

SSEN Distribution

ANNUAL ENVIRONMENTAL REPORT

2024/25



Scottish & Southern
Electricity Networks



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GLOSSARY





1. INTRODUCTION

1. EXECUTIVE SUMMARY

2024/25 marks the second year of our five-year price control, and we've made significant strides in various areas to ensure a positive outcome for our customers and the environment. Our Environmental Action Plan (EAP) continues to drive decarbonisation and improved environmental performance, with a focus on air quality, carbon emissions reduction and tackling pollution prevention.

We're on track to achieve our Science-Based Targets, where we're aiming for a 35% carbon footprint reduction by 2028. While operational activity has grown – meaning we're using our fleet more – we're adopting Hydrotreated Vegetable Oil (HVO) for suitable vehicles as a transition fuel and working hard to find longer term solutions to electrify our fleet.

Our mobile diesel generation emissions are reducing, achieving a 63.6% drop in Scope 1 emissions in Year 2. And we're actively reducing the reliance on diesel back-up generation on our islands, resulting in a 59.5% reduction in fuel consumption since our baseline year.

Managing losses on our network remains a priority, with a calculated cumulative loss saving of 21,943 MWh over RIIO-ED2. Our SF₆ performance is behind where we'd like it be, but we've stood up a taskforce to ensure this gets back on track and in line with our commitments, this is a strategic priority for Year 3.

Our nature-based solutions for carbon removals have seen good progress, with funding awarded for woodland creation and peatland restoration projects. Strong foundations have been established by understanding nature market delivery options, planning the work required, completing the due diligence required to secure credible projects, and identifying the correct route to market to ensure compliance with procurement and legal obligations. All of this provides certainty that, as we move into delivery at scale, we have confidence that our strategy is robust and adds value to the business, environment and our customers.

In addition, our partnership with the Scottish Marine Environmental Enhancement Fund (SMEEF) has established a strong pathway to delivery, with four key projects identified, demonstrating we are on track to achieve Scotland's most comprehensive seagrass planting programme.

2024/25 was also fundamental in us improving our systems and technology and we're excited to launch a number of reporting tools next year.

Despite the lack of funding allowances through this price control to deliver our FFC phase-out plans, our efforts to reduce leakage from these cables continues, with a commitment to replace just under 21km of cable and ensure cable tagging is continued to manage this potential pollution risk that we know is important to our consumers.

Significant progress has been made in removing PCB-contaminated assets from our network and we're well on track to meet the legislative requirements. We're extremely proud of this work both internally and externally with other DNOs and our regulators – true collaboration and determination at its best.

We've also started to underground overhead lines in designated sensitive landscapes to improve visual amenity, with construction already underway or in the pipeline and we'll see that reflected in next year's delivery numbers.

Our commitment to zero waste to landfill by 2028 remains strong. Bundling efforts are ongoing to reduce the risk of pollution from un-banded equipment in environmentally sensitive areas. And our flood-related activities have been completed in compliance with obligations, along with signing up 39% of our supply chain to our Sustainable Supplier Code.

Overall, our RIIO-ED2 Environmental Action Plan, supported by our Climate Resilience Strategy and Sustainability Strategy, will continue to drive continuous improvement in our environmental and sustainability ambitions as we progress through RIIO-ED2 and beyond.

For more information, see ssen.co.uk/sustainability.



This year, I'm especially proud of how our EAP has translated strategic planning into real-world results. We have made strong progress with the removal of PCB-contaminated assets from our network, demonstrating our commitment to both compliance and collaboration across the industry. Our sustainability goals are being realised through ongoing investment in nature-based solutions – securing funding for woodland creation, peatland restoration, and advancing Scotland's largest seagrass planting initiative. Despite ongoing challenges with SF₆ and FFC we still managed to deliver on our decarbonisation targets and remain fully committed to securing the solutions required. We have welcomed more of our supply chain into our Sustainable Supplier Code, reflecting the continued momentum of our ambitions. All of this is down to a very resilient team with a laser sharp focus on doing the right thing and our unwavering focus on embedding climate resilience and sustainability into every decision we make, ensuring lasting value for our customers, communities, and the environment.



Shirley Robertson
SSEN's Head of Strategic Planning and Sustainability





OUR EAP COMMITMENTS

Our commitments table below details our business plan outputs and further environmental action plan commitments. The additional commitments are marked with a leaf.

COMMITMENTS	TARGET	CONSUMER BENEFIT	STATUS	COMMENTARY
S1. Environmental Action Plan	Produce and report annually on an Environmental Action Plan (EAP).	Decarbonisation and improved environmental performance of our network and the wider community. Improved air quality, reduced carbon emissions and net zero.		Met target.
S2. Set Science-based Targets, accredited with the SBTi	Set an ambitious 1.5°C SBT (including losses) requiring at least a 35% reduction in our carbon footprint by 2028.	Reduced carbon emissions. Targeting embodied carbon through supply chain.		Continued to meet target.
S3. Reduce SF₆ emissions from our assets	Reduce emissions from our assets by a minimum of 35%, report on and begin reducing our holdings.	Reduction in the amount of toxic gas emitted by our assets, in line with our 1.5°C SBT. £2.5m societal benefits delivered by reduction in carbon emissions.		2024/25 SF ₆ emissions for SSEN Distribution totaled 191kg, representing a 1% reduction in leakage rate as a percentage of bank compared to 2019/20. As we increase our network it means that we're adding more assets, which will include SF ₆ , until appropriate alternatives are found. However, we are actively working with the supply chain and the ENA to develop alternatives and have improved monitoring and analysis to track the poorest performing assets monthly and target investment.
S4. Manage losses on our network	Implement a strategy to efficiently manage losses on our network in the long term: Re-classify losses as a Scope 2 emission and act to reduce actual losses.	Reduced transformer losses by up to 30% through our TASS project. Substation Energy Efficiency improvements. Manage significant losses incrementally across our network by applying loss reduction tech first. £36m societal benefits delivered by energy savings and lower carbon emissions as a result of reduced losses.		We've achieved a calculated cumulative loss saving of 21,943 MWh over RIIO-ED2 through implementation of our losses strategy initiatives to reduce actual losses. During 2024/25, we identified technical and network integrity challenges for the deployment of Transformer Auto Stop Start (TASS) technology so we're evaluating alternative options to re-deploy funding.
S5. Reduce emissions from mobile diesel generation during interruption	Reduce emissions by replacing mobile generators wherever possible with lower carbon alternatives or by using alternative lower carbon fuel types by 2028.	£1.4m financial benefits delivered by reduced fuel costs. £1.5m societal benefits delivered by a reduction in carbon emissions and improved air quality.		We've met this target by delivering a reduction of 63.6% in Scope 1 emissions in Year 2. We're deploying HVO as a transition fuel but also tackling usage and alternative technologies.
S6. Reduce reliