 &amp; 2 Excl. Losses</b>		<b>21,990</b>	<b>22,746</b>	<b>13,936</b>
Electricity Losses	2	620,489	428,143	461,776
<b>Scope 1&amp;2 Incl. Losses</b>		<b>642,479</b>	<b>450,889</b>	<b>475,712</b>
<b>Scope 3</b>	3	<b>332,202</b>	<b>312,913</b>	<b>354,624</b>



## Scope 1 emissions

### Operational transport

Operational transport includes all emissions associated with our vehicle fleet. In SPD and SPM we have over 800 vehicles which are critical to the operation and maintenance of our network. Emissions are primarily associated with the combustion of diesel and, to a lesser extent, petrol in these vehicles. Operational Transport accounts for approximately 44% of our Scope 1 & 2 emissions (excl. losses).

Our strategy for reducing these emissions is to replace all diesel and petrol cars and vans\* with electric equivalents by the end of RIIO-ED2. We will install electric vehicle charging infrastructure for our operational fleet and work with suppliers and other fleet operators to pilot technically viable alternatives to diesel and petrol vehicles to drive technical advancements and early adoption.

In September 2019, our parent company Iberdrola signed up to The Climate Group's EV100 initiative. The agreement will see Iberdrola electrify the bulk of its vehicle fleet (subject to local market conditions) by the end of 2030.

### Status update

We have replaced 36 of our petrol/diesel cars and small vans with electric alternatives to date. We are behind our target, but our fleet team is working to

to accelerate the transition to electric vehicles during RIIO-ED2.

Our greatest challenge is replacing large diesel vans and 4x4s with electric alternatives, as there are limited options which meet our operational requirements. Initial trials of 4x4 and similar Light Commercial Vehicle applications are being pursued with two model lines identified as suitable for application. Despite this, there are ongoing concerns about the electrification of 100% of our large vans and 4x4s and we may not reach our commitment by the end of RIIO-ED2.

This year we focused on planning and developing suitable partnerships required for the delivery of electrical charging infrastructure at our sites. Although there were no electrical vehicle chargers installed (due to this planning process), we have now identified 25 sites which are suitable for charging infrastructure. Within these sites, we plan to install a total of 103 22kwh chargers and 33 150kwh chargers to enable our transition to electric vehicles.

The chart below shows the average greenhouse gas emissions intensity of all our operational transport which was 0.35kgCO<sub>2</sub>e per km and 0.37kgCO<sub>2</sub>e per km for SPD and SPM respectively. This intensity will decrease as we continue to decarbonise our fleet.



[Commitments & Metrics >](#)

[Contents](#)

\*Vans = small, medium and large vans and 4x4's, excluding HGV's

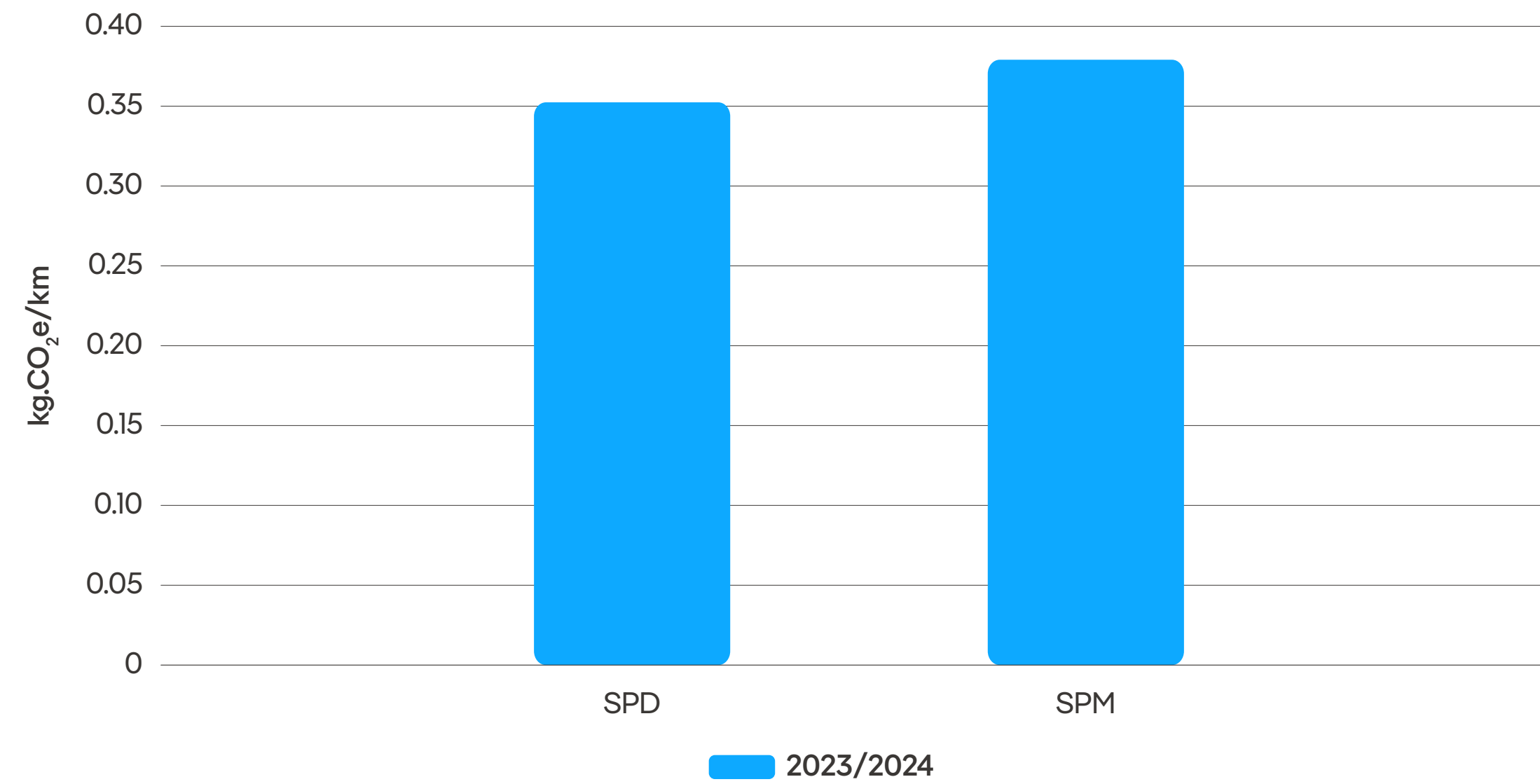
### Commitments



	We will decarbonise our operational fleet by 2030, replacing 100% (over 800) of our cars and vans with electric alternatives in line with the Iberdrola EV100 commitment and will seek to further accelerate this to 2028.	A
	We will install electric vehicle charging infrastructure for our operational fleet at our sites	A
	We will strive to lead the decarbonisation of fleet vehicles, working with suppliers and other fleet operators to pilot technically viable alternatives to drive technical advancements and early adoption.	A

### Metrics

Greenhouse Gas Emissions Intensity of Operational Transport







## Fugitive emissions

By installing modern SF<sub>6</sub>-filled switchgear, SPEN has been able to enhance the operational safety of our asset base and reduce ongoing plant maintenance costs. SF<sub>6</sub> is a colourless and odourless gas used for both insulation and arc interruption in switchgear applications. It has exceptional insulating properties which enable safe, compact and low-cost switchgear solutions. Although it causes no detectable impact on the local environment if released, it is a highly potent greenhouse gas with a global warming potential of 23,500 times that of CO<sub>2</sub>.

### Status Update

We anticipate that in the short term, the quantity of SF<sub>6</sub> on our network, described as the 'SF<sub>6</sub> bank', will increase as the replacement of end-of-life oil-filled switchgear programmes proceed. Efforts to minimise the escape of SF<sub>6</sub> from equipment to the environment are therefore highly important. Repairs and replacement of leaking assets are now vitally important to reducing our business carbon footprint. We are striving to improve our SF<sub>6</sub> management procedures at every opportunity and are carrying out interventions earlier than ever before to help reduce the volume of SF<sub>6</sub> emitted into the atmosphere.

There are many challenges involved in the development of solutions utilising alternative gases and they vary by voltage level and application; there are also no commercially available gases that match the electrical insulation properties of SF<sub>6</sub>. We have progressed an industry-leading solution using GE Green Gas for Grid (G3) as the insulating medium within a 132kV Gas Insulated Switchboard (GIS) solution at our Lister Drive substation in SPM. We are also continuing to work with industry to support the implementation of other SF<sub>6</sub> free solutions with a view to adopting suitable alternatives on our network wherever practicable. This includes tendering exclusively for non-SF<sub>6</sub> equipment where there are market-ready technically viable options available, which the switchgear manufacturing industry continues to develop. We will continue to prioritise works where we can achieve the greatest curtailment of SF<sub>6</sub> volumes to the SF<sub>6</sub> Bank possible wherever this is feasible and in our customers' interests. With this in mind, we will soon be installing our first 11kV Ring Main Unit that contains an alternative gas that has a global warming potential of zero. We are confident this type of innovation will allow us to greatly reduce our

business carbon footprint in future as we enhance the network and replace our ageing asset base.

It is also important that we ensure we capture all possible SF<sub>6</sub> leakage scenarios. The design leakage rates of some SF<sub>6</sub> equipment are such that 'topping up' the asset during its service life may be required. Fugitive emissions are recorded as the volume of gas required to top up the equipment to its original capacity. However, most equipment containing SF<sub>6</sub> is hermetically sealed and not designed to require a top-up. Where SF<sub>6</sub> equipment reaches the end of its service life, either due to condition or the presence of leaks, we replace it and capture the volume of gas recovered at end-of-life via approved disposal providers.

Our networks in SPD are all below 132kV, while SPM includes networks up to and including 132kV. This results in SPM managing larger equipment with greater volumes of SF<sub>6</sub>. The equipment held by SPD is generally smaller and SF<sub>6</sub> is held in sealed containers with no facility to top-up.

In SPM, our SF<sub>6</sub> top-ups have decreased from 46.3kg in 2022/23 to 13.9kg in 2023/24. However, we are now also measuring final disposal emission values which represent the value from the nameplate mass (original gas volume in the plant) minus the gas recovered at the end of life. The value of these emissions is 98.3kg, taking total emissions to 122.3kg.

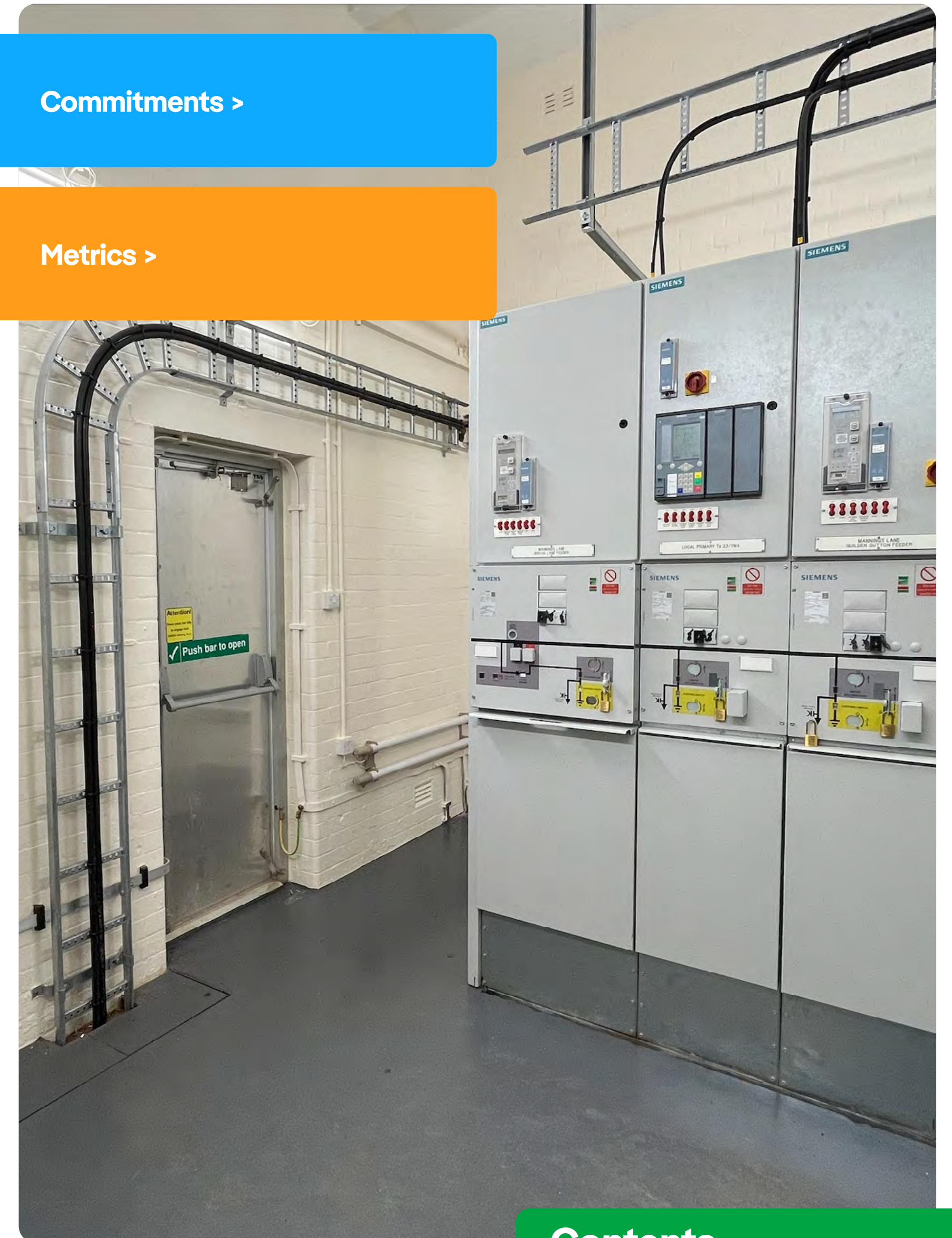
In SPD, top-ups have also decreased from 11.6kg in 2022/23 to 10.3kg in 2023/24. We have followed the same methodology for disposals as in SPM, showing a decrease from 139kg in 2022/23 to 125kg in 2023/24, taking total emissions to 135.7kg.

We are working with our scrap contractors to improve the data quality relating to SF<sub>6</sub> recovered from disposed assets and expect these emissions to reduce over the coming years (since in the absence of measured residual levels we assume all gas has been lost).

Further details relating to SF<sub>6</sub> and Alternative Insulation and Interrupting Gases (IIG) can be found in the [Key Performance Indicators Annex](#).

[Commitments >](#)

[Metrics >](#)



[Contents](#)

## Commitments



We will reduce our SF<sub>6</sub> leakage by 10% over the RIIO-ED2 period compared to RIIO-ED1.

G

We will use alternatives to SF<sub>6</sub> insulating gas for all new circuit breakers, Ring Main Units and Gas Insulated Switchgear installations at all voltages, where there are technically feasible market-ready solutions.

A

We commit to reporting on total SF<sub>6</sub> Bank and leakage reduction rates using a common Distribution Network Operator (DNO) methodology.

G

We will continue to carefully manage our assets in line with our SF<sub>6</sub> Strategy to minimise SF<sub>6</sub> leakage, repair leaks quickly, and where this is not possible, replace the asset before its anticipated end of life.

G

We will continue to require manufacturers to provide equipment with a SF<sub>6</sub> leakage rate which is half that of the internationally recognised standards, where technically viable.

A

We will drive the development and adoption of SF<sub>6</sub> – free technologies, collaborating with supply chain and industry peers and piloting new technologies where technically viable.

G

Metrics



**SPD**

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	Unit of Measure	2023/2024
SF <sub>6</sub> Bank	All Voltages	Total no. of assets containing SF <sub>6</sub>		No. of Assets	23,031
		Total amount of SF <sub>6</sub> on network		kg	23,490
		No. of SF <sub>6</sub> assets replaced (per annum)		No. of Assets	68
		No. of SF <sub>6</sub> alternative assets (per annum)		No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)		%	100%
		No. of SF <sub>6</sub> assets installed (per annum)		No. of Assets	575
SF <sub>6</sub> Emissions	All Voltages	Leakage (per annum)		kg	135.66
		Leakage rate (% of bank)	0.31%	%	0.58%
		Interventions (per annum)		#	4
		Impact of Interventions		kg	6.52

**SPM**

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	Unit of Measure	2023/2024
SF <sub>6</sub> Bank	All Voltages	Total no. of assets containing SF <sub>6</sub>		No. of Assets	16,833
		Total amount of SF <sub>6</sub> on network		kg	27,117
		No. of SF <sub>6</sub> assets replaced (per annum)		No. of Assets	29
		No. of SF <sub>6</sub> alternative assets (per annum)		No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)		%	100%
		No. of SF <sub>6</sub> assets installed (per annum)		No. of Assets	575
SF <sub>6</sub> Emissions	All Voltages	Leakage (per annum)		kg	112.28
		Leakage rate (% of bank)	0.31%	%	0.41%
		Interventions (per annum)		#	13
		Impact of Interventions		kg	51.07



## Generator fuel use

Generators are principally used to provide temporary power to customers in the event of a power cut. Emissions are associated with the combustion of diesel or petrol within the generator. Generator fuel use accounts for 13% of our BCF. Our strategy to reduce emissions associated with generator fuel use includes a transition to Hydrogenated Vegetable Oil (HVO) as a substitute for diesel within our generator fleet. We will also pilot electric generators as a long-term, more sustainable option.

### Status Update

We have set a target to reduce generator emissions per MWh of power supplied by 76% by the end of RIIO-ED2. We are targeting a linear reduction towards our target, and we are already ahead of our target for 2023/24.

Our target in 2023/24 was to achieve a carbon intensity of 267kgCO<sub>2</sub>e per megawatt hour of power supplied. For reference, the emissions factor of using diesel (including well-to-tank emissions) is 317kgCO<sub>2</sub>e/MWh. In 2023/24, our average emissions associated with generator consumption was 167 kgCO<sub>2</sub>e/MWh. This is a 47% reduction in emissions and is attributed to phasing in HVO.

[Commitments & Metrics >](#)

### Responsible Sourcing of HVO – Guidance

Although HVO has lower greenhouse gas lifecycle emissions relative to diesel, our stakeholders have raised concerns over the responsible sourcing of HVO. This is largely driven by concerns that the growth of vegetation used to make HVO could have indirect consequences to the environment, including deforestation.

In response, SP Energy Networks partnered with Supply Chain Sustainability School and other partners who operate in the built environment, to develop guidance for the responsible sourcing of HVO. In the next regulatory year, we will work with our suppliers to implement these recommendations.

### Recommendations

- Acquire second-generation biofuels produced using waste feedstock.
- Ensure all suppliers of HVO are Renewable Fuels Assurance Scheme approved.
- Leverage carbon footprint data from Renewable Fuel Duties for reporting.
- Add the HVO supply chain to your procurement risk register with a defined plan for identifying and mitigating risks.
- Verify supplier certificates further up the supply chain through the ISCC website if additional due diligence is needed.
- Understand risks associated with palm oil and palm oil from feedstocks.

### In collaboration with supporting partners:



[Contents](#)

### Commitments

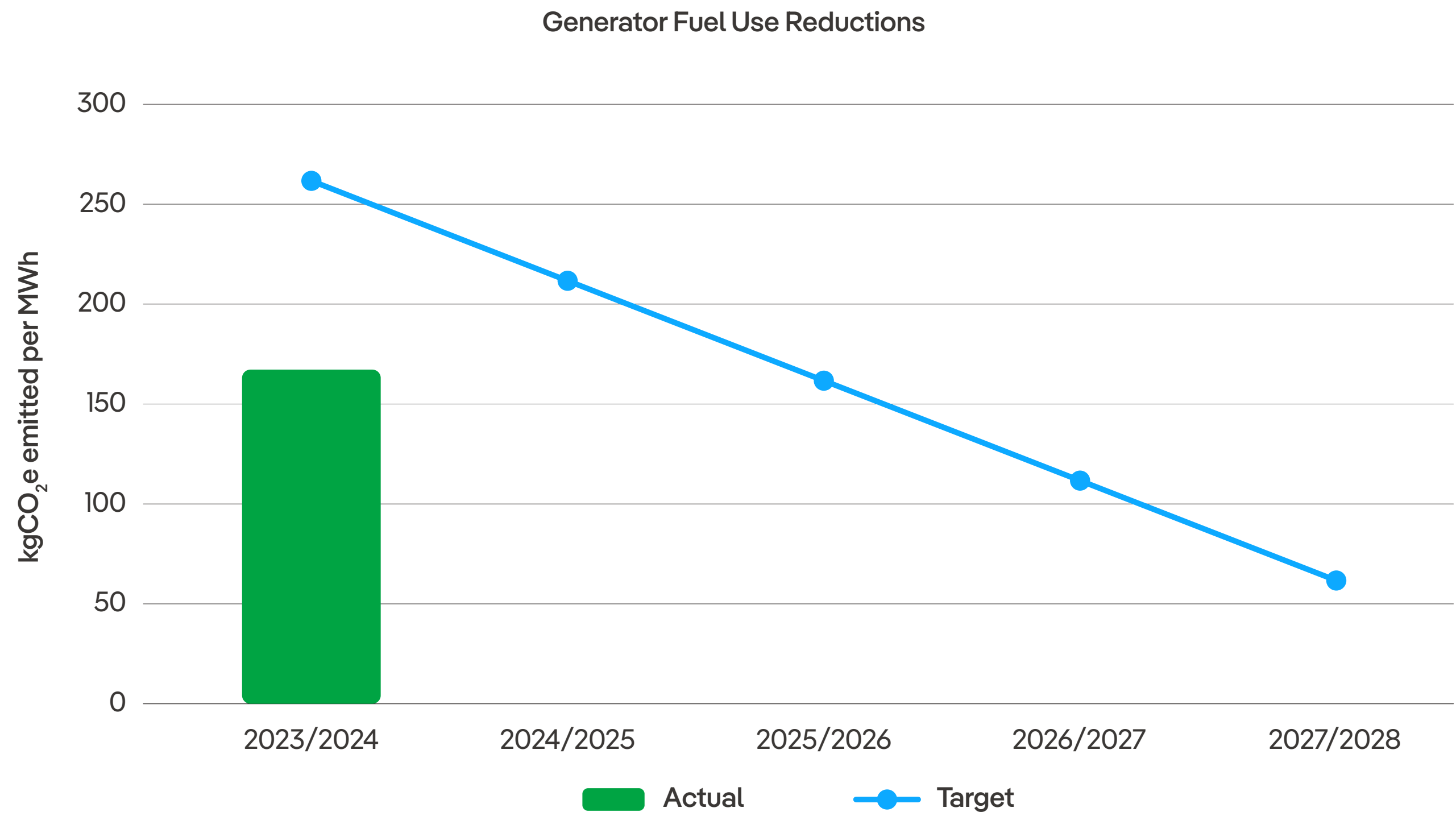


We will analyse our generator use and set targets for reduction in carbon emissions to be achieved by end of RIIO-ED2.



### Metrics

Graph RIIO-ED2 Generator Fuel Use Emissions Target



## Scope 2 emissions

### Building energy usage

Building energy use includes all indirect emissions associated with the consumption of electricity in our substations, depots and offices. Our primary strategies for reducing building energy use include:

- Reducing the carbon intensity of the electricity we use by purchasing electricity through a [Renewable Energy Guarantees of Origin \(REGO\)](#) tariff
- Reducing the overall energy consumption through the refurbishment of our substations and depots.

We will also pilot and monitor renewable generation at substations and/or depot sites to offset building energy demand.

### Status update

The GHG emissions from building electricity was almost zero in 2023/24 as we purchased electricity through a REGO tariff backed by Power Purchase Agreements (PPA). Overall, our total energy use from electricity and gas was 37,785 MWh – the majority of which came from electricity consumption. Overall, there was very little change in our annual energy consumption (1.8% increase) compared to the previous year.

### Office and Depot Energy Use

Whilst we did not make any improvements to our depots and offices in the first year of RIIO-ED2, we worked with a team of external design partners to assess sustainability options which could be incorporated into the construction and refurbishment of our depots and office sites. The following are being considered in our proposals:

- External Solar PV arrays to offset building energy demand with associated on-site battery storage
- External EV Charging Infrastructure
- High-Performing Thermal External Cladding System to limit heat loss
- Building management system to monitor and control all electrical and mechanical building systems
- High-performance LED lighting system
- Hybrid (Mechanical & Natural) ventilation systems with heat recovery
- Air source heat pumps to support domestic hot water.

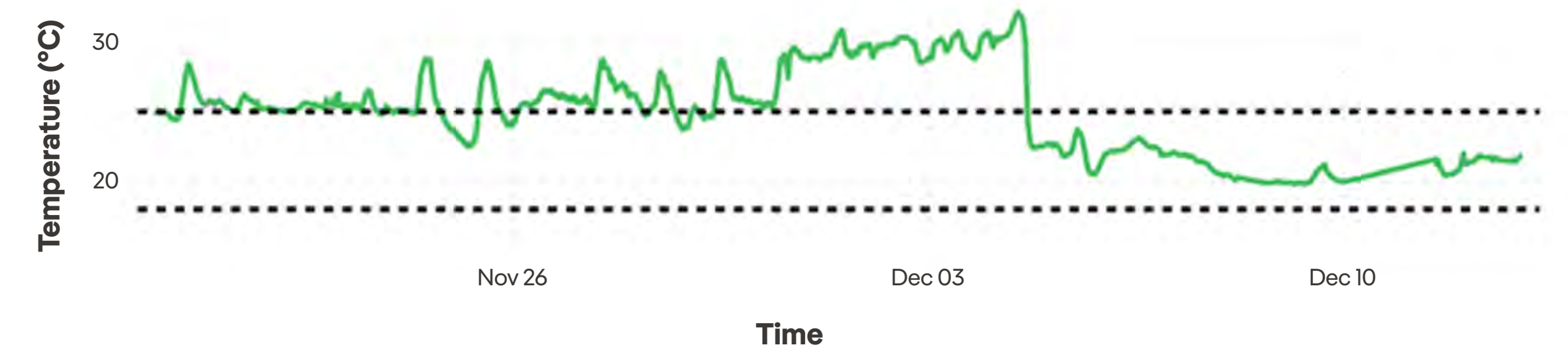
We anticipate that works will proceed with 6\* of our strategic offices and depots. We are assessing how to achieve our BREEAM targets and we are also considering how emerging standards such as the ‘UK Net Zero Buildings Standard’ could be applied. We anticipate that we will meet our energy reduction target, although we will continue assessing this against our target when the programme of work is confirmed.

### Substation Energy Use

In 2023/24 we fitted 49 primary substations (26 in SPD and 23 in SPM) with temperature and humidity monitoring. The sensors report temperature and humidity readings every 30 minutes to our internal smart systems where measurements and alarms are visualised for end users.

#### Substation Temperature Readings

Substation Name: ● Lochwinnoch Primary



Lochwinnoch was the first substation identified as operating at a higher than optimal temperature. The site was visited by SPD in December 2023 where the heating was manually turned down to bring substation temperature back within acceptable range.

The graph above highlights the positive impact this has had, with the average temperature following the invention significantly reduced. Over time, monitoring temperatures and intervening, when necessary, will significantly reduce building heating consumption going forward.

\*The scope was reduced from 8 to 6 strategic office and depots following RIIO-ED2 final determination

[Commitments & Metrics >](#)

[Contents](#)

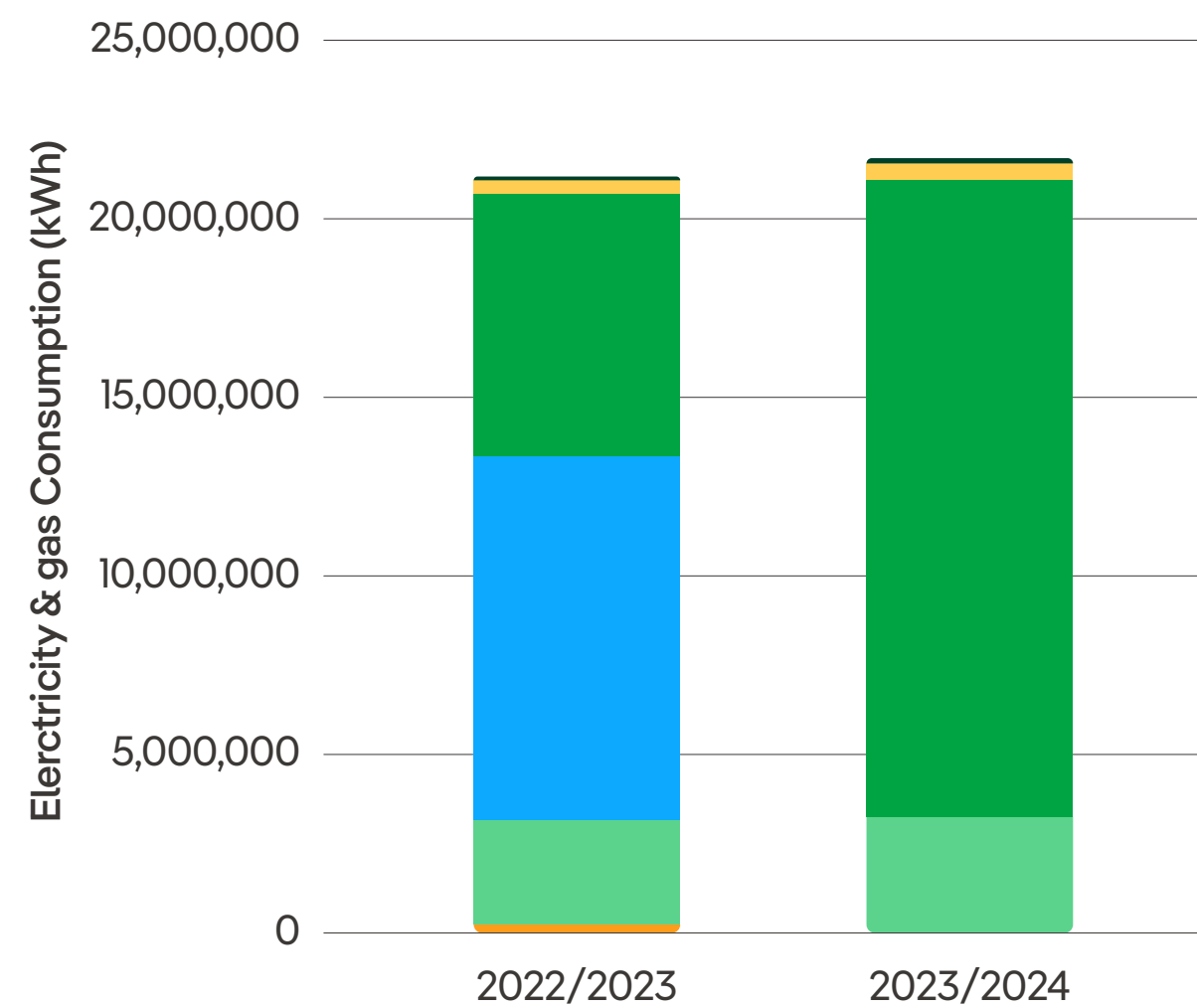
## Commitments



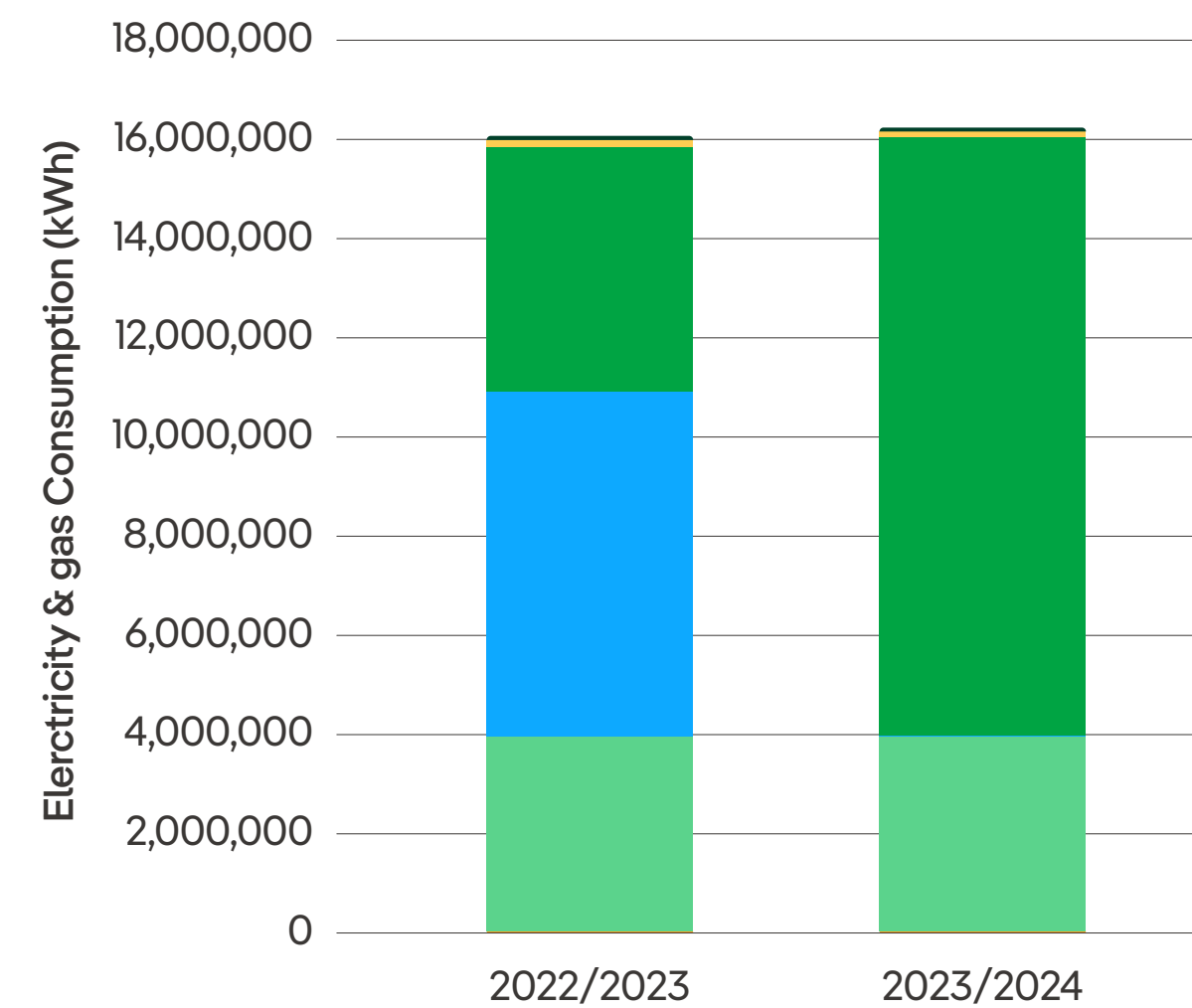
	We will continue to purchase green electricity through a 100% UK-based renewable energy tariff backed by Power Purchase Agreements (PPA) for all our buildings.	G
	We will reduce energy consumption by a total of 3.4GWh at 650 of our primary substations by applying our recently updated civil specifications (including improvements to heating, lighting and insulation).	A
	We will refurbish 8 of our strategic office and depot sites, implementing energy efficiency measures to achieve BREEAM ratings of 'excellent' for new build and 'very good' for refurbishments, to reduce consumption by 11.7GWh over the RII0-ED2 period.	A
	We will pilot and monitor renewable generation at substation and/or depot sites to offset building energy demand.	A

## Metrics

SPD Energy Consumption



SPM Energy Consumption



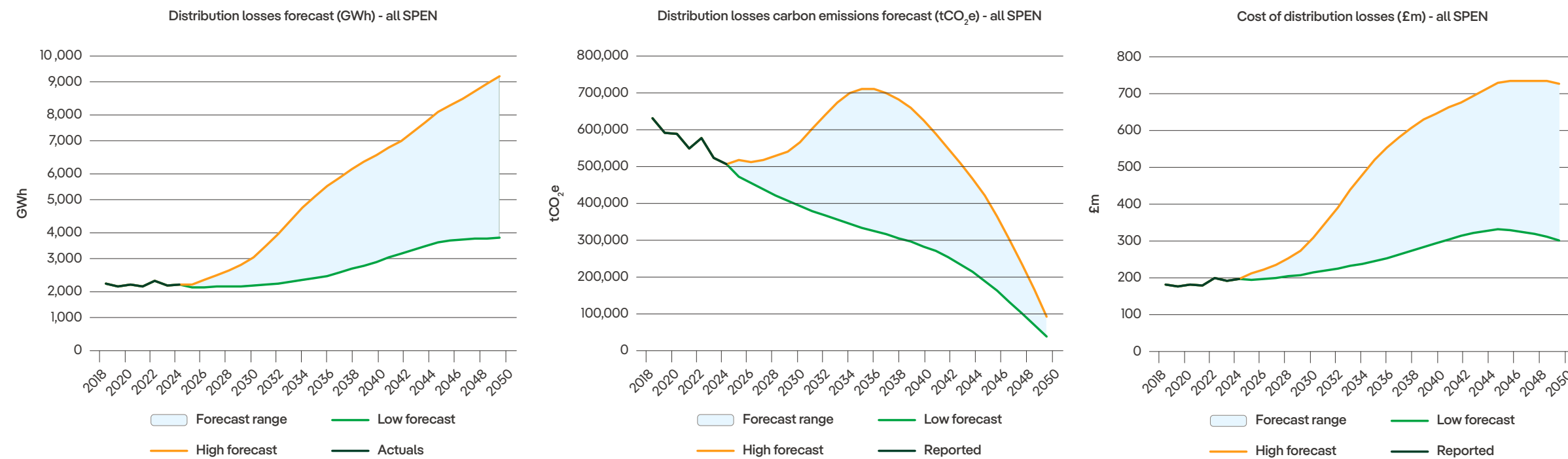
- Radio Base Stations Electricity Standard Tariff
- Office and Depot Usage Gas Standard Tariff
- Substation Usage Electricity Green Tariff

- Substation Usage Electricity Standard Tariff
- Office and Depot Usage Electricity Green Tariff
- Office and Depot Usage Electricity Standard Tariff

## Network Losses

About 7% of the energy entering the distribution system is ‘lost’ as an unavoidable consequence of transporting electricity. Most of this energy is lost in heat and noise as a result of power flowing through the assets – we call these lost units ‘technical losses’. We also incur ‘non-technical losses’, which are those associated with units of electricity that do ultimately get consumed but cannot be billed; this can be caused by illegal abstraction (theft), or inaccuracies in the billing and conveyance process.

All losses cause disparities between the units of electricity recorded by customer meters and the units of electricity that are recorded entering the system. The cost of the ‘lost’ units is ultimately passed on to all consumers as part of their bill. We therefore undertake a variety of losses minimisation activities.



As the electricity system decarbonises, the carbon associated with losses reduces. However, in order to transition towards a Net Zero GHG society, electricity will be more heavily relied upon for transport, heating and industrial uses. This will require network expansion and losses will increase as a result.

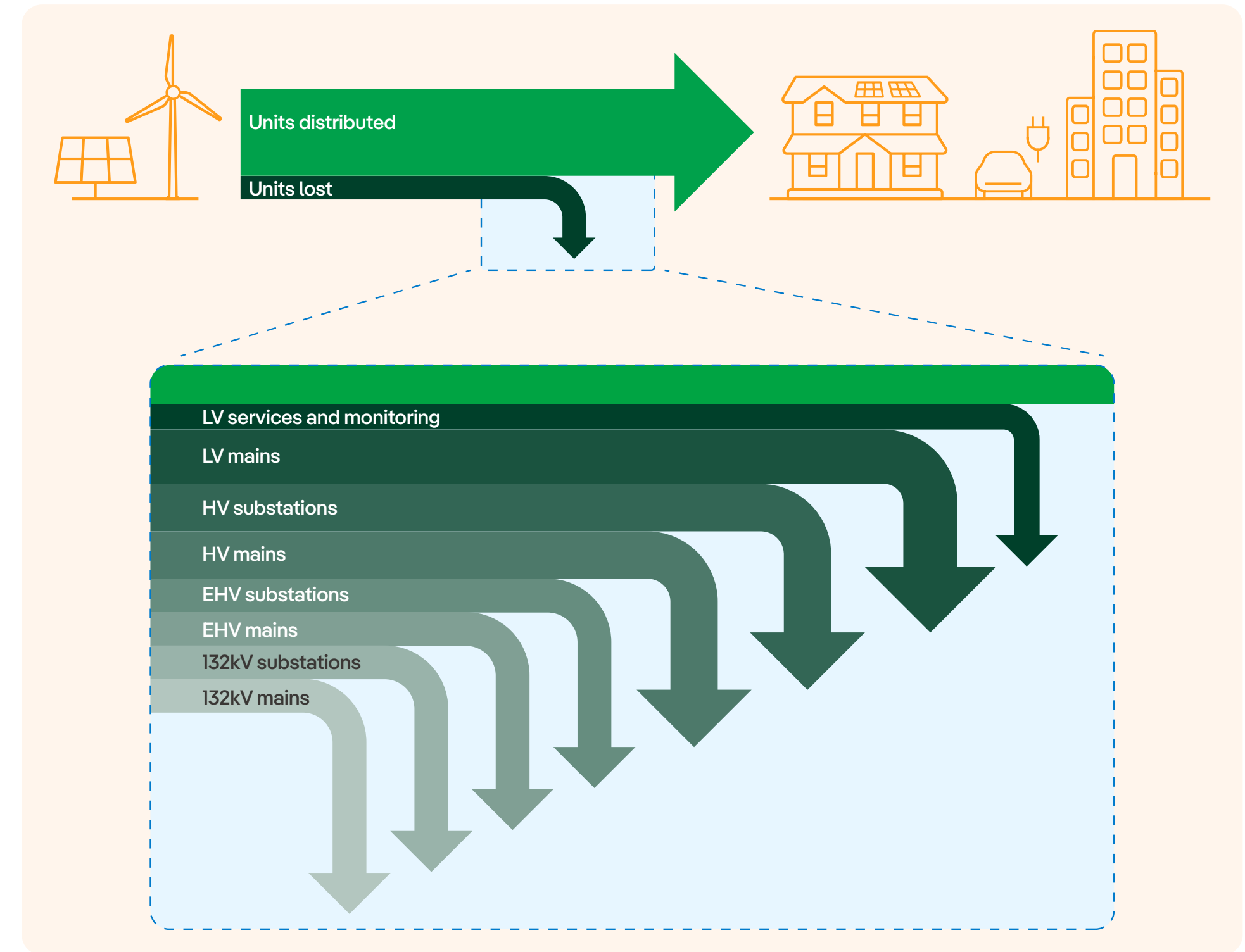
Therefore, we must consider all reasonable measures that can be applied to reduce losses and will adopt those measures which provide benefit for customers.

[Commitments & Metrics >](#)

### Status update

Whilst we know that most losses occur on the LV and HV networks, it is often difficult to calculate the size and location of these losses. Therefore, we must take a holistic approach to loss management.

### Where energy is lost in distribution networks



Non-technical losses are particularly challenging due to their nature of arising from unknown or uncertain energy flows. To calculate the value, location and type of losses with complete accuracy, the detailed power flows of every inch of the network would need to be known in real time.

[Contents](#)





## Network Losses (cont.)

Through our Revenue Protection programme, we fund the facilitation of awareness sessions to explore the consequences and improve the identification of electricity theft, engaging with stakeholders including Merseyside Police, Police Scotland, Merseyside Fire and Rescue, Scottish Prison Service, Local Authorities and local housing associations. We are also continuing to work on and improve our analysis of smart meter data, which leads to the identification of anomalous profiles. This has led to over 8,400 visits in 2023/24, resulting in the successful recovery of over 20 GWh of electrical energy, or almost 4,300 tCO<sub>2</sub>e.

Through our Theft in Conveyance work, as well as identifying and resolving issues with unregistered meters, we are proactively improving the accuracy of records for unmetered supplies by working closely with customers and settlement stakeholders. Over 320 cases were investigated in 2023/24, resulting in an estimated savings of 177 MWh over the action lifetime.

The rollout of Low Voltage (LV) monitoring is on track. LV monitoring data will enable us to pinpoint with much more granularity how much electricity is entering the LV system, when and where. This additional data, combined with consumption data and data analytics, will enable us to calculate the size and location of losses more accurately, particularly non-technical losses. We will install over 14,000 LV monitors in RIIO-ED2, which we estimate could help us save an additional 15 GWh per year by the end of the period.

[Identifying where technical losses occur is also complex because they vary with changes in load, increasing with the square of the electrical current.](#)

Our focus in RIIO-ED2 is to build upon systems that enable whole-system, whole-life assessments to be made when making design and operational decisions ranging from domestic service cables to 132kV connections. When we are intervening in the

network, we conduct a losses-informed cost-benefit analysis when selecting assets e.g. we may invest in upsizing cables if it provides overall value for money to do so.

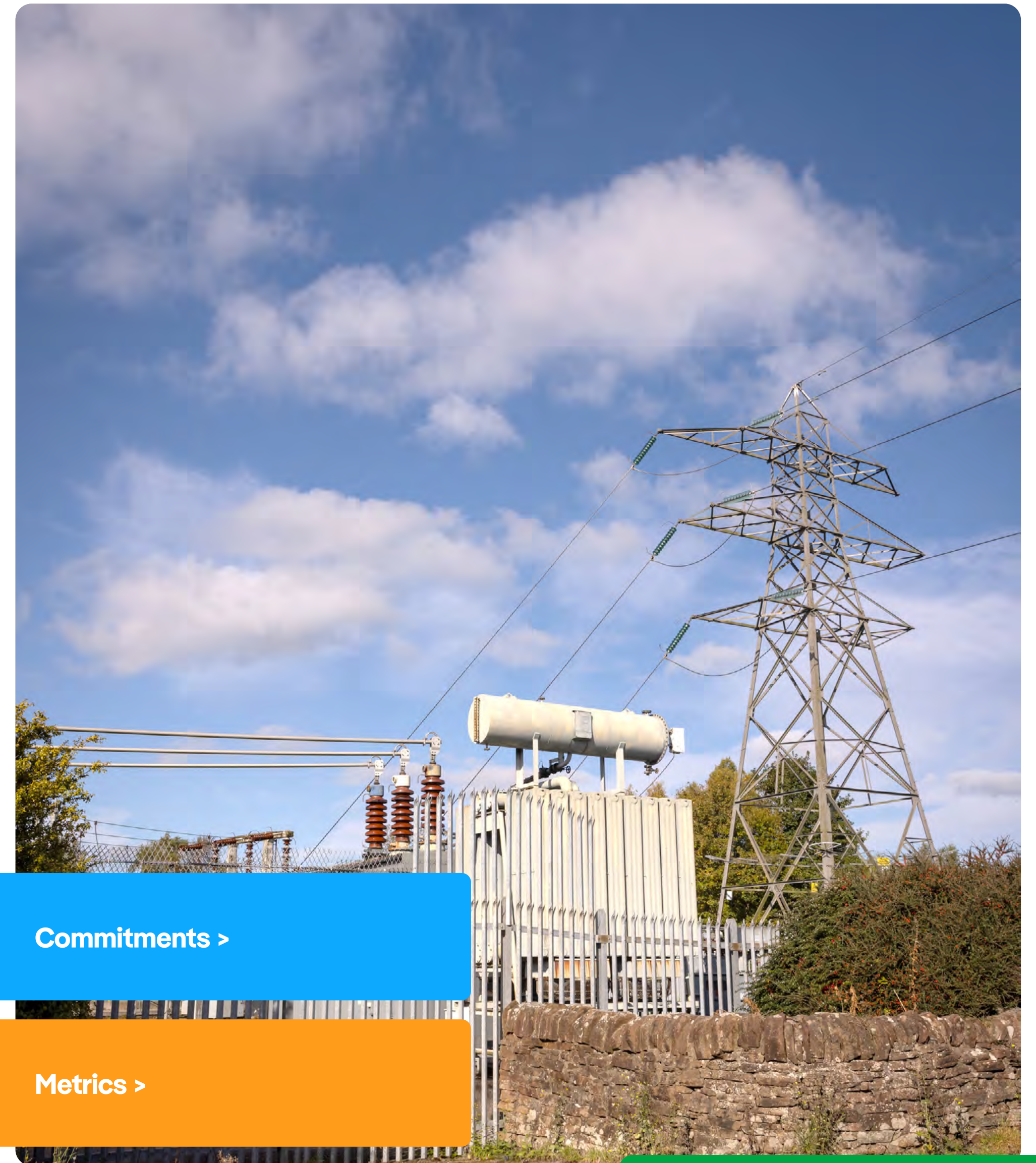
We continue to develop our analytical tools – notably our Engineering Net Zero platform – to improve near-real-time understanding of losses. When combined with aggregated smart meter consumption data and LV monitoring data, modelling will allow us to pinpoint levels and locations of losses with more accuracy. This information managed through our LV Support Room, will inform asset intervention plans.

Looking ahead, we will also conduct further modelling of specific LV network assets using the new tools, including service cables and LV mains. These studies will inform future policy revisions. We will maintain processes for service cable upgrade and replacement setting out exactly how to analyse the network.

[There is a subset of technical losses – called ‘fixed losses’ – that occur in the core of operating transformers. These losses do not change with load and therefore can be accurately located and estimated.](#)

Over the decades, advances in core technology have drastically improved the efficiency of transformer cores to the extent that the loss savings associated with replacing an old, inefficient transformer outweigh the cost of bringing it out of service before its end of life. Our losses-driven investment centres around the early replacement of the highest loss transformers, which are predominantly those distribution (or secondary) transformers with hot rolled steel cores.

In 2023/24 we have brought forward the replacement of 116 highest-loss, ground-mounted secondary transformers. These have been replaced on average 10 years ahead of need, which over the lifetime of the interventions will save over 9 GWh of electrical energy or over 1,900 tCO<sub>2</sub>e.



[Commitments >](#)

[Metrics >](#)

[Contents](#)

## Commitments



In RIIO-ED2, we will continue to implement our Losses Strategy to avoid an estimated 36 GWh of network losses, thereby limiting losses to a lower level than would otherwise be the case.

A

We will continue to lead the Energy Networks Association Technical Losses Group to improve industry understanding of losses.

A

We will continue to drive the development and understanding of losses by contributing to the evidence base on the proportion of losses that network companies can influence/control, collaborating with supply chain and industry peers and piloting new technology such as the MAAV.

A

We will continue to consider and minimise network losses throughout all design and connections activities.

G

We will pro-actively target high-loss legacy assets for replacement with modern low-loss alternatives.

G

We will report on the progress of implementing the losses strategy and associated performance measures.

G

We will use a minimum underground mains cable size of 300mm<sup>2</sup> to further reduce losses, where it is cost effective and appropriate to do so.

A

We will continue to use a minimum pole mounted transformer size of 25kVA to further reduce losses on our network.

G

## Metrics

Electricity Distribution Losses - 2023/24	SPM	SPD	Total
Annual Losses (GWh)	953	1,277	2,230
Share of Total Electricity Distributed (%)	6.88%	7.68%	7.28%
Carbon Equivalent - (tCO <sub>2</sub> e)	197,342	264,434	461,776

Interventions completed 2023/2024 - SPM				
Category	Details	#	MWh	tCO <sub>2</sub> e
Technical	Undertake early replacement of high loss 6.6/11kV Transformer (GM)	40	338	70
Non-technical	Theft in Conveyance Investigations	140	3	1
	Funding of Internal and External Revenue Protection Inspections	5,119	14,706	3,045
		<b>5,259</b>	<b>14,709</b>	<b>3,046</b>
		<b>5,299</b>	<b>15,047</b>	<b>3,116</b>

Interventions completed 2023/2024 - SPD				
Category	Details	#	MWh	tCO <sub>2</sub> e
Technical	Undertake early replacement of high loss 6.6/11kV Transformer (GM)	76	596	123
Non-technical	Theft in Conveyance Investigations	181	8	2
	Funding of Internal and External Revenue Protection Inspections	6,338	6,017	1,246
		<b>6,595</b>	<b>6,621</b>	<b>1,371</b>
		<b>6,671</b>	<b>7,218</b>	<b>1,495</b>



## Scope 3 emissions

In 2023/24, Scope 3 emissions accounted for approximately 43% of our overall footprint. Our Scope 3 emissions include upstream impacts associated with our supply chain.

Scope 3 emissions are classified into categories in accordance with the Greenhouse Gas Protocol.

The majority of Scope 3 emissions are from the products and services we purchase, including capital goods. Another significant source is the upstream (well-to-tank) emissions from fuel and energy consumed either directly or indirectly. Other, less significant emissions streams include waste, upstream transport, business travel emissions (from non-fleet business travel) and employees' commuting.

Source	Category	GHG Emissions (tCO <sub>2</sub> e)
Purchased Goods & Services	3	181,422
Capital Goods	3	61,659
Upstream Transport & Distribution	3	1,533
Fuel and Energy (well to tank)	3	106,139
Business Travel	3	1,336
Waste	3	1,644
Employee Commuting	3	1,061

We have set a Science-Based Target for Scope 3. The accurate reporting of Scope 3 emissions is a significant challenge, particularly measuring impacts relating to products and services which we procure, given the complexity and diversity of our global supply chain. Our Scope 3 emissions are currently calculated from financial expenditure using carbon conversion factors for different types of spend.

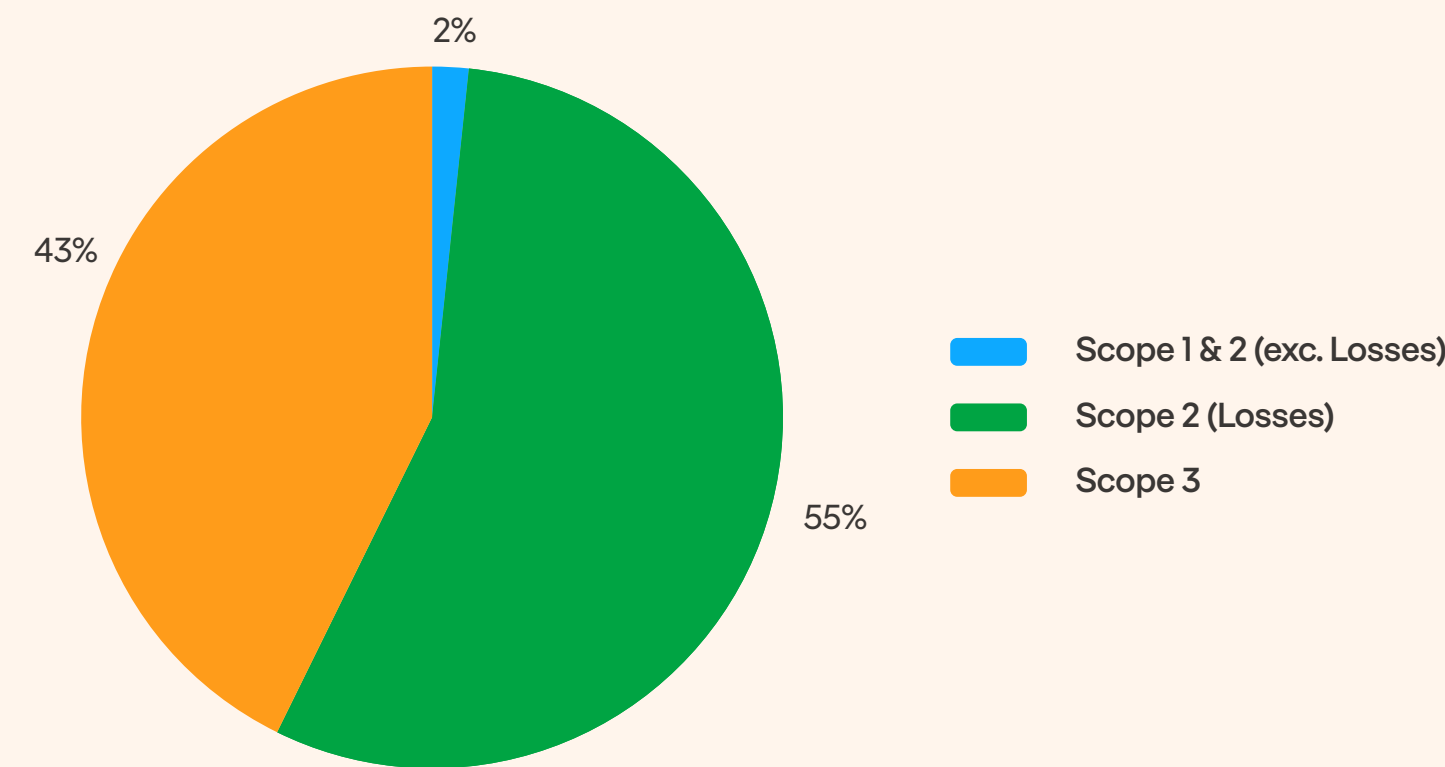
Our approach for reducing Scope 3 is to manage GHG emissions associated with infrastructure development and implement our 'Business Travel Policy'.

### Status update

Scope 3 emissions are 13% higher compared to the previous year. The increase was caused by an increase in our purchased goods and services and capital goods. One of our key activities is to increase the quality and completeness of Scope 3 reporting which will allow us to more accurately track performance.

In the first year of RIIO-ED2, we created and filled a new role, focussing on Scope 3 carbon reductions. The first year was largely focused on improving data and developing calculation methodologies.

### Graph SPD and SPM Scopes 1,2&3 Emissions



### Commitments

We will create a new role in RIIO-ED2 to drive actual reduction in Scope 3 carbon emissions in our supply chain by 100k tCO<sub>2</sub>e

### Business Travel

Business travel emissions include indirect emissions from vehicles not owned by SP Energy Networks, e.g., employee-owned cars and the use of trains and planes. In the first year of RIIO-ED2, emissions associated with Business Travel were 1,336 tCO<sub>2</sub>e, compared to 1,705tCO<sub>2</sub>e in the 2018/19 baseline year.

### Commitments

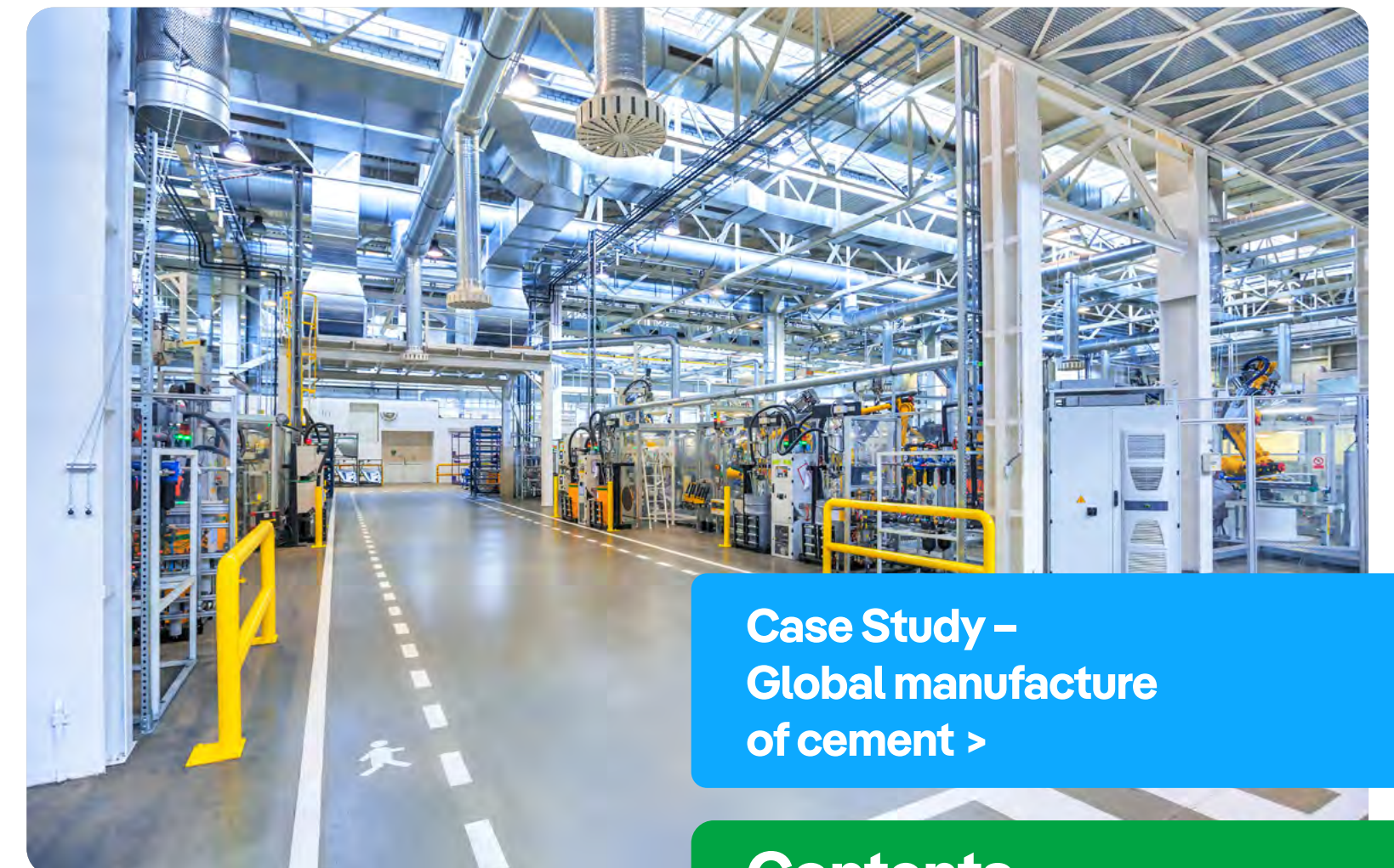
We will continue to implement our 2021 Business Travel Policy to reduce business travel emissions by at least 580 tCO<sub>2</sub>e during RIIO-ED2.

### Metrics

2023/24

Target Avoided Emissions  
Actual Avoided Emissions

116tCO<sub>2</sub>e  
132tCO<sub>2</sub>e



**Case Study –  
Global manufacture  
of cement >**

**Contents**

## Global manufacture of cement



The global manufacture of cement is a major source of greenhouse gas emissions, primarily due to energy-intensive production. Globally, cement production accounts for 27% of industrial emissions<sup>1</sup>.

A pathway to reducing this impact is to minimise the volume of cement used in concrete through design and material efficiency. In 2023/24, SPM re-used structurally suitable existing concrete infrastructure in 8 projects instead of demolishing and rebuilding new structures. This reuse strategy saved approximately 106 m<sup>3</sup> of concrete from being replaced, resulting in an estimated greenhouse gas saving of 43 tCO<sub>2</sub>e (equivalent to powering 16 UK households for a year).



The photo above shows an example of a concrete plinth being used at Thingwall Primary Substation, which resulted in 11m<sup>3</sup> of concrete being reused.

<sup>1</sup>The Lux Decarbonization Radar Inspire Report

## **Embodied Carbon & Carbon Management in Infrastructure**

Embodied carbon is defined by the [UK Green Buildings Council Guidance](#) as the emissions generated to produce a built asset. We have interpreted this as the emissions associated with the manufacture of all materials and equipment (including the raw materials used to make the product and the energy used to produce the final product), all transport related emissions, and all construction related emissions associated with the production of our infrastructure.

### **Status update**

We are implementing processes for carbon management in relevant business activities, aligned with PAS 2080 Carbon Management in Infrastructure. Our first step has been to understand the ‘carbon hotspots’ associated with distribution substations and the opportunities to reduce these impacts.

We have also introduced carbon measurement tools for embodied carbon and other capital carbon emissions. This includes the introduction of ‘[One Click LCA](#)’, which allows us to measure the impacts of civil works on large projects and the development of a digital version of our existing ‘Product Carbon Calculator Tool’\* which measures life cycle emissions from electrical products supplied to our industry.

We have worked collaboratively with other Distribution Network Operators through the Energy Networks Association ([ENA](#)) Carbon Working Group to align our approach to measuring and reporting embodied carbon emissions. We also work with [BEAMA](#) (the trade association for energy infrastructure and systems) to engage our suppliers to understand some of the challenges of decarbonising the electrical products we buy - which are critical to our network and a Net Zero GHG future.



**Metrics >**

**Commitments >**

**Case Study - Product Carbon Calculator Tool >**

**Case Study - Reducing Embodied Carbon >**

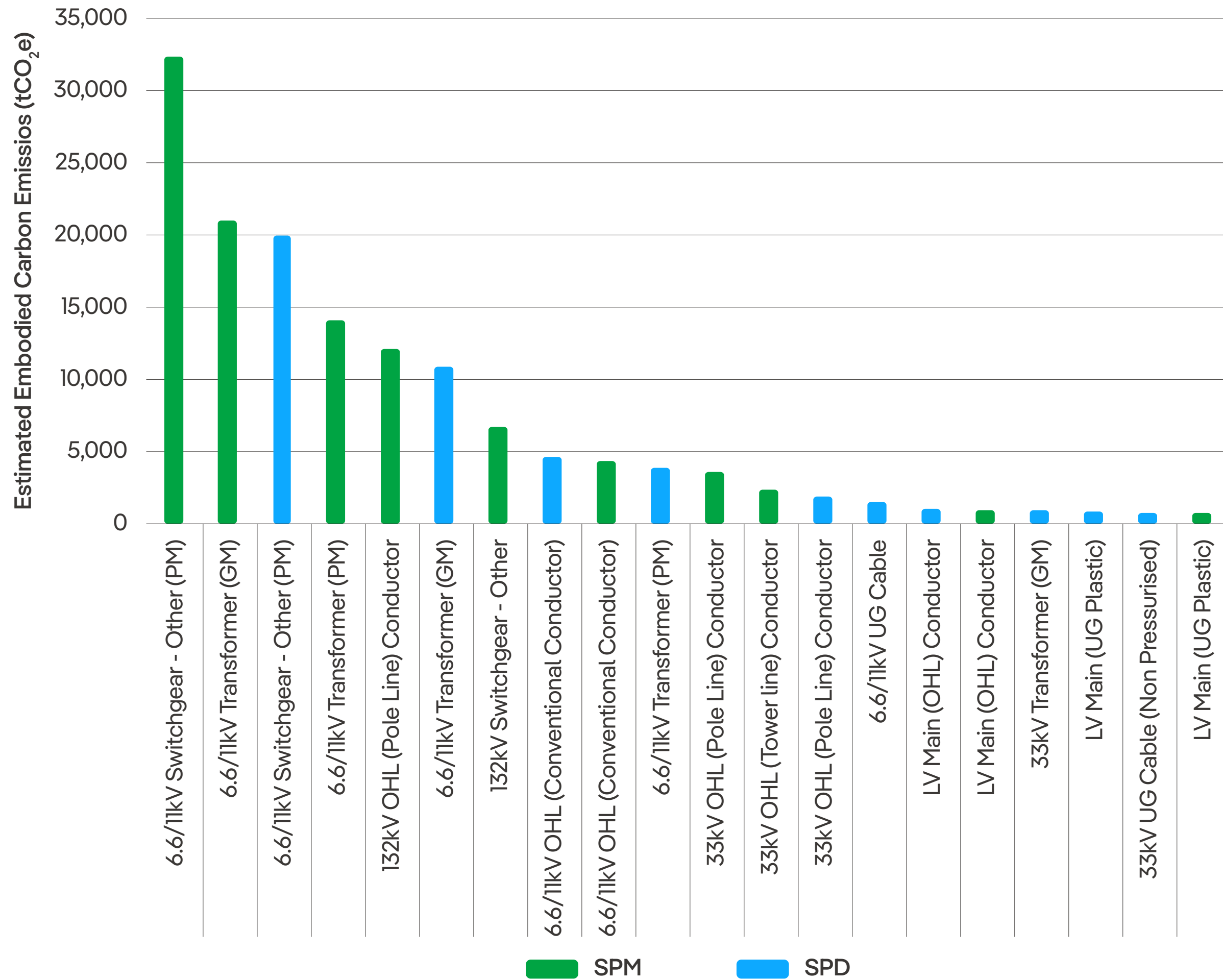
**Contents**

\*Originally developed by National Grid

## Metrics

We have estimated that the total embodied carbon of all electrical equipment installed on our network in 2023/24 was 145 ktCO<sub>2</sub>e. The majority of emissions are associated with switchgear and transformers. The graph below shows the breakdown per equipment type.

Graph estimated embodied carbon emissions from electrical equipment purchased by SPD / SPM in 2023/24



SPM SPD

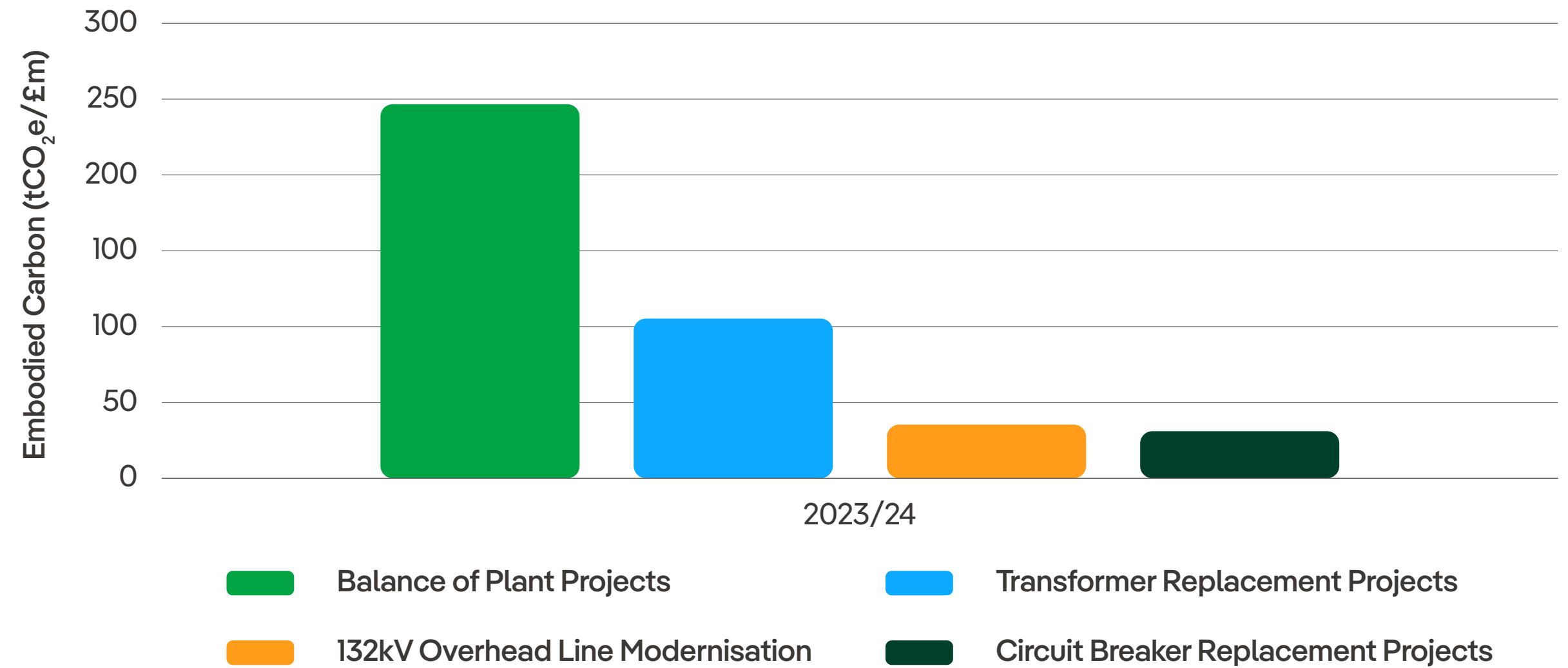


We have also estimated the embodied carbon of nine RIIO-ED2 132kV projects completed to the tender stage. The embodied carbon estimation is based on final design information and includes civil works only. The scope of the assessment includes an estimation of emissions associated with the product stage in addition to transport and construction-related emissions. The following projects were included in the assessment:

- 2 balance of plant projects (projects providing supporting infrastructure and auxiliary systems for network assets)
- 4 transformer replacement projects
- 2 circuit breaker replacement projects
- 1 overhead line modernisation project

The total embodied carbon for all these projects above was estimated to total 188 tCO<sub>2</sub>e. The graph below shows the average embodied carbon emissions (tCO<sub>2</sub>e) per £m spend for each type of project. Balance of plant projects had the highest emissions per project spend (c.250 tCO<sub>2</sub>e/£M) because of the higher volume of civil works within these projects. We will continue to estimate emissions associated with our projects so that we can develop a robust baseline for benchmarking future performance in line with PAS 2080 Carbon Management in Infrastructure and Buildings.

Estimated embodied carbon emissions from nine 132kV projects



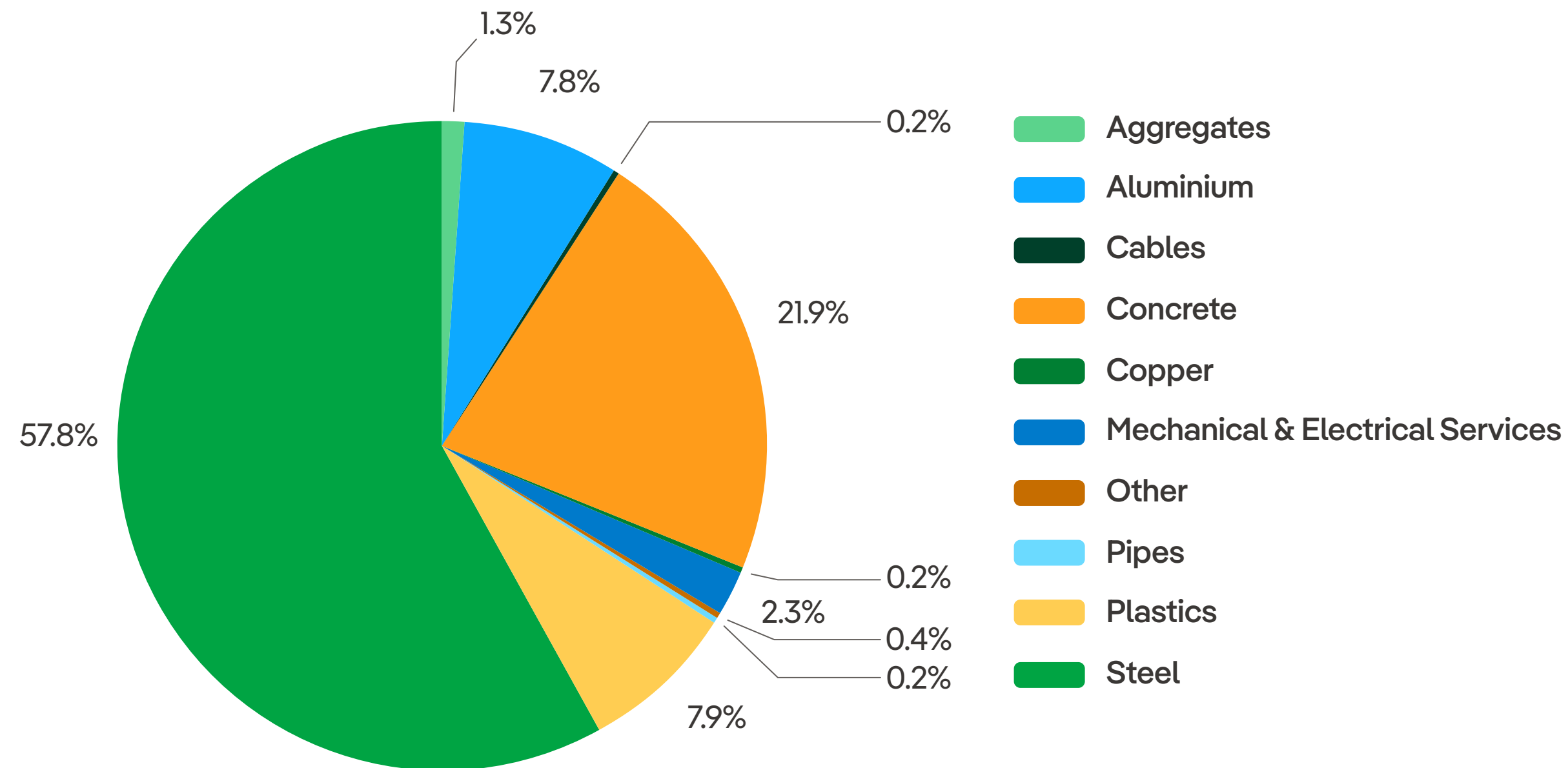
[Case Study - Product Carbon Calculator Tool >](#)

[Breakdown of embodied carbon emissions by resource type >](#)

### Breakdown of embodied carbon emissions by resource type



The graph below shows the breakdown of embodied carbon by resource type for all projects collectively, which is important to identify carbon hotspots and identify future opportunities for carbon reduction.



Carbon hotspots in civil works include steel and concrete, which collectively account for more than two-thirds of the embodied carbon emissions. Reducing the embodied carbon associated with these materials will be a key focus in RIIO-ED2.

Iberdrola has committed to SteelZero, a global corporate initiative led by Climate Group bringing together over 40 ambitious businesses committed to driving the transition to a Net Zero GHG global steel industry. We have made the public commitment to transition to using 50% lower emission steel by 2030 and set a clear pathway to using 100% Net Zero GHG steel by 2050. SP Energy Networks is part of Scotland's Low Carbon Concrete Collective. This partnership brings together large infrastructure operators, construction companies, material suppliers and innovators and will support the deliverability of low-carbon concrete on our network.



### Commitments



We will implement processes for carbon management in relevant business activities, aligned with PAS 2080 Carbon Management in Infrastructure.



We will introduce a measurement tool for embodied carbon and other capital carbon emissions to establish a baseline and a set a target to reduce carbon on new projects during RIIO-ED2.



We will work collaboratively with our stakeholders, including the other Distribution and Transmission Network Operators, throughout RIIO-ED2 with the aim of assessing and managing capital carbon on our projects, driving efficiencies throughout our supply chain, and sharing best practice.



We will monitor and report on embodied carbon in new projects.



### Product Carbon Calculator Tool



Since we set our target in 2022, we have been calculating emissions associated with the products and services we purchase using a spend-based methodology. This is not an uncommon approach, but it presents a challenge because tangible reductions cannot be measured under this approach.

Over the past 2-3 years, we have been working closely with suppliers of electrical equipment and the electrical assets industry body BEAMA to understand how we can better collaborate with our supply chain and drive Scope 3 reductions.

In 2023/24 we developed a digital Product Carbon Calculator Tool. This measurement tool enables electrical equipment suppliers to submit the carbon footprint of any electrical equipment supplied to us.

The focus for next year will be working with suppliers to use the tool and collaborate with the industry to push for a common methodology when requesting this information from our supply chain.



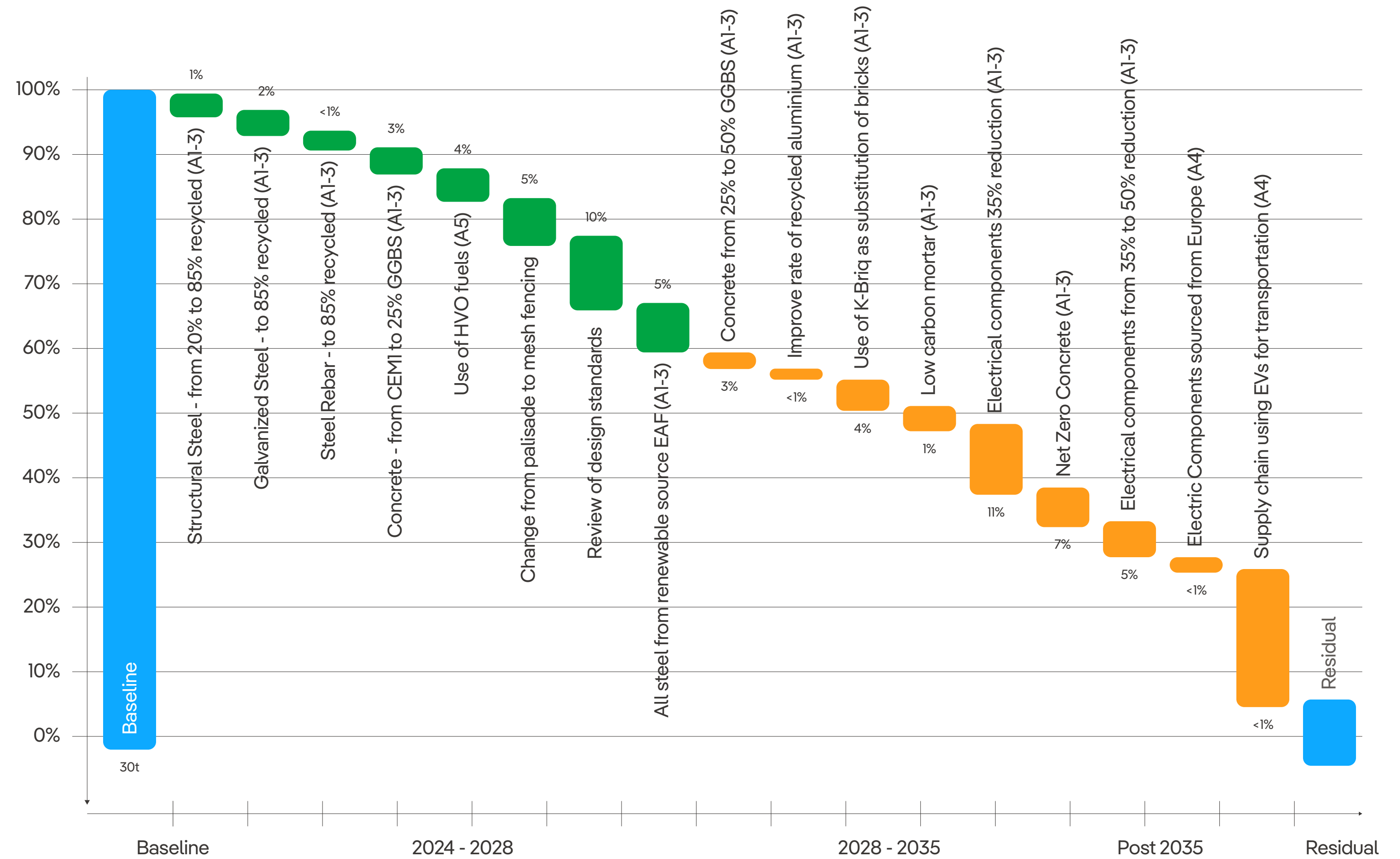
### Reducing Embodied Carbon

One issue with setting an embodied carbon baseline is the diversity and complexity of electrical infrastructure projects. Each project is unique, which makes direct comparability challenging. In 2023/24 we completed our 'Truly Sustainably Substation Project' to understand the carbon hotspots within a substation and focus on the opportunities to reduce these hotspots. The waterfall graph is an example of an 11kV substation which shows the 'Business as Usual' emissions in grey (on the left) – which is the estimated embodied carbon associated with a 'typical' substation. Each opportunity (X-axis) has the potential to decrease emissions. Green represents opportunities that could be implemented in the short term and shows the magnitude of the reduction. Orange represents opportunities which can be implemented in medium / longer timescales. Overall, the study suggests embodied carbon could be reduced by up to 86% in typical 11kV substations if low-carbon materials and products are used. 33kV substations were also assessed and the study suggested up to 67% reductions could be achieved by applying the same principles.

#### Key Opportunities

1. Use of low carbon concrete mixes
2. Use of low carbon steel (e.g. from Electric Arc Furnace)
3. Limiting diesel use on sites through HVO use and other low carbon fuels / technologies
4. Work with suppliers to aim for a -35% reduction in embodied carbon from electrical equipment and cables

Carbon: 11kV Substation - roadmap for reducing embodied emissions (A1-5)





## Carbon Offsetting

Given the urgent need to reduce greenhouse gases emitted to the atmosphere and mitigate the effects of climate change, it is important we develop our network in support of the Net Zero GHG transition in a way that achieves neutral or positive environmental and social impacts. To do this, we must reduce carbon emissions within our operations as far as possible within technological and regulatory boundaries and remove or offset what cannot be reduced - in line with the PAS2060 specification for the demonstration of carbon neutrality.

We will apply the [Oxford Principles for Net Zero Aligned Carbon Offsetting](#) to ensure our approach to offsetting is robust and credible.

### Status Update

We are currently undertaking market research to determine the best option(s) to offset emissions in line with stakeholder expectations and in a way that provides maximum benefits to our local communities. Until we are confident with our approach, we have delayed offsetting emissions until year 2 of RIIO-ED2.

### Commitments

We will achieve Carbon Neutrality by 2023 for our Scope 1 & 2 business carbon footprint excluding Losses.

A

We will align our offsetting approach to the Oxford Principles for Net Zero Aligned Carbon Offsetting, ensuring high probability of 'Additionality' and low probability of 'Reversibility', delivering additional environmental and social benefits where practical.

G





# Action for Nature

While we deliver the low-carbon transition and reduce our own carbon impact, we must also prevent pollution, protect and enhance biodiversity. Protection of the environment is a key component of how we operate our business.



[Contents](#)



## PCB Removal

### Status Update

Work is progressing on the planned removal of PCB-contaminated (or potentially contaminated sealed) assets to ensure that we meet the deadline of 31 December 2025 for the removal of these assets from our Distribution network.

During the first year of RIIO-ED2, SP Distribution replaced 663 assets of the targeted 1,504 and SP Manweb replaced 1503 assets of the targeted 2,520.

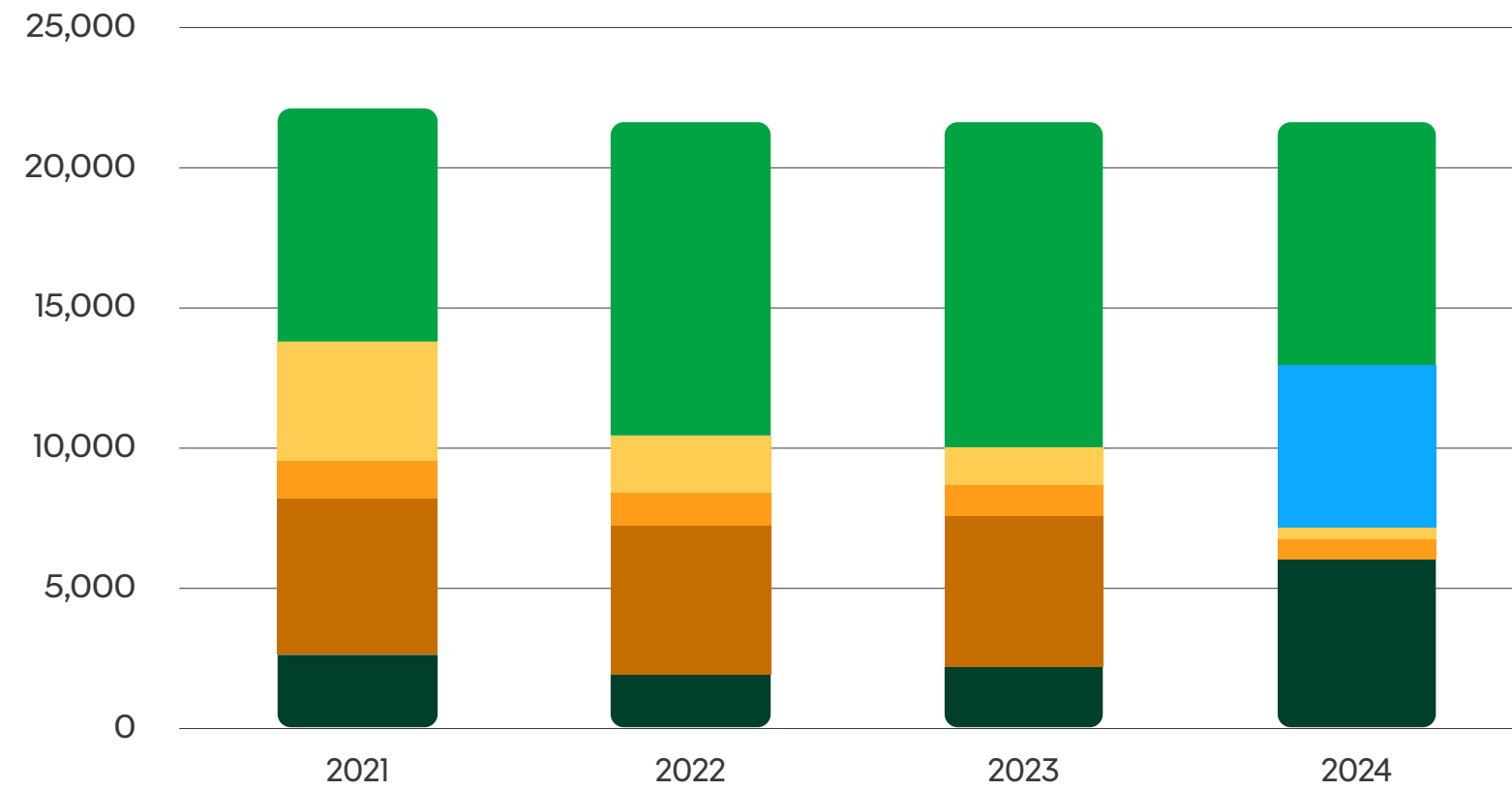
We are currently behind target across both distribution licences. However, in line with our plans, developed via the ENA PCB Working Group, we are continuing to identify contaminated equipment (CE) as shown in the charts below. The charts provide an indication of the number of assets identified based on test results data and year of asset manufacture and demonstrate our continued progress in identifying likely contaminated equipment to be removed from the network.

The successful demonstration of the Contaminated Equipment Disposal Plan will be achieved via the removal or decontamination of all equipment identified through this process and subsequent updates to the registered contaminated equipment, with the ultimate removal of all contaminated equipment from the registry.

This Contaminated Equipment Disposal Plan involves a challenging rate of equipment replacement, and we are intending to comply with the deadline.

Further information is available within the [Key Performance Indicators Annex](#).

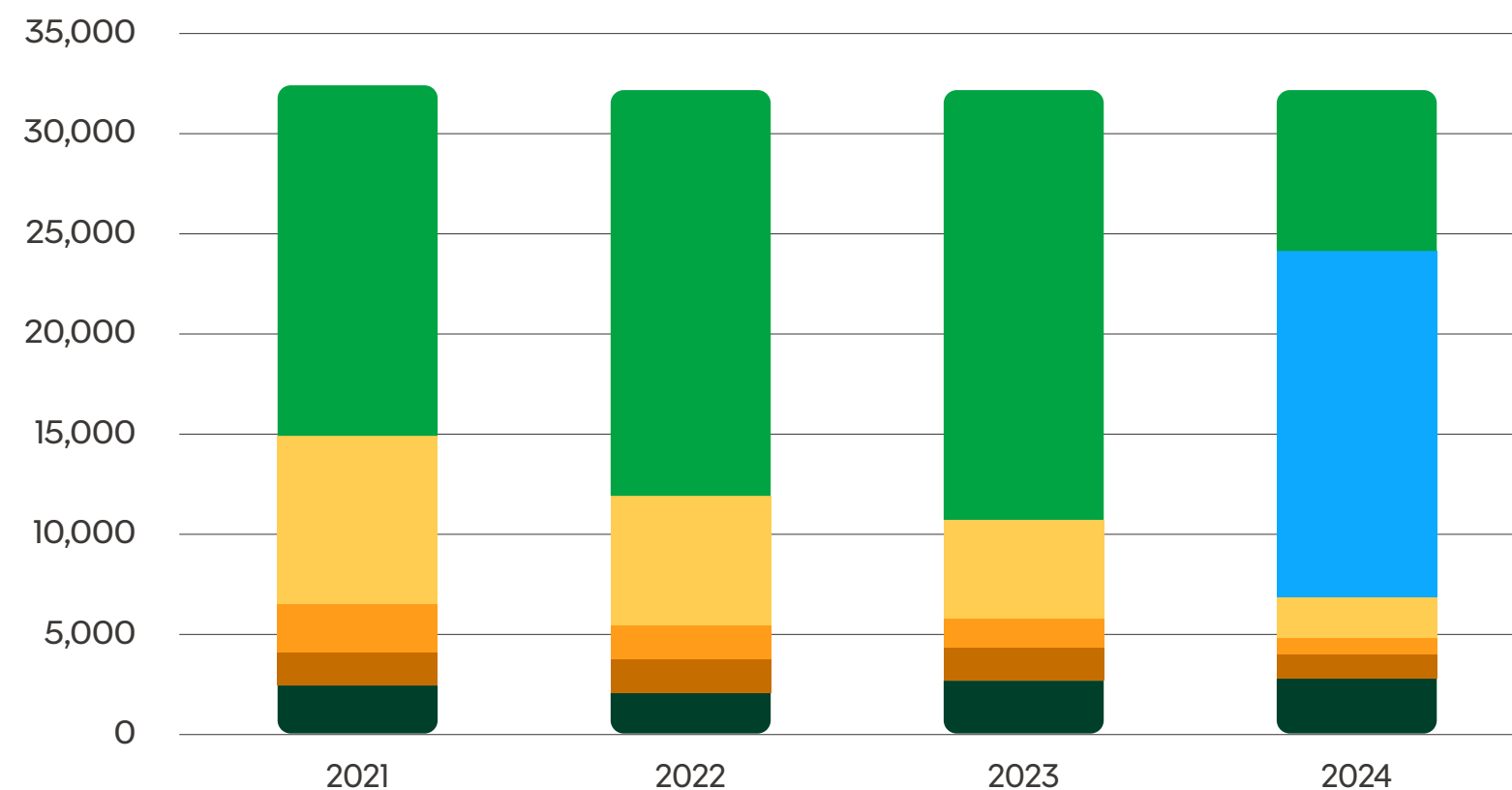
Total PMT Equipment in England & Wales by ENA Category



The categories in the graph above are grouped into six bands:

- Band 0: Not In-Service (Known or Unknown Manufacturer for YoM <1987 or Unknown YoM)/ No Longer in Scope (Known or Unknown Manufacturer for YOM 21987)
- Band 1: Negative (With Known Manufacturer and YoM <1987)
- Band 2: With Data but Not Conclusive (With Known Manufacturer and YoM <1987)
- Band 3: No Data Not Conclusive (With Known Manufacturer and YOM <1987)
- Band 4: Negative (Unknown Manufacturex but YOM <1987 or Unknown YOM) + With Data but Not Conclusive (Unknown Manufacturer but YoM <1987 or Unknown YOM) + No Data Not Conclusive (Unknown Manufacturer but YoM <1987 or Unknown YOM) + Positive & Potentially Positive (Unknown Manufacturer but YoM <1987 or Unknown YoM)
- Band 5: Positive & Potentially Positive (With Known Manufacturer and YoM <1987)

Total PMT Equipment in Scotland by ENA Category



## Fluid Filled Cables

### Status Update

At the start of RIIO-ED2, we set ourselves a target to reduce leakage in our fluid-filled cables. We will continue to regularly monitor our entire oil-filled asset base for leaks and future risks.

SPD currently has 31.1km of fluid-filled cables in service. In the 2023/24 reporting year, a leakage rate of 0.08% was recorded following one top-up event of 70 litres at the Strathaven GSP.

SPM has 150km of fluid-filled cables and topped up a total of 2,538 litres in the 2023/24 reporting year with a leakage rate of 0.38%. This is a reduction of nearly 15,000 litres from last year when we had significant leaks in Merseyside and is now back in line with our average annual leakage rate. The Kirkby and Bootle Circuits are both in the RIIO-ED2 plan for replacement and programmed for sectional completion between 2025 and 2027. This will further reduce and improve our leakage rate.

### Metrics

	SPM	SPD	Total
Fluid filled cable in service (km)	150.5	31.1	181.6
Volume of oil in fluid filled cables (ltrs)	662,200	93,300	755,500
Fluid filled cable oil top ups (ltrs)	2,538	70	2,608
Fluid filled cable oil top ups as % of oil in service	0.38%	0.08%	0.35%
Leak (Reduction)/Increase from last year (ltrs)	-14,940	45	-14,895
Volume of oil recovered (ltrs)	65	0	65

[Commitments >](#)

[Contents](#)



## Pollution Prevention

### Status Update

In SPM we set a target to implement pollution incident response plans for all of our 132kV projects and we achieved this in the 2023/24 reporting period.

All 132kV projects within the SPM distribution area now include a Pollution Prevention Plan. This forms part of the risk management process to ensure that environmental risks from the projects are managed appropriately to avoid impacts. These plans ensure that risks are identified, appropriate controls are implemented and resources are identified to deliver a suitable level of risk management.

Typical requirements or areas of focus are:

- Protection of the water environment including watercourses and drainage systems through surface water management, spill response, etc.
- Management of dewatering activities.
- Fuel delivery, fuel storage, fuel management and refuelling of plant, machinery, etc.
- Management of COSHH materials (use/ storage/assessments).
- Use of materials such as concrete and bentonite clay.
- Management of soils (excavation/storage) and
- A wet weather protocol to avoid weather-related pollution incidents.

As part of our plans to reduce pollution across our distribution network, we have developed an annual programme to identify and investigate sites with legacy oil contamination within each licence. Site investigations are undertaken at these sites and measures are implemented to rectify and remediate the land. The status of each site is documented on a contamination tracker for prioritisation of the remediation programme.

In terms of lowering our impact and adopting new technologies, we have used lower carbon concrete for the retrofit of oil containment bunds on 43 ED2 projects. High-Density Polyethylene (HDPE) is also an option for bunds, and we continue to consider and work with our project teams and contractors to find the best solutions.

## Incidents and Noise Pollution

### Status Update

We are continuously encouraging environmental incident reporting across the Distribution Licences by reviewing existing guidance and reporting tools and sharing lessons learned. There was one regulatory intervention in December 2023 in SPM which resulted in a written warning although no further enforcement actions or undertakings resulted. Measures have been taken to reduce the risk of reoccurrence environmental communications have been produced to raise awareness of the requirements and we are developing procedures to support work in ecology, hydrology and archaeology.

We seek to minimise the impacts of noise resulting from the construction, maintenance and operation of our electrical infrastructure. When we build new infrastructure or when the local environment changes around our existing infrastructure, this can sometimes result in a negative effect on the local area. The SPEN strategy is both proactive and reactive in mitigating and reducing these impacts. SPEN operates a 24-hour customer helpline where customers, contractors and staff can report problems on the network including issues related to noise. Enquiries regarding noise are logged in our customer complaints system and passed to regional contacts with actions and deadline dates. SPEN has a good record of mitigating the effects of any issues highlighted with our static assets. We assess the noise at the complaint location, identify the appropriate action to reduce the impact of the noise and inform relevant parties after the issue has been resolved. No noise complaints were recorded within SPD for the 2023/24 reporting year. There were nine noise complaints in SPM, against the target of 3. All 9 noise complaints were followed up with investigations and after interventions, were fully rectified.

Through compliance with our Noise Management Procedure, we are continuously educating colleagues on how to better manage noise.



[Commitments >](#)

[Contents](#)



## Wood Poles

### Status Update

At the start of RIIO-ED2, we made a commitment to continue to collaborate with other DNOs and our supply chain to develop innovative alternatives to creosote wood poles. All our new designs now include the use of copper biocide LV poles instead of creosote.

We have completed an £18 million major reinforcement project in North Shropshire that will facilitate new growth across the region and enhance the resilience of the network for 30,000 homes and businesses in the area.

Throughout the project, our team worked closely with the local wildlife trust in Shropshire and other key stakeholders to undertake several environmental initiatives including habitat and hedgerow enhancements and pond and wetland restoration. As part of the upgrade, in a UK first we trialled new eco-friendly treatments on 10% of the new wood overhead line poles. They were treated with copper oil, which is kinder to the environment than traditional creosote.

[Commitments >](#)



[Contents](#)



## Commitments



We will continue to target zero environmental regulatory interventions and notifiable breaches.

R

We will implement Pollution Prevention Plans at 100% of our RIIO-ED2 132kV projects.

G

We will reduce the volume of fluid (oil) used to top up our pressurised cables by around 3,490 litres (10%) by replacing 19,429km of our leakiest fluid filled cable.

G

We will continue to proactively minimise the impacts of noise resulting from the construction, maintenance and operation of our electrical infrastructure and take timely action to rectify noise complaints from our plant and sites.

A

We will eliminate PCBs from our network by the end of 2025, in line with legislation and the risk-based industry approach agreed with the environmental regulators.

A

We will use low carbon alternatives to concrete bunding for our RIIO-ED2 retrofit projects where technically feasible.

G

We will adopt new technologies, where appropriate, to support the ongoing proactive management of our fluid filled cables.

A

We will continue to report on noise pollution incidents and actions taken to reduce them.

G

We will report on volumes of PCB contaminated equipment on and removed from the network.

G

We will upgrade existing or install new bunds at 203 of our Primary and Grid transformers as part of our RIIO-ED2 programme of oil mitigation measures, where adequate bunding is not in place.

G

We will implement a programme to identify, risk assess and address high risk legacy land contamination.

G

We will continue to collaborate with other DNOs and our supply chain to develop innovative alternatives to creosote wood poles.

G



## Biodiversity & Natural Capital

Across our Distribution business, we work to protect and enhance the habitats our network operates within. We are committed to applying the principles of the mitigation hierarchy across our operations, avoiding and mitigating impacts of our construction works where possible and restoring and compensating for any residual impacts to achieve 'No Net Loss' of biodiversity and deliver 'Net Gain' where appropriate.

### Status Update

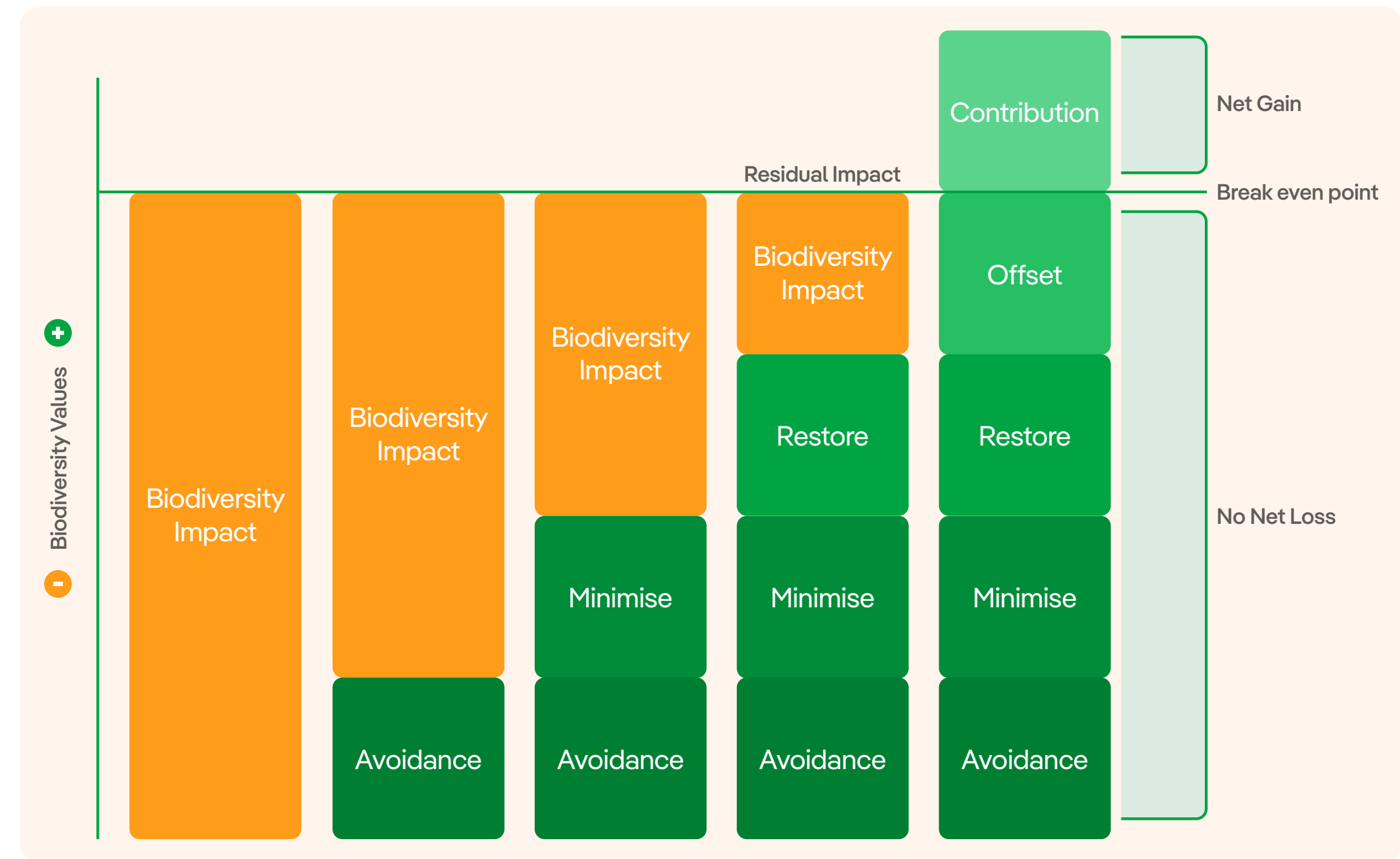
This year we finalised our [Action Plan for Nature](#), publicly available through the SPEN website. This document details our vision for delivering a sustainable and nature positive network.

Understanding the state of biodiversity and natural capital across our network is a key part of developing our plans to take action for nature. In collaboration with other network operators and consultants AECOM, we are testing a tool called 'Eco-Uplift' which generates a biodiversity and natural capital baseline assessment for a given location. In tandem with this we are undertaking a large-scale digitisation project for site land boundaries. Once this is complete, we can then create a baseline in year 2 of RIIO-ED2, slightly behind our commitment timeline. Implementing in this tool will also allow us to make better decisions in relation to infrastructure siting, project planning and site maintenance with regard to nature.

As well as collaborating on tools, we are also working with other linear infrastructure operators, to develop our methodology for measuring biodiversity loss and delivering net gain. In SPD we

will be using the SSENT adapted metric, based on the DEFRA Biodiversity Metric V3.1.2, whilst we await the development of a Scottish statutory metric. In SPM we will use the statutory metric for Biodiversity Net Gain (BNG), currently DEFRA Biodiversity Metric 4.0. This year, we piloted the use of the BNG Statutory Metric using survey data from sites across SPM which have been highlighted as having the potential to deliver biodiversity enhancements. We have also contributed to NatureScot's development of the Scottish Biodiversity Metric as members of the Linear Infrastructure Environmental Management Group.

We are committed across RIIO-ED2 to deliver a 10% enhancement of biodiversity on 25 hectares of our existing network, on our non-operational and existing linear infrastructure. We have identified sites across the network which have land that might be suitable for delivering enhancement and have started the process of gathering survey data and developing enhancement plans. Delivery of enhancement on this pipeline of sites will be the focus in year two and will be carried out in collaboration with landowners, communities, and local wildlife groups. Throughout the year we have engaged with several organisations including Buglife, The Conservation Volunteers (TCV) and Cheshire Wildlife Trust to discuss our 25-hectare target. We have developed a pilot project with the Cheshire Wildlife Trust which we will deliver in Year 2 of the price control.



[Case Study - Distribution Biodiversity Working Group >](#)

[Commitments >](#)

[Contents](#)

### Distribution Biodiversity Working Group



The SPEN Distribution Biodiversity Working Group have developed a process for identifying sites to meet the commitment to enhance 25 hectares of non-operational and network land for biodiversity by 10%. This year we have developed a project in the SPM licence to deliver enhancements in partnership with the Cheshire Wildlife Trust (CWT).

As part of an overhead line refurbishment project crossing CWT land, the potential to enhance habitats beneath the lines was identified. The Trust developed several proposals, from which two have been selected and will be delivered as pilots next year. These projects will focus on wetland enhancement, for the benefit of water bird species, and wildflower meadow development for pollinators.



### Commitments



We will deliver 10% enhancement of biodiversity on 25 hectares across our existing network, on our non-operational land and existing linear infrastructure through collaboration with landowners, communities and local wildlife groups

A

We will implement a Biodiversity & Natural Capital Action Plan process to guide local operation implementation with the aim of increasing environmental value across our network.

G

We will collaborate with stakeholders, including other DNOs, throughout RII0-ED2 to develop and pilot robust methodologies and tools for delivering Biodiversity and Natural Capital assessment.

G

We will engage with UK and devolved governments with the aim of influencing biodiversity and natural capital policy to facilitate delivery of our biodiversity and natural capital goals.

G

We will identify, and subsequently monitor and annually report, metrics to track the levels of biodiversity and value of natural capital and ecosystem services on our sites and the achievement of our targets.

A

We will form strategic partnerships with local ecological protection organisations to support our activities to improve habitats for wildlife and to support people's access to nature.

G



## Enhancing visual amenity

Historically, distribution networks in the UK have been constructed using overhead lines, taking the most expedient route towards electricity consumers.

We have over 38,000km of overhead lines supported on over 600,000 poles and towers across our operating area. Some of these assets are in or adjacent to protected sites such as National Parks, Areas of Outstanding Natural Beauty (AONB) and National Scenic Areas (NSA) as these areas have become designated in the passage of time. These overhead lines may impact the visual amenity of the sites and visitors' enjoyment of them.

A fund is available to network operators for mitigating visual impacts associated with pre-existing electricity distribution infrastructure by removing selected overhead lines and replacing them with underground cables.

Using this fund, our approach is to proactively underground overhead lines that have the greatest level of impact in nationally designated and protected landscapes, using the five-stage process:

1. Develop an approach to initiation and identification of distribution infrastructure.
2. Meet with relevant stakeholders.
3. Review nominations from relevant stakeholders.
4. Develop and implement undergrounding proposals.
5. Review undergrounding work.

### Status update

In SPM, we've completed visual amenity works in Tyn Llwydan and work is planned for completion

at Rhos Mynach, Anglesey in 2024. There are an additional 11 projects planned during 2024, 2025 and 2026.

To begin the process, we've been actively holding meetings with relevant councils to understand the requirements and facilitate the necessary designs to ensure our stakeholder's proposals come to fruition.

Our High Voltage Overhead Line Design and Development team in SPM have been working alongside the Clwydian Range and Dee Valley AONB. This partnership has contributed to the completion of three separate projects and the planning of many more to come.

Howard Sutcliffe, Clwydian Range and Dee Valley AONB officer says: "The first scheme at Bwlch Pen Barras was an achievement, the area is common land (moorland) and is visited by over 300,000 visitors per year."

SPD also have a number of visual amenity projects in the works including at Holy Island in Edinburgh and Borders.

By working closely with stakeholders to help them access the visual amenity allowance, we've not only helped to improve the landscapes of our national parks and improve the resilience of our network, but it's also been an opportunity to work with our local communities.

This year 3km of overhead lines were removed in the Ynys Mon Anglesey Area of Outstanding Natural Beauty in the SPM licence, and 2km were removed in the SPD licence area.

Aberffraw in Ynys Mon/Anglesey before OHL removed



Aberffraw in Ynys Mon/Anglesey after OHL removed



### Commitments

We will remove 35km of overhead lines in Areas of Outstanding Natural Beauty, National Parks and National Scenic Areas.

G

### Metrics

Location of OHL	Designated Site	km
SP Manweb Area	Ynys Mon/Anglesey	2.89
SP Distribution Area		2.07
<b>Total OHL Undergrounded 2023/24</b>		<b>4.96</b>
<b>RIIO-ED2 Target 2023/24</b>		<b>4.00</b>

Contents



# Circular Economy

As a sustainable networks business, we are committed to incorporating circular economy principles into our policies, procedures, and project delivery. We work collaboratively to improve the circularity of our resources, recognising the value of keeping them in use for as long as possible and retaining their value. In line with this, we have set challenging business targets to divert 100% of our waste from landfill by 2030, excluding compliance waste.

Waste data has improved in the first year of RIIO-ED2 but there remain challenges, including gathering data for materials and end-of-life destinations being recorded accurately. During the remainder of RIIO-ED2, we will continue to improve materials data including the % recycled content of materials being used on our projects.

To do this, we are increasing our data-gathering abilities by investing in an enhanced waste and materials digitalisation recording system for our supply chain. By investing in a more holistic and user-friendly system, we aim to see the data of recycled content of materials being used on site increase.

## Status update

In calendar year 2023 we diverted 94% of waste from landfill, just short of the trajectory required to achieve 100% by 2030. We have marked this as amber in our RAG status but have a plan to get this

back on track to meet the 2030 target. Diversion should improve as we move to a new waste data recording system that will more accurately track the waste destination and allow us to target improvements. We are also monitoring any landfill waste and engaging with our waste contractors to ensure our diversion targets will be met. This increases our collaboration with the waste industry and our supply chain to reduce waste. This is a key part of our RIIO-ED2 target, where we will engage with the waste industry and regulators to encourage waste minimisation.

We are also working to establish a baseline and targets for waste reduction per £1m of total annual expenditure and will be working with the planning and design teams to gather the data to enable these targets to be set. Internal engagement and stakeholder planning are key areas for us to establish metrics to focus on resource use reduction.

We have been engaging with the materials industry to research the potential for setting a percentage of recycled or reused content in our top materials by volume. Our engagement focus has been on the concrete, steel and aggregates industries to discuss the 'business as usual' position for recycled/reused content and what the potential is for these industries for the duration of RIIO-ED2.



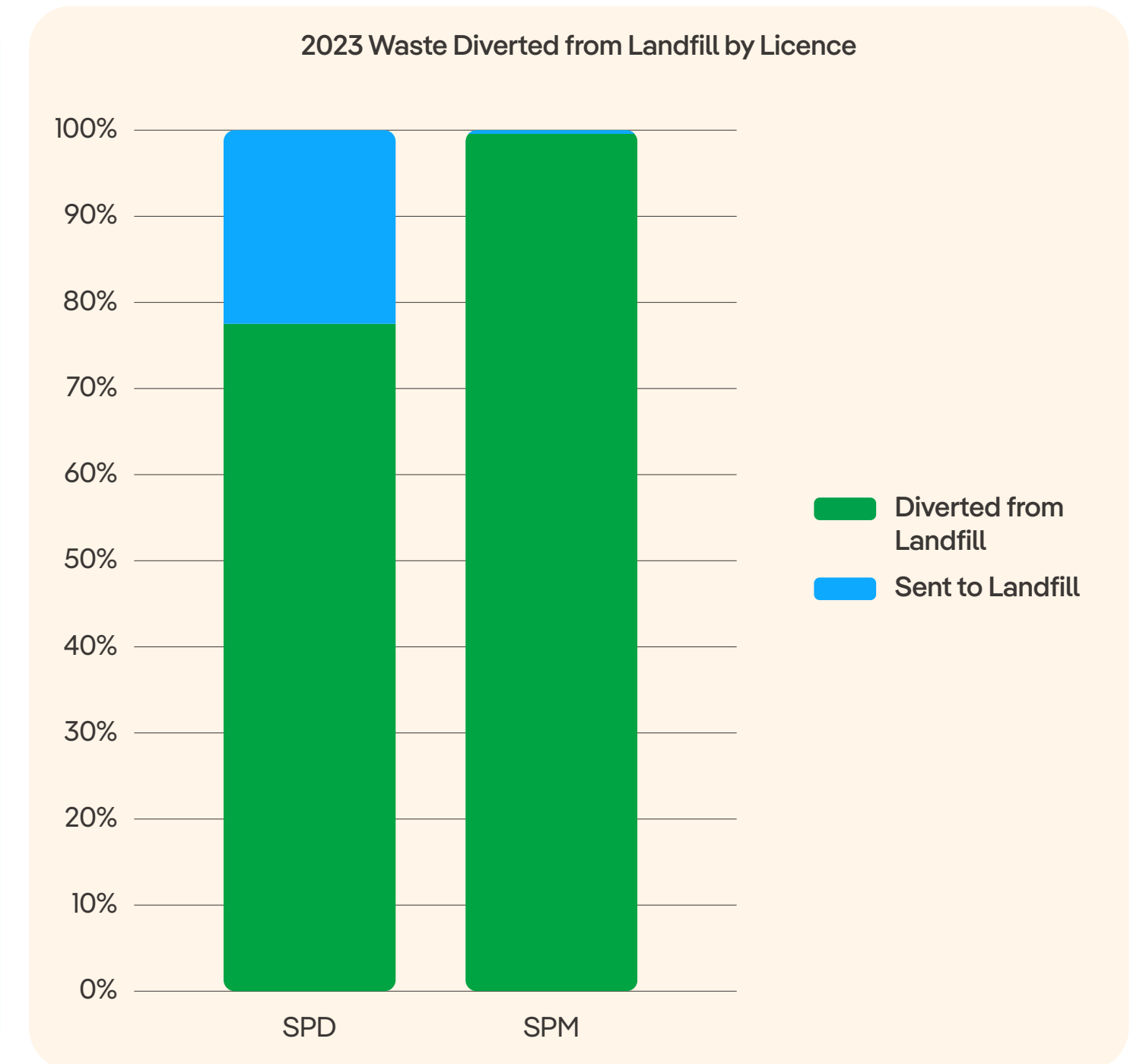
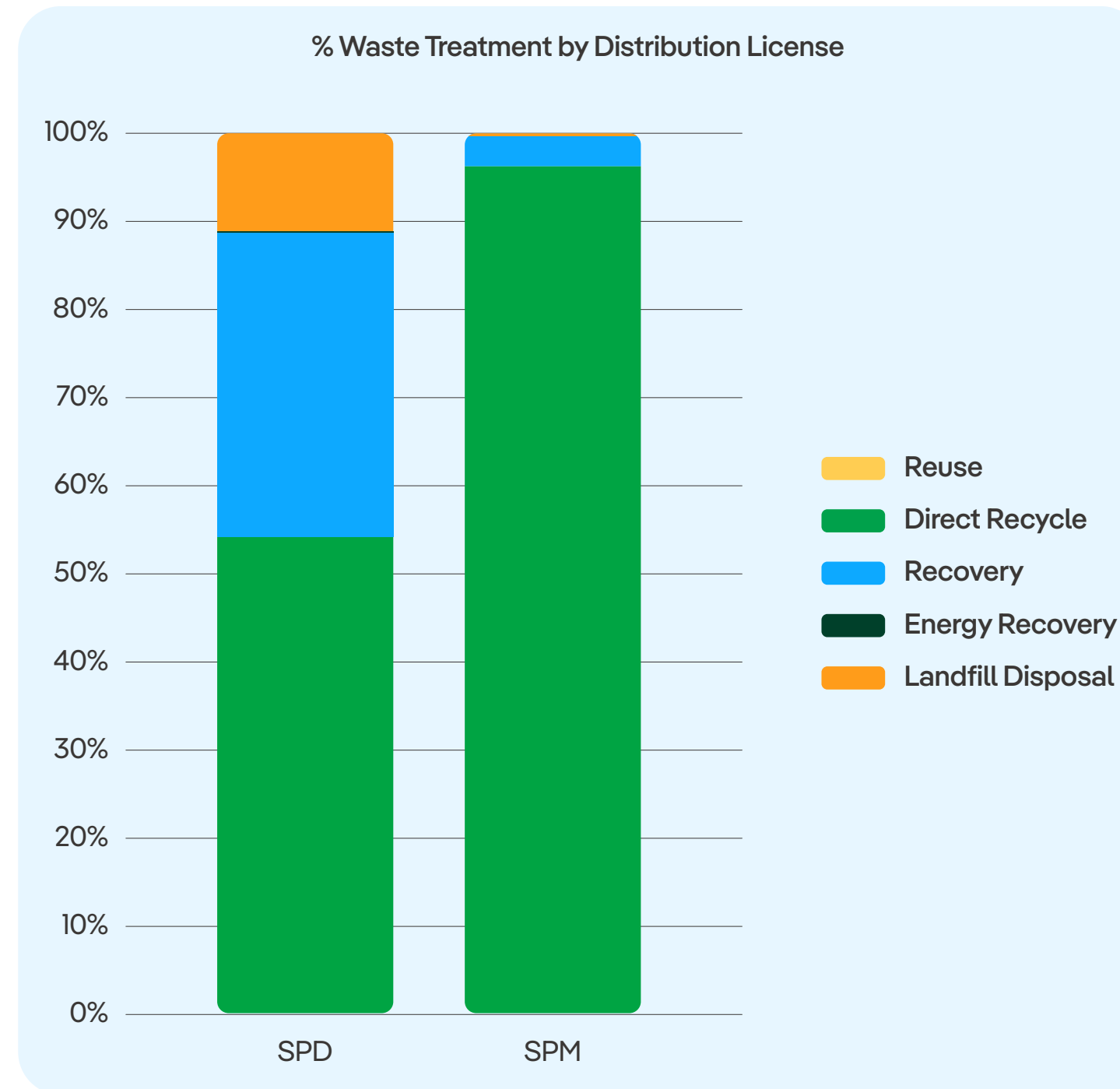
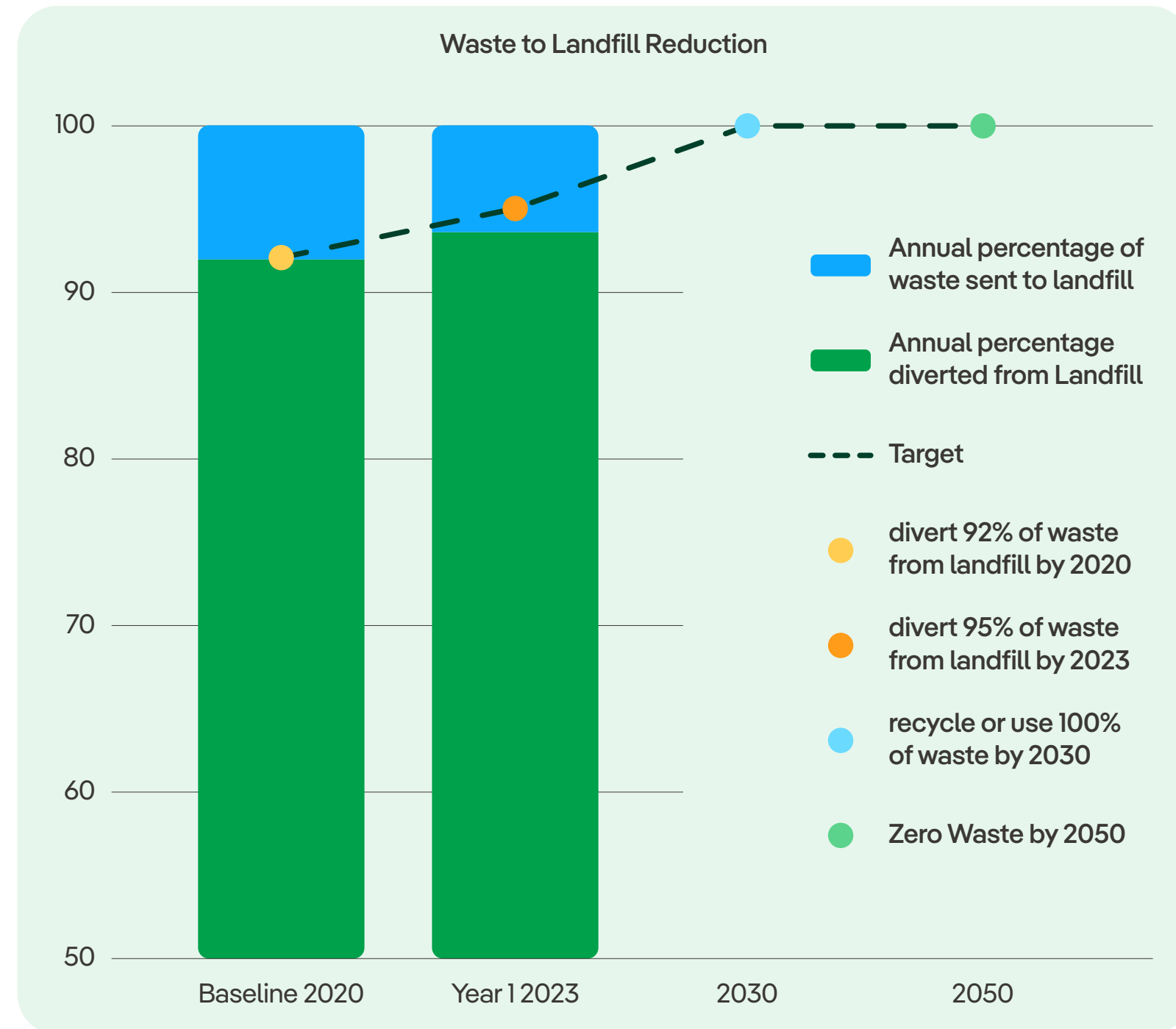
[Metrics >](#)

[Case Study - Transformer Restoration Process >](#)

[Commitments >](#)

[Contents](#)

## Metrics



### Transformer Restoration Process

There is an excessive amount of waste arising from obsolete transformers in the distribution network. To reduce the waste and increase the lifespan of this material-dense equipment, a transformer workshop was set up in SPM. The work carried out involves the refurbishment and adaptation of secondary substation transformers that have been taken off the network but still have an appreciable asset life.

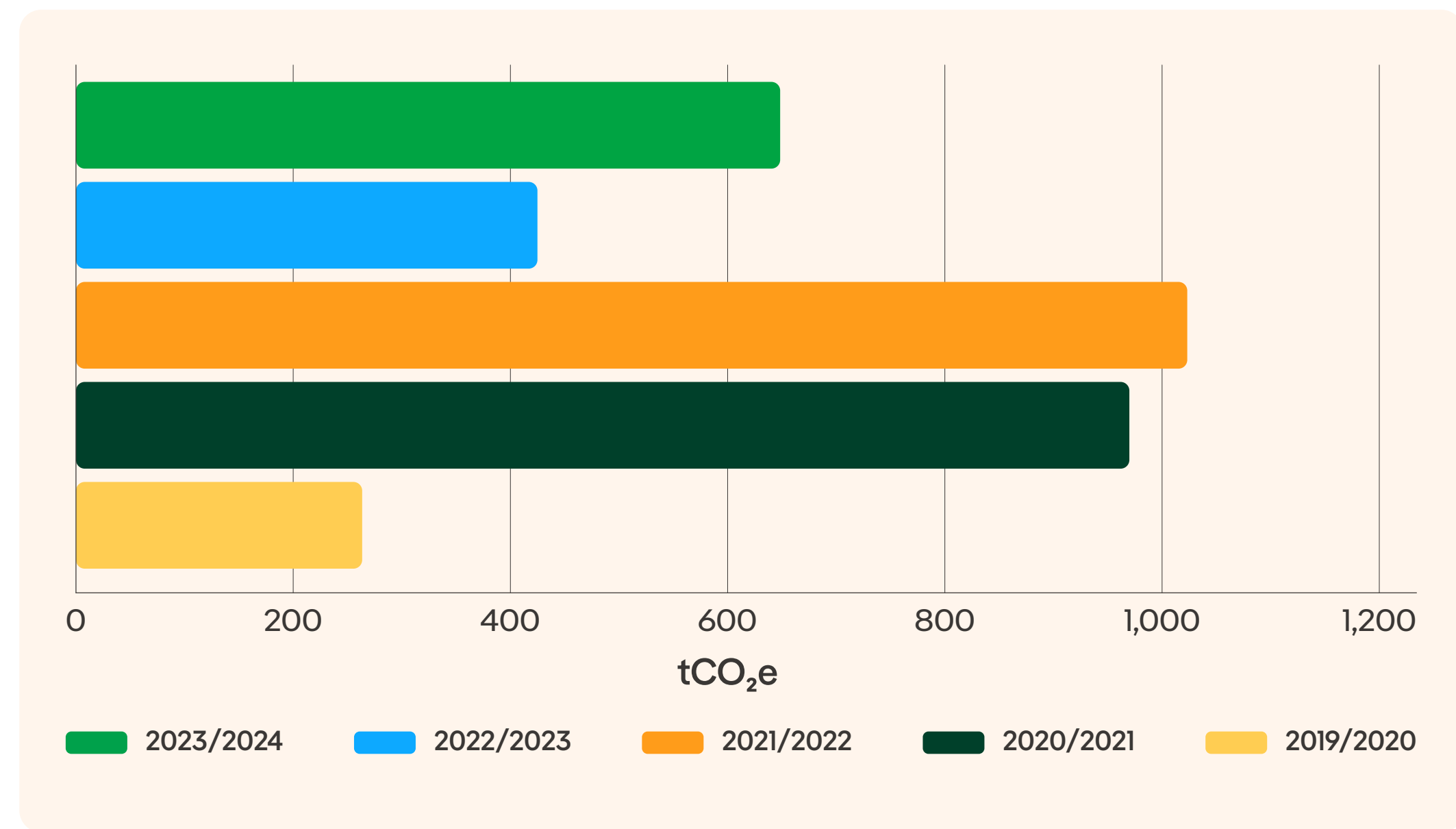
Once taken off the network, these transformers are brought into the workshop where they undergo evaluation for their suitability to be refurbished and redeployed back on the network. As part of the refurbishment process, the low voltage (LV) bushings are restored and new gaskets are manufactured from the repurpose of waste rubber. These gaskets, which are crucial for preventing leaks in the bushings, are produced locally at the workshop, transforming potential landfill waste into valuable components. Electrical tests are repeated as part of the post-refurbishment testing to confirm that the units are in service condition. The oil within the transformers

is also subject to regeneration and renewal as it is extracted, treated and made available for reuse, with a minimal loss of only 10% in volume. This significantly reduces the need for new oil, and closes the loop, making the process more circular. The laundered oil is subsequently returned to the site for use.

This transformer restoration process at SPM serves as an example of the successful implementation of circular economy principles. Since 2019 it has saved a cumulative 3,326tCO<sub>2</sub>e of embodied greenhouse gas emissions with about 647 tCO<sub>2</sub>e of those savings in the 2023/24 regulatory year, equivalent to 216 one-way flights from London to Australia. While currently operational in the Merseyside district, this process holds the potential to be replicated across all SPEN districts, thereby amplifying its environmental and economic benefits.

Electrical tests are repeated as part of the post-refurbishment testing to confirm that the units are in service condition.

### Embodied Carbon Saved - 11kV Transformer Restoration





## Commitments



We will divert 100% of our waste from landfill by 2030, excluding compliance waste.

A

We will establish a baseline and targets for waste reduction per £1m of total annual expenditure, to be achieved by the end of RIIO-ED2 and 2030 in line with our zero waste to landfill date

A

We will continue to collaborate with environmental/ waste regulators, other infrastructure companies and our supply chain to drive sustainable resource use and waste minimisation in order to meet our RIIO-ED2 and Sustainability Goals.

G

We will implement metrics to measure the sustainability of our resource use, with the aim of establishing a baseline to enable target setting during RIIO-ED2.

G

We will continue to report on actual waste to landfill, recycling and reuse as a percentage of total and we will commence reporting on all new waste and resource use metrics.

G

We will set targets for recycled & reused materials as a % of total input materials to be achieved by end RIIO-ED2 and 2030.

G

We will follow an appropriate, recognised standard such as BS8001 to embed circular economy principles where relevant throughout our business processes.

G

## Data and Assurance

### Scope

Our RIIO-ED2 plan and commitments are designed to quickly build on our current performance, using our established process for achieving data maturity. This starts with identifying and collecting initial data, progresses to identifying metrics and baselines then culminates in setting and delivering targets and ongoing tracking. This process is highlighted on our Data Maturity Matrix below, where we list our Key Priority Areas and rank them based on their current level of data maturity. There's still some work to be done in a few areas to get to where we wanted to be at this stage, however, this year we continued to improve our data maturity:

- Continued to progress production of our SPEN Data and Reporting Strategy working with our Centre of Excellence team to develop a digitalisation routemap to improve the collection, quality and reporting of sustainability data.
- During 2023 we performed a sustainability due diligence and double materiality review in line with European Sustainability Reporting Standards guidance and in conjunction with our parent company Iberdrola SA. This aims to assess our operational impact and financial materiality allowing us to implement mitigations, set objectives and measure performance against these
- In August 2023 the INZAC group performed a review of our 2022/23 T2 Annual Environmental Report and provided valuable suggestions and feedback to help

us improve and strengthen communication of our sustainability performance. The feedback received has been incorporated into this year's report.

### Quality

We follow our internal assurance framework to meet the Data Assurance Guidance (DAG) Licence Requirement. The overarching aim of the DAG is to reduce the risk to customers and other stakeholders of any inaccurate reporting or misreporting by Licencees, and therefore the Data Assurance Activity should be proportionate to the risk of the submission. In line with Licence requirements, this submission has passed the following assurance gateways prior to final Director sign-off:

- Risk Assessment
- Method Statement
- Second Person Review
- Senior Manager Sign-off

The framework ensures accuracy and completeness, which gives confidence in the robustness of the submission prior to Director sign-off. Our Business Carbon Footprint is subject to an independent external assurance verification and certification by Planet Mark. Planet Mark is an internationally recognised sustainability certification, awarded annually to businesses that are committed to reducing their carbon emissions.

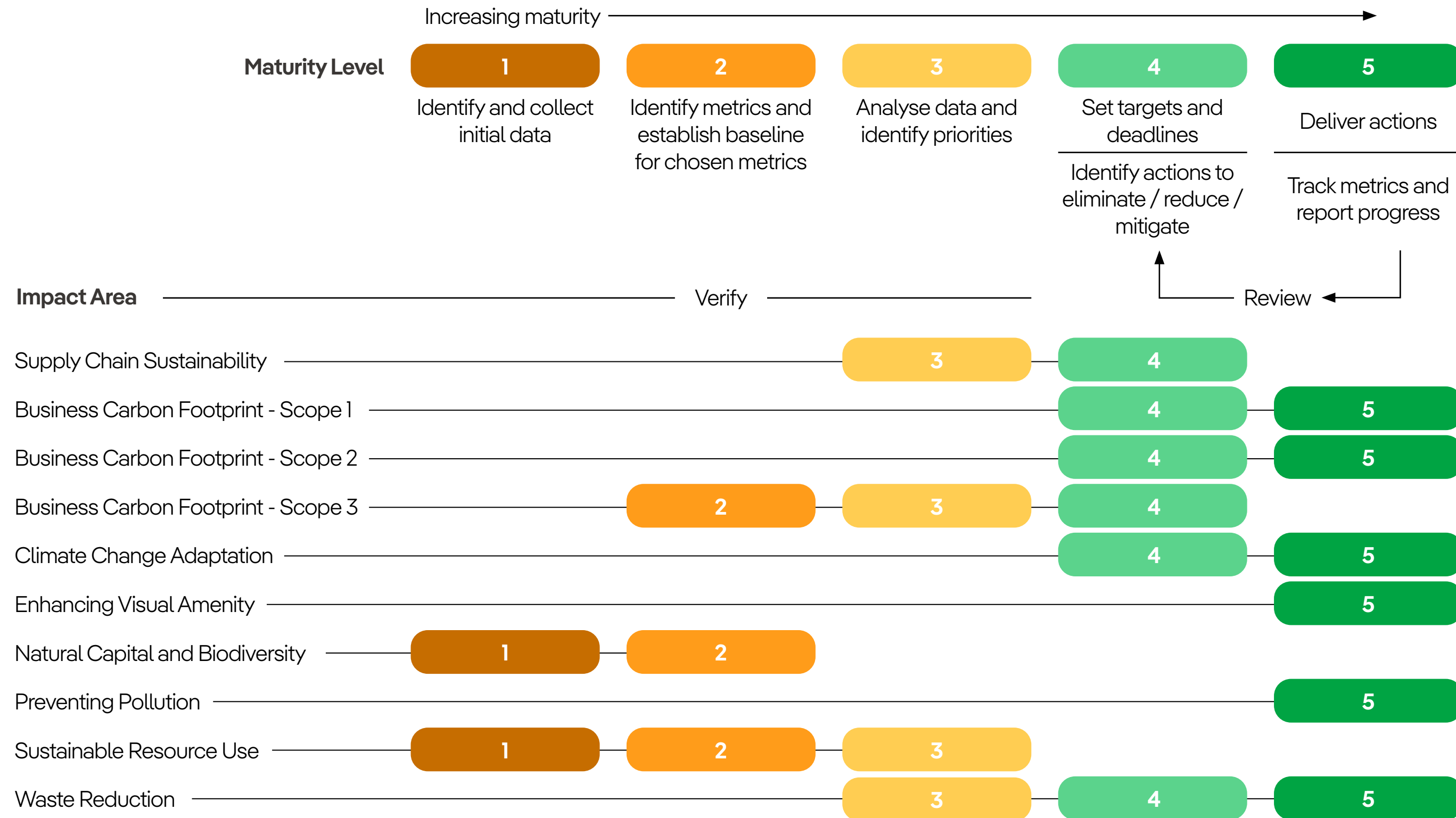
A link to the SPEN Certification Statement can be found [HERE](#).



[Data Maturity Matrix >](#)

[Contents](#)

## Data Maturity Matrix



# Let us know what you think

The road to Net Zero GHG will affect us all. So, we would like to hear from you – our communities, customers, employees, suppliers and investors. We have committed to publishing an Annual Environmental Report and we need your feedback to make sure we continue to focus on the correct areas to deliver a more sustainable future for all. Throughout the year, we share updates on our successes and our annual reports on our [website](#). If you would like to contact us about our Annual Environmental Report, please email: [sustainable@spenergynetworks.co.uk](mailto:sustainable@spenergynetworks.co.uk).

For more information on our Sustainable Business Strategy, [click here](#).

[Click here](#) to download a PDF of this Annual Environmental Report.

[Contents](#)

# Key Performance Indicators Annex

## Business Carbon Footprint Scopes 1 & 2 - SPM

BCF Scope 1 & 2	Category	Sub-Category	Total Baseline Reduction Target tCO <sub>2</sub> e RIIO-ED2 2028	Unit	2023/2024
	<b>Operational Transport</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>2,966</b>
		Road		tCO <sub>2</sub> e	2,966
		Marine		tCO <sub>2</sub> e	0
		Air		tCO <sub>2</sub> e	0
	<b>Building Energy Usage</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>69</b>
		Electricity		tCO <sub>2</sub> e	17
		Other fuels		tCO <sub>2</sub> e	0
		Substation electricity		tCO <sub>2</sub> e	32
		Gas		tCO <sub>2</sub> e	19
	<b>Fuel Combustion</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>993</b>
		Diesel (excluding transport)		tCO <sub>2</sub> e	993
		Diesel (embedded stations)		tCO <sub>2</sub> e	0
		Other		tCO <sub>2</sub> e	0
	<b>Fugitive Emissions</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>2,639</b>
		SF <sub>6</sub>		tCO <sub>2</sub> e	2,639
		Other IIG		tCO <sub>2</sub> e	0
	<b>Total Scope 1 and 2 Emissions (Excluding Losses)</b>		<b>6,792</b>	tCO <sub>2</sub> e	<b>6,666</b>
	<b>Electricity Distribution Losses</b>			tCO <sub>2</sub> e	197,342
	<b>Total Scope 1 and 2 Emissions (Including Losses)</b>		<b>180,572</b>	tCO <sub>2</sub> e	<b>204,007</b>
<b>Carbon Offsets</b>	<b>Category</b>			<b>Unit</b>	<b>2023/2024</b>
	Total Carbon offsets			tCO <sub>2</sub> e	0

## Business Carbon Footprint Scopes 1 & 2 - SPD

BCF Scope 1 & 2	Category	Sub-Category	Total Baseline Reduction Target tCO <sub>2</sub> e RIIO-ED2 2028	Unit	2023/2024
	<b>Operational Transport</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>3,122</b>
		Road		tCO <sub>2</sub> e	3,122
		Marine		tCO <sub>2</sub> e	0
		Air		tCO <sub>2</sub> e	0
	<b>Building Energy Usage</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>95</b>
		Electricity		tCO <sub>2</sub> e	0
		Other fuels		tCO <sub>2</sub> e	0
		Substation electricity		tCO <sub>2</sub> e	6
		Gas		tCO <sub>2</sub> e	89
	<b>Fuel Combustion</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>866</b>
		Diesel (excluding transport)		tCO <sub>2</sub> e	866
		Diesel (embedded stations)		tCO <sub>2</sub> e	0
		Other		tCO <sub>2</sub> e	0
	<b>Fugitive Emissions</b>	<b>Total</b>		tCO <sub>2</sub> e	<b>3,188</b>
		SF <sub>6</sub>		tCO <sub>2</sub> e	3,188
		Other IIG		tCO <sub>2</sub> e	0
	<b>Total Scope 1 and 2 Emissions (Excluding Losses)</b>		<b>6,887</b>	tCO <sub>2</sub> e	<b>7,271</b>
	<b>Electricity Distribution Losses</b>			tCO <sub>2</sub> e	264,434
	<b>Total Scope 1 and 2 Emissions (Including Losses)</b>		<b>219,050</b>	tCO <sub>2</sub> e	<b>271,705</b>
<b>Carbon Offsets</b>	<b>Category</b>			<b>Unit</b>	<b>2023/2024</b>
	Total Carbon offsets			tCO <sub>2</sub> e	0

## Key Performance Indicators Annex

### SF<sub>6</sub> and other IIGs - SPM

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	HV	Total no. of assets containing SF <sub>6</sub>	No. of Assets	14,849
		Total amount of SF <sub>6</sub> on network	kg	16,400
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	25
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	463
SF <sub>6</sub> Emissions	HV	Leakage (per annum)	kg	96.51
		Leakage rate (% of bank)	0.31% %	0.59%
		Interventions (per annum)	#	3
		Impact of Interventions	kg	2.42

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	EHV	Total no. of assets containing SF <sub>6</sub>	No. of Assets	1,887
		Total amount of SF <sub>6</sub> on network	kg	8,151
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	3
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	97
SF <sub>6</sub> Emissions	EHV	Leakage (per annum)	kg	4.11
		Leakage rate (% of bank)	0.31% %	0.05%
		Interventions (per annum)	#	9
		Impact of Interventions	kg	18.65

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	132kV	Total no. of assets containing SF <sub>6</sub>	No. of Assets	97
		Total amount of SF <sub>6</sub> on network	kg	2,566
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	1
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	15
SF <sub>6</sub> Emissions	132kV	Leakage (per annum)	kg	11.66
		Leakage rate (% of bank)	0.31% %	0.45%
		Interventions (per annum)	#	1
		Impact of Interventions	kg	30.00

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	All Voltages	Total no. of assets containing SF <sub>6</sub>	No. of Assets	16,833
		Total amount of SF <sub>6</sub> on network	kg	27,117
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	29
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	575
SF <sub>6</sub> Emissions	All Voltages	Leakage (per annum)	kg	112.28
		Leakage rate (% of bank)	0.31% %	0.41%
		Interventions (per annum)	#	13
		Impact of Interventions	kg	51.07

## Key Performance Indicators Annex

### SF<sub>6</sub> and other IIGs - SPD

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	HV	Total no. of assets containing SF <sub>6</sub>	No. of Assets	21,808
		Total amount of SF <sub>6</sub> on network	kg	18,211
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	62
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	517
SF <sub>6</sub> Emissions	HV	Leakage (per annum)	kg	82.86
		Leakage rate (% of bank)	0.31% %	0.45%
		Interventions (per annum)	#	2
		Impact of Interventions	kg	2.12

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	EHV	Total no. of assets containing SF <sub>6</sub>	No. of Assets	1,223
		Total amount of SF <sub>6</sub> on network	kg	5,280
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	6
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	58
SF <sub>6</sub> Emissions	EHV	Leakage (per annum)	kg	52.80
		Leakage rate (% of bank)	0.31% %	1.00%
		Interventions (per annum)	#	2
		Impact of Interventions	kg	4.40

Category	Voltage	Sub-Category (where applicable)	Decarbonisation Target & Metric to End of RIIO-ED2 (2028)	
			Unit of Measure	2023/2024
SF <sub>6</sub> Bank	All Voltages	Total no. of assets containing SF <sub>6</sub>	No. of Assets	23,031
		Total amount of SF <sub>6</sub> on network	kg	23,490
		No. of SF <sub>6</sub> assets replaced (per annum)	No. of Assets	68
		No. of SF <sub>6</sub> alternative assets (per annum)	No. of Assets	0
		% of assets containing SF <sub>6</sub> (% of bank)	%	100%
		No. of SF <sub>6</sub> assets installed (per annum)	No. of Assets	575
SF <sub>6</sub> Emissions	All Voltages	Leakage (per annum)	kg	135.66
		Leakage rate (% of bank)	0.31% %	0.58%
		Interventions (per annum)	#	4
		Impact of Interventions	kg	6.52

## Key Performance Indicators Annex

### Distribution Losses - SPM

Electricity Distribution Losses	Target RII02-ED2 2028	Unit	2023/2024
Annual Losses	970	GWh	953
Share of Total Electricity Distributed		%	6.88%
Carbon Equivalent	189,238	tCO <sub>2</sub> e	197,342
Annual Interventions completed	225	#	40
Impact of Interventions* (per annum)	8,699	MWh	338
Impact of Interventions* (per annum)	1,788	tCO <sub>2</sub> e	70

Interventions*	Unit	2023/2024	Unit	2023/2024	Unit	2023/2024
Undertake early replacement of high loss 6.6/11kV Transformer (GM)	#	40	MWh	338	tCO <sub>2</sub> e	70
Theft in Conveyance Investigations	#	140	MWh	3	tCO <sub>2</sub> e	1
Funding of Internal and External Revenue Protection Inspections	#	5,119	MWh	14,706	tCO <sub>2</sub> e	3,045

### Distribution Losses - SPD

Electricity Distribution Losses	Target RII02-ED2 2028	Unit	2023/2024
Annual Losses	1,218	GWh	1,277
Share of Total Electricity Distributed		%	7.68%
Carbon Equivalent	237,563	tCO <sub>2</sub> e	264,434
Annual Interventions completed	574	#	76
Impact of Interventions* (per annum)	27,294	MWh	596
Impact of Interventions* (per annum)	5,615	tCO <sub>2</sub> e	123

Interventions*	Unit	2023/2024	Unit	2023/2024	Unit	2023/2024
Undertake early replacement of high loss 6.6/11kV Transformer (GM)	#	76	MWh	596	tCO <sub>2</sub> e	123
Theft in Conveyance Investigations	#	181	MWh	8	tCO <sub>2</sub> e	2
Funding of Internal and External Revenue Protection Inspections	#	6,338	MWh	6,017	tCO <sub>2</sub> e	1,246

\* Interventions in these tables relate only to Replacement of high loss transformers.

[Contents](#)



## Key Performance Indicators Annex

### Supply Chain Management - SPM

Supply Chain Management	Unit	Target by end of RIIO-2 ED2 2028	2023/2024
Percentage of suppliers meeting licensees supplier code	Cumulative % by Annual Spend	80%	61%

### Supply Chain Management - SPD

Supply Chain Management	Unit	Target by end of RIIO-2 ED2 2028	2023/2024
Percentage of suppliers meeting licensees supplier code	Cumulative % by Annual Spend	80%	65%

### Resource Use and Waste - SPM

Waste Destination - Non Hazardous/Non Special	Unit	2023/2024
Total Waste Produced directly by Licencee	Tonnes	44,536.17
% Reused/Recycled	%	96.44%
% Energy from Waste	%	0.00%
% Sent to Landfill	%	0.19%
% Other (recovery)	%	3.37%
% of Waste Diverted from Landfill (excluding compliance waste)	%	99.81%
Waste Destination - Hazardous/Special	Unit	2023/2024
Total Waste Produced directly by Licencee	Tonnes	1,211.41
% Reused/Recycled	%	88.35%
% Energy from Waste	%	0.00%
% Sent to Landfill	%	1.20%
% Other (recovery)	%	10.45%
% of Waste Diverted from Landfill (excluding compliance waste)	%	98.80%

### Resource Use and Waste - SPD

Waste Destination - Non Hazardous/Non Special	Unit	2023/2024
Total Waste Produced directly by Licencee	Tonnes	54,773.72
% Reused/Recycled	%	53.66%
% Energy from Waste	%	0.00%
% Sent to Landfill	%	9.77%
% Other (recovery)	%	36.57%
% of Waste Diverted from Landfill (excluding compliance waste)	%	90.23%
Waste Destination - Hazardous/Special	Unit	2023/2024
Total Waste Produced directly by Licencee	Tonnes	3,193.27
% Reused/Recycled	%	63.84%
% Energy from Waste	%	0.00%
% Sent to Landfill	%	35.42%
% Other (recovery)	%	0.73%
% of Waste Diverted from Landfill (excluding compliance waste)	%	64.58%

## Key Performance Indicators Annex

### Visual Amenity - SPM

Visual Amenity Scheme	Units	2023/2024
Removal of overhead lines (due to a visual amenity scheme)	km	2.89
No. of Amenity Schemes	#	8
Other (if applicable)		

### Noise Pollution - SPM

Noise	Units	2023/2024
No of Complaints Received	#	9
No of Complaints Leading to Intervention	#	9

### Visual Amenity - SPD

Visual Amenity Scheme	Units	2023/2024
Removal of overhead lines (due to a visual amenity scheme)	km	2.07
No. of Amenity Schemes	#	1
Other (if applicable)		

### Noise Pollution - SPD

Noise	Units	2023/2024
No of Complaints Received	#	0
No of Complaints Leading to Intervention	#	0

## Key Performance Indicators Annex

### PCB - SPM

PCBs - Pole Mounted Transformers	Units	2023/2024
No. of assets PCB contaminated or statistically likely to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	4,419
No. of assets PCB negative or statistically likely to be negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	2,190
No. of asset replacements due to known or statistically likely PCB contamination	#	1179
No. of assets tested to confirm levels of PCB contamination	#	0
PCBs - Ground Mounted Transformers	Units	2023/2024
No. of assets PCB contaminated or suspected to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	0
No. of assets PCB negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	0
No. of asset replacements due to known or suspected PCB contamination	#	0
No. of assets remediated due to known or suspected PCB contamination	#	0
No. of assets tested to confirm levels of PCB contamination	#	0
PCBs - Other assets	Units	2023/2024
No. of assets PCB contaminated or suspected to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	3
No. of assets PCB negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	0
No. of asset replacements due to known or suspected PCB contamination	#	324
No. of assets remediated due to known or suspected PCB contamination	#	0
No. of assets tested to confirm levels of PCB contamination	#	0

### PCB - SPD

PCBs - Pole Mounted Transformers	Units	2023/2024
No. of assets PCB contaminated or statistically likely to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	4,156
No. of assets PCB negative or statistically likely to be negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	39
No. of asset replacements due to known or statistically likely PCB contamination	#	583
No. of assets tested to confirm levels of PCB contamination	#	204
PCBs - Ground Mounted Transformers	Units	2023/2024
No. of assets PCB contaminated or suspected to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	0
No. of assets PCB negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	0
No. of asset replacements due to known or suspected PCB contamination	#	1
No. of assets remediated due to known or suspected PCB contamination	#	0
No. of assets tested to confirm levels of PCB contamination	#	0
PCBs - Other assets	Units	2023/2024
No. of assets PCB contaminated or suspected to be contaminated (i.e. no. remaining on PCB register held with environmental regulator)	#	0
No. of assets PCB negative (i.e. no. that can be removed from PCB register held with environmental regulator)	#	0
No. of asset replacements due to known or suspected PCB contamination	#	79
No. of assets remediated due to known or suspected PCB contamination	#	0
No. of assets tested to confirm levels of PCB contamination	#	0

## Key Performance Indicators Annex

### FFC - SPM

Fluid Filled Cables Oil Loss		Sub Category	Unit	2023/2024
		FFC in service	km	150.5
		Oil in Service	Litres	662,200
		Cable Oil Top Up	Litres	2,538
		Fluid Used to Top Up Cables as a percentage of volume in service	%	0.38%
		Removal of FFC	km	0
		Leak (Reduction)/Increase	Litres	-14,985
		Oil Recovered	Litres	65

### FFC - SPD

Fluid Filled Cables Oil Loss		Sub Category	Unit	2023/2024
		FFC in service	km	31.1
		Oil in Service	Litres	93,300
		Cable Oil Top Up	Litres	70
		Fluid Used to Top Up Cables as a percentage of volume in service	%	0.08%
		Removal of FFC	km	0
		Leak (Reduction)/Increase	Litres	45
		Oil Recovered	Litres	0

# Commitments Annex

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Sustainable Society	Step Change	We will publish our Just Transition Strategy by the start RIIO-ED2. We will embed the principles of a Just Transition into our business planning throughout RIIO-ED2 and continue to engage our customers and stakeholders to understand local needs. We will review our progress via an independent annual review.	Throughout RIIO-ED2	Our Just Transition Strategy was published in March 2023. Our first annual report will be issued during 2024	<span style="background-color: #c8e6c9;">G</span>
		We will embed environmental sustainability considerations in our business processes whilst maintaining and continually improving our ISO14001 certified Environmental Management System. This will enable us to achieve 'beyond compliance' environmental performance and our sustainability goals.	Throughout RIIO-ED2	During regulatory year 2023/24 SPEN maintained our certification of ISO14001 with an external surveillance audit of our Environmental Management System. We are continuing to embed the recommendations and opportunities from this report into our internal systems	<span style="background-color: #c8e6c9;">G</span>
		We will continue to provide transparent reporting of our environmental and sustainability performance by publishing an annual report of our progress against all environmental and sustainability commitments – in line with metrics and a format developed in collaboration with the other DNOs.	Throughout RIIO-ED2	An Annual Environmental Report has been created providing an update on progress towards meeting our commitments to stakeholders. The report provides a narrative update, case studies and relevant KPIs to present our performance against targets.	<span style="background-color: #c8e6c9;">G</span>
		We will improve the quality of environmental data collected and analysed at all stages of the asset lifecycle, investing in enhanced IT systems and formalising data sharing collaborations with key stakeholders.	Throughout RIIO-ED2	The Sustainability Data and Reporting Strategy has been drafted, and we are awaiting finalisation of the Sustainability Digitalisation route map, thereafter final review, approval and publication of the strategy expected Q4 2024.	<span style="background-color: #c8e6c9;">G</span>
		We will continue to ensure that our staff, contractors and suppliers have the skills and knowledge to allow us and our supply chain to move beyond compliance and achieve our Sustainability Goals, by identifying and ensuring delivery of appropriate environmental training.	Throughout RIIO-ED2	For calendar year 2023 99% of staff environmental training was delivered, exceeding our 90% target. 45% of our contractors and suppliers have complete Supply Chain Sustainability School training	<span style="background-color: #c8e6c9;">G</span>
		We will embed a process for Initial Environmental and Sustainability Reviews (IESRs) for all relevant projects, to identify potential environmental issues and opportunities at the earliest stage.	By 2023	We have reviewed and amended Internal approval papers to include an assessment of Carbon, Biodiversity and Natural Capital. We are developing measurement tools to better inform the initial assessment.	<span style="background-color: #c8e6c9;">G</span>
Supply chain sustainability	Supply chain sustainability	We will further enhance environmental sustainability standards and performance metrics in our contracts by 2023 and will collaborate with our supply chain to target more than 80% of RIIO-ED2 suppliers (by value) meeting these standards.	By 2028	63% of our Distribution suppliers (by value) meet our environmental sustainability standards. We will be holding engagement sessions with our supply chain leads to discuss how to move towards 80%	<span style="background-color: #c8e6c9;">G</span>
		We will increase consideration of environmental sustainability in our procurement processes in line with ISO20400 Sustainable Procurement Standard, including a carbon metric as a minimum.	By 2023	A gap analysis was conducted and we will work towards engaging with procurement through a strategy to engage with Procurement on all relevant topic areas	<span style="background-color: #c8e6c9;">G</span>
		We will continue to be a Supply Chain Sustainability School Partner, requiring contractors and suppliers for all new contracts to become members and undertake relevant sustainability and environmental training.	Throughout RIIO-ED2	We have achieved 45% to date, we will be holding engagement sessions with our Supply Chain leads to discuss how to move towards 80%	<span style="background-color: #c8e6c9;">G</span>
		We will engage with suppliers early in the development of projects to enable them to propose environmental improvements at concept and design stages.	By 2025	We are holding a Supply Chain engagement meeting internally to move this deliverable forward	<span style="background-color: #c8e6c9;">G</span>
		We will engage with suppliers throughout the duration of their contracts to continue to reduce impacts and optimise benefits.	Throughout RIIO-ED2	We are holding a Supply Chain engagement meeting internally to move this deliverable forward	<span style="background-color: #c8e6c9;">G</span>

[Contents](#)

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Climate Action	Science Based Targets & Net Zero Target	We will deliver efficient and economic actions to reduce our scope 1, 2 & 3 business carbon footprint by 67.2% by 2035 from a 2018/19 baseline, in line with validated Science-Based Targets aligned to a 1.5°C pathway.	By 2028	The most significant reductions from our 2018/19 baseline were due to a decrease in emissions associated with depot and substation energy use and the introduction of HVO to replace diesel. Scope 3 emissions accounted for approximately 43% of our emissions. One of the priority actions is to increase the accuracy of Scope 3 reporting which will allow us to track performance.	G
		We will minimise our carbon footprint to achieve Net Zero carbon by 2035.			
		We will achieve Carbon Neutrality by 2023 for our Scope 1 & 2 business carbon footprint excluding Losses.	Throughout RIIO-ED2	We have not offset our emissions in this first year of RIIO-ED2. We will offset the emissions from the first year of RIIO-ED2 in subsequent years.	A
		We will align our offsetting approach to the Oxford Principles for Net Zero Aligned Carbon Offsetting, ensuring high probability of 'Additionality' and low probability of 'Reversibility', delivering additional environmental and social benefits where practical.	Throughout RIIO-ED2	We are aligning our offsetting approach to the Oxford Principles of NetZero Aligned Carbon Offsetting	G
		We will identify metrics, and associated targets, for RIIO-ED2 to track the impact of implementing actions and the overall progress towards our carbon reduction targets.	By 2023	We have developed a commitment tracker to track the overall progress towards our carbon reduction targets, and are reporting against all relevant metrics and targets.	G
		We will implement processes for carbon management in relevant business activities, aligned with PAS 2080 Carbon Management in Infrastructure.	By 2025	We have introduced a number of carbon measurement tools for embodied carbon and other capital carbon emissions. This includes the introduction of 'One Click LCA', which allows us to measure the impacts of civil works on large projects and our 'Product Carbon Calculator Tool' which gathers carbon data from product suppliers.	G
Operational Transport		We will decarbonise our operational fleet by 2030, replacing 100% (over 800) of our cars and vans with electric alternatives in line with the Iberdrola EV100 commitment and will seek to further accelerate this to 2028.	By 2028	We have replaced 36 of our petrol / diesel cars and small vans with electric alternatives to date. We are behind our target; electric alternatives to our larger vans which must travel long distances and carry heavy loads are not yet commercially available. We are working with our fleet teams to accelerate the transition to electric vehicles where we can during RIIO-ED2.	A
		We will install electric vehicle charging infrastructure for our operational fleet at our sites	Throughout RIIO-ED2	There was no electric vehicle charging infrastructure installed at any of our sites in 2023/24. Work in 2023/24 largely focussed on planning and developing suitable partnerships for delivery of electrical charging infrastructure, which is anticipated in subsequent years.	A
		We will strive to lead the decarbonisation of fleet vehicles, working with suppliers and other fleet operators to pilot technically viable alternatives to drive technical advancements and early adoption.	Throughout RIIO-ED2	Due to limited options, our greatest challenge is replacing large diesel vans and 4x4s with electric alternatives. We continue to work with the industry to support the development of new vehicles.	A
SF <sub>6</sub>		We will reduce our SF <sub>6</sub> leakage by 10% over the RIIO-ED2 period compared to RIIO-ED1.	By 2028	During the regulatory year 2023/24, we exceeded our first year target of a 3% reduction in SF <sub>6</sub> leakage. The recorded SF <sub>6</sub> leakage was lower than the amount needed to meet this 3% reduction target. As a result we exceeded our target as the less we leak, the higher the percentage reduction. It is important to note that the reported leakage pertains solely to SF <sub>6</sub> used for top-ups and does not account for any disposals.	G
		We will use alternatives to SF <sub>6</sub> insulating gas for all new circuit breakers, Ring Main Units and Gas Insulated Switchgear installations at all voltages, where there are technically feasible market-ready solutions.	Throughout RIIO-ED2	We have implemented our 'Policy for the Procurement of Equipment Containing Dielectric Gas', which sets clear guidelines for preferentially procuring SF <sub>6</sub> free equipment. We will soon be installing our first 11kV Ring Main Unit that contains an alternative gas that has the global warming potential of zero. Under exceptional circumstances, there are still circumstances where we may authorise the use of SF <sub>6</sub> equipment - either due to a technical feasibility or supply chain's ability to provide a market ready perspective.	A

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Climate Action	SF <sub>6</sub>	We commit to reporting on total SF <sub>6</sub> Bank and leakage reduction rates using a common Distribution Network Operator (DNO) methodology.	By 2023	We are reporting SF <sub>6</sub> Bank and Leakage in line with the Energy Networks Association (ENA) Engineering Recommendation S38 guidance.	G
		We will continue to carefully manage our assets in line with our SF <sub>6</sub> Strategy to minimise SF <sub>6</sub> leakage, repair leaks quickly, and where this is not possible, replace the asset before its anticipated end of life.	Throughout RIIO-ED2	Recorded leakage rates (based on top ups) decreased relative to last year and we are working to fix leaks as quickly as possible in line with EREC S38. Delays to repairs can occur due to lead times with specialist suppliers.	G
		We will continue to require manufacturers to provide equipment with a SF <sub>6</sub> leakage rate which is half that of the internationally recognised standards, where technically viable.	Throughout RIIO-ED2	We set guidelines on leakage rates for new plant items which are purchased. These are generally much lower than the minimum international standards. However, we need to do a full review to ensure we are specifying half the international standard - particularly as standards evolve and become more stringent.	A
		We will drive the development and adoption of SF <sub>6</sub> – free technologies, collaborating with supply chain and industry peers and piloting new technologies where technically viable.	Throughout RIIO-ED2	Still in flight, but works going ahead in collaboration with Original Equipment Manufacturers to develop SF <sub>6</sub> free solutions.	G
Generators		We will analyse our generator use and set targets for reduction in carbon emissions to be achieved by end of RIIO-ED2.	By 2023	We have set a target to reduce generator emissions per MWh of power supplied by 76% by the end of RIIO-ED2. We are targeting a linear reduction towards our target. We are ahead of our target for 2023/24.	G
Building Energy Use		We will continue to purchase green electricity through a 100% UK-based renewable energy tariff backed by Power Purchase Agreements (PPA) for all our buildings.	By 2028	The GHG emissions from Buildings electricity was almost zero in 2023/24 as the electricity we purchased was through a REGO tariff backed by Power Purchase Agreements (PPA). Energy efficiency measures were carried out on 155 substations, the works included replacement of all heating, lighting and controls to bring into line with the latest Civil specification. We are awaiting data relating to the GWh energy saved which will be reporting in next years report. For offices and depots, no energy efficiency works have been carried out yet, but we anticipate that works will shortly proceed within 6 of our strategic offices and depots.	G
		We will reduce energy consumption by a total of 3.4GWh at 650 of our primary substations by applying our recently updated civil specifications (including improvements to heating, lighting and insulation).	Throughout RIIO-ED2	155 substations were completed in 2023/24. The works included a replacement of all heating, lighting and controls to bring into line with the latest Civil specification. We are awaiting data relating to the GWh energy saved which will be reporting in next years report.	A
		We will refurbish 8 of our strategic office and depot sites, implementing energy efficiency measures to achieve BREEAM ratings of 'excellent' for new build and 'very good' for refurbishments, to reduce consumption by 11.7GWh over the RIIO-ED2 period.	Throughout RIIO-ED2	There have been no works completed to date, but we anticipate that works will proceed with 6* of our strategic office and depots. We are assessing the feasibility of achieving our BREEAM targets and we are also considering how emerging standards such as the 'UK Net Zero Buildings Standard' could be applied. We anticipate that we will meet our energy reduction target, although we will continue assessing this against our target when the programme of works is confirmed.	A
		We will pilot and monitor renewable generation at substation and/or depot sites to offset building energy demand.	By 2028	There have been no works completed to date, but external Solar PV arrays to offset building energy demand with associated on-site battery storage is being considered in the proposals.	A

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Climate Action	Losses	In RIIO-ED2, we will continue to implement our Losses Strategy to avoid an estimated 36 GWh of network losses, thereby limiting losses to a lower level than would otherwise be the case.	Throughout RIIO-ED2	We are proactively mitigating technical losses increase through our programme of early replacement of high loss transformers. Progress in SPM is on target - the estimated losses savings are slightly lower due to a change in the losses modelling assumptions. Progress in SPD is slower than expected as we have replaced fewer secondary transformers than planned. We are also not progressing with two primary transformer replacements in RIIO-ED2, as these did not provide best value for money for the customer. It is possible we will replace these assets in future due to other drivers. Our external Revenue Protection Inspection activities (activities we carry out to prevent, detect and recover electricity losses caused by interference with the electricity supply) continue to have a large impact with over 20MWh of losses savings from interventions as a result of this programme.	A
		We will continue to lead the Energy Networks Association Technical Losses Group to improve industry understanding of losses.	Throughout RIIO-ED2	The ENA Technical Losses Working Group has not yet been reconvened for RIIO-ED2.	A
		We will continue to drive the development and understanding of losses by contributing to the evidence base on the proportion of losses that network companies can influence/control, collaborating with supply chain and industry peers and piloting new technology such as the MAAV.	Throughout RIIO-ED2	We are continuing to improve our modelling and understanding of losses through development of analytical tools and use of smart meter and LV monitoring data. We are currently establishing our Contact Voltage detection programme using the MAAV.	A
		We will continue to consider and minimise network losses throughout all design and connections activities.	Throughout RIIO-ED2	We continue to apply our policy of a losses-aware approach to all design and asset replacement activities. Our Losses Strategy is based upon a high-level vision that we will consider all reasonable measures that can be applied to reduce losses and will adopt those measures which provide benefit for customers.	G
		We will pro-actively target high-loss legacy assets for replacement with modern low-loss alternatives.	By 2028	We continue our programme of early replacement of highest-loss secondary transformers.	G
		We will report on the progress of implementing the losses strategy and associated performance measures.	Throughout RIIO-ED2	This report summarises the progress of our RIIO-ED2 losses strategy initiatives.	G
		We will use a minimum underground mains cable size of 300mm <sup>2</sup> to further reduce losses, where it is cost effective and appropriate to do so.	Throughout RIIO-ED2	The losses strategy demonstrated which cases where a minimum 300m <sup>2</sup> cable size (over a 185mm <sup>2</sup> cable size) is likely to provide value: this is generally where the load factor is over 0.5. We are now implementing this through our commitment to adopt all reasonable measures to reduce losses where this provides value for customers. Work is underway prescribe minimum cable sizes in the relevant asset policies.	A
		We will continue to use a minimum pole mounted transformer size of 25kVA to further reduce losses on our network.	Throughout RIIO-ED2	We will continue to use a minimum pole mounted transformer size of 25kVA, and have developed a template for how to assess where in fact a larger transformer size is more appropriate. Work is underway to prescribe optimum transformer sizes in the relevant asset policies.	G
Business Transport		We will continue to implement our 2021 Business Travel Policy to reduce business travel emissions by at least 580 tCO <sub>2</sub> e during RIIO-ED2.	Throughout RIIO-ED2	The implementation of our Travel Policy has led to approximately 75% reduction in combined miles travelled by rail and domestic flights (using 2019/20 as a baseline year). We estimate that this has led to a saving of 132 tCO <sub>2</sub> e in 2023/24.	G



## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Supply chain sustainability	Embodied carbon	We will require strategic suppliers to set Science-Based Targets within 5 years, aiming for 80% of our supply chain by value.	By 2028	We have achieved 44% to date, we will be holding engagement sessions with our supply chain leads to discuss how to move towards 80%	G
Climate Action	Embodied carbon	We will create a new role in RIIO-ED2 to drive actual reduction in Scope 3 carbon emissions in our supply chain by 100k tCO <sub>2</sub> e	By 2023	In the first year of RIIO-ED2, we created and filled a new role, focussing on Scope 3 carbon reductions. The first year was largely focussed on improving data and developing calculation methodologies.	G
		We will introduce a measurement tool for embodied carbon and other capital carbon emissions to establish a baseline and a set a target to reduce carbon on new projects during RIIO-ED2.	By 2023	We have implemented processes for carbon management in relevant business activities, aligned with PAS 2080 Carbon Management in Infrastructure. We have also introduced a number of carbon measurement tools for embodied carbon and other capital carbon emissions. This includes the introduction of 'One Click LCA', which allows us to measure the impacts of civil works on large projects and our 'Product Carbon Calculator Tool'.	G
		We will work collaboratively with our stakeholders, including the other Distribution and Transmission Network Operators, throughout RIIO-ED2 with the aim of assessing and managing capital carbon on our projects, driving efficiencies throughout our supply chain, and sharing best practice.	Throughout RIIO-ED2	We have worked collaboratively with other Distribution Network Operators through the ENA Carbon Working Group to align our approach in measuring and reporting embodied carbon emissions.	G
		We will monitor and report on embodied carbon in new projects.	Throughout RIIO-ED2	We have introduced a number of carbon measurement tools for embodied carbon and other capital carbon emissions. This includes the introduction of 'One Click LCA', which allows us to measure the impacts of civil works on large projects and our 'Product Carbon Calculator Tool'.	G

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Action for Nature	Preventing Pollution	We will continue to target zero environmental regulatory interventions and notifiable breaches.	Throughout RIIO-ED2	There was one regulatory intervention in December 2023 in SPM which resulted in a written warning although no further enforcement actions or undertakings resulted	<span style="color: red;">R</span>
		We will implement Pollution Prevention Plans at 100% of our RIIO-ED2 132kV projects.	Throughout RIIO-ED2	We have set a target to implement pollution incident response plans in all of our 132kV projects in SPM and we achieved this in the 2023/24 reporting period	<span style="color: green;">G</span>
		We will implement a programme to identify, risk assess and address high risk legacy land contamination.	Throughout RIIO-ED2	As part of our plans to reduce pollution across our distribution network, we have developed an annual programme to identify and investigate legacy contaminated sites within each licence. Site investigations are undertaken at these sites and measures are implemented to rectify and remediate the land. The status of each site is documented on a contamination tracker for prioritisation of the remediation programme	<span style="color: green;">G</span>
Fluid Filled Cables		We will reduce the volume of fluid (oil) used to top up our pressurised cables by around 3,490 litres (10%) by replacing 19.429km of our leakiest fluid filled cable.	By 2028	Leakage from fluid filled cables reduced considerably from last year when we had significant leaks in Merseyside and is now in line with our average annual leakage rates. The Kirkby and Bootle Circuits are both in the RIIO-ED2 plan and programmed for sectional completion between 2025 and 2027. This will further reduce and continually improve our leakage rate.	<span style="color: green;">G</span>
		We will adopt new technologies, where appropriate, to support the ongoing proactive management of our fluid filled cables.	Throughout RIIO-ED2	We are currently behind target on this commitment and we will work towards fulfilling the requirements as we progress through RIIO-ED2.	<span style="color: orange;">A</span>
Noise		We will continue to proactively minimise the impacts of noise resulting from the construction, maintenance and operation of our electrical infrastructure and take timely action to rectify noise complaints from our plant and sites.	Throughout RIIO-ED2	We received 9 noise complaints in the 2023/24 reporting year, these were investigated and fully rectified. Through compliance with our Noise Management Procedure, we are continuously educating colleagues on how to better manage noise.	<span style="color: orange;">A</span>
		We will continue to report on noise pollution incidents and actions taken to reduce them.	Throughout RIIO-ED2	We received 9 noise complaints in the 2023/24 reporting year, these were investigated and fully rectified. Through compliance with our Noise Management Procedure, we are continuously educating colleagues on how to better manage noise.	<span style="color: green;">G</span>
PCBs		We will eliminate PCBs from our network by the end of 2025, in line with legislation and the risk-based industry approach agreed with the environmental regulators.	By end of 2025	Work is progressing on the planned removal of PCB contaminated (or potentially contaminated sealed) assets to ensure that we meet the given deadline of 31 December 2025 for the removal of these assets from our Distribution network. In line with our plans, developed via the ENA PCB Working Group, we are continuing to identify contaminated equipment. This Contaminated Equipment Disposal Plan involves a challenging rate of equipment replacement, and we are intending to comply with the deadline.	<span style="color: orange;">A</span>
		We will report on volumes of PCB contaminated equipment on and removed from the network.	Throughout RIIO-ED2	We report on volumes of PCB contaminated equipment on and removed from the network in the AER KPI tables and also report these to the Environmental Regulators - EA, NRW and SEPA on an annual basis	<span style="color: green;">G</span>
Bunding		We will use low carbon alternatives to concrete bunding for our RIIO-ED2 retrofit projects where technically feasible.	By 2028	We have used Lower carbon concrete on 43 of the projects for the RIIO-ED2 period in Primary Projects, for Plinths / Bunds. (Concrete mix that contains 40% GGBS replacement for Portland cement).	<span style="color: green;">G</span>
		We will upgrade existing or install new bunds at 203 of our Primary and Grid transformers as part of our RIIO-ED2 programme of oil mitigation measures, where adequate bunding is not in place.	Throughout RIIO-ED2	SPD has completed 6 out of a targeted 24 bund upgrade/installation works in the 2023/24 reporting year. SPM has completed 5 bund upgrade/installation works out of a target of 17. We are working with our contractors to improve the progress of these works.	<span style="color: green;">G</span>

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Action for Nature	Creosote	We will continue to collaborate with other DNOs and our supply chain to develop innovative alternatives to creosote wood poles.	Throughout RIIO-ED2	We worked closely with the local wildlife trust in Shropshire and other key stakeholders to undertake several environmental initiatives including habitat and hedgerow enhancements and pond and wetland restoration. As part of the upgrade, in a UK first we trialled new eco-friendly treatments on 10% of the new wood overhead line poles. They were treated with copper oil, which is kinder to the environment than traditional creosote.	G
	Biodiversity & Natural capital	We will deliver 10% enhancement of biodiversity on 25 hectares across our existing network, on our non-operational land and existing linear infrastructure through collaboration with landowners, communities and local wildlife groups	By 2028	Year 1 of RIIO-ED2 was used to develop a process for selecting sites for potential enhancement and carrying out the necessary surveys. The working group created a pipeline of enhance able sites across the SPM and SPD network site portfolio. Baseline assessment were then conducted at a number of these sites to identify biodiversity enhancement opportunities.	A
		We will implement a Biodiversity & Natural Capital Action Plan process to guide local operation implementation with the aim of increasing environmental value across our network.	By 2023	In year 1 of RIIO-ED2 we drafted our Action Plan for Nature and carried out internal and external consultations on the document. The document was then published in Q1 of Year 2.	G
		We will collaborate with stakeholders, including other DNOs, throughout RIIO-ED2 to develop and pilot robust methodologies and tools for delivering Biodiversity and Natural Capital assessment.	Throughout RIIO-ED2	We collaborated with the other Transmission Network Owners through the 'Centre for Energy Equality' working group to develop our approach to delivering BNG. We also actively participated in the Linear Infrastructure Environmental Management Group (LIEMG) discussions on nature policy, and the development of a Scottish approach to biodiversity enhancement through development.	G
		We will engage with UK and devolved governments with the aim of influencing biodiversity and natural capital policy to facilitate delivery of our biodiversity and natural capital goals.	Throughout RIIO-ED2	As part of our SPEN Scottish Sustainability Stakeholder working group, and engagement through the LIEMG we have engaged with the Scottish Government and NatureScot on the development of a Scottish Biodiversity Metric. We have also responded to the Scottish Governments consultation on Scotland's Strategic Framework for Biodiversity. On a local scale we responded to the Glasgow City Council Trees Strategy paper.	G
		We will identify, and subsequently monitor and annually report, metrics to track the levels of biodiversity and value of natural capital and ecosystem services on our sites and the achievement of our targets.	By 2023	We have been testing the capabilities of the 'Eco-Uplift' tool that we will use in year two to develop a baseline assessment of biodiversity and natural capital for SPEN land on our SPD and SPM networks. Regarding biodiversity metrics, in SPM we will use the UK government statutory metric for Biodiversity Net Gain (BNG). For SPD we will continue to use the SSENT adapted biodiversity metric until such a time that the Scottish Metric is developed by Nature Scot and the Scottish Government.	A
		We will form strategic partnerships with local ecological protection organisations to support our activities to improve habitats for wildlife and to support people's access to nature.	Throughout RIIO-ED2	We have focused on developing relationships with a number of key stakeholders across our areas of operation in SPM and SPD. We are buildings up a pipeline of potential opportunities for SPEN to support these organisations and in SPM, have successfully developed two projects with the Cheshire Wildlife Trust.	G
	Visual amenity	We will remove 35km of overhead lines in Areas of Outstanding Natural Beauty National Parks, and National scenic areas.	By 2028	In SPM, we've completed visual amenity works in Tyn Llwydan and work is planned for completion at Rhos Mynach, Angelsey in 2024. There are an additional 11 projects in the works during 2024, 2025 and 2026. SPD also have a number of visual amenity projects in the pipeline including at Holy Island.	G

## Commitments update

Key Priority Area	Impact Area	EAP Commitment	Timeline	2023/24 Status Update	RAG Status
Circular Economy	Sustainable resource use and waste reduction	We will divert 100% of our waste from landfill by 2030, excluding compliance waste.	Throughout RIIO-ED2	In 2023 we diverted 94.3% of waste from landfill, just short of our 95% target. We plan to get this back on track in 2024 to meet the 2030 target. We are increasing our data gathering abilities by investing in an enhanced waste and materials digitalisation recording system for our supply chain.	A
		We will establish a baseline and targets for waste reduction per £1m of total annual expenditure, to be achieved by the end of RIIO-ED2 and 2030 in line with our zero waste to landfill date	By 2023	Baseline being established, targets to be set during 2024.	A
		We will continue to collaborate with environmental/ waste regulators, other infrastructure companies and our supply chain to drive sustainable resource use and waste minimisation in order to meet our RIIO-ED2 and Sustainability Goals.	Throughout RIIO-ED2	We are working on demolition audits to create best practice for asset demolition. We are working on an internal resource sharing platform to drive reuse of materials within SPEN.	G
		We will implement metrics to measure the sustainability of our resource use, with the aim of establishing a baseline to enable target setting during RIIO-ED2.	By 2025	Ongoing	G
		We will continue to report on actual waste to landfill, recycling and reuse as a percentage of total and we will commence reporting on all new waste and resource use metrics.	Throughout RIIO-ED2	We continue to report on waste to landfill, recycling and reuse and are working towards reporting all waste and resource use metrics during RIIO-ED2	G
		We will set targets for recycled & reused materials as a % of total input materials to be achieved by end RIIO-ED2 and 2030.	By 2023	We have set a target of 30% recycled content/reused material cumulatively across our top three materials by volume, those being concrete, steel and aggregate.	G
		We will follow an appropriate, recognised standard such as BS8001 to embed circular economy principles where relevant throughout our business processes.	Throughout RIIO-ED2	We are committed to embedding this by 2028	G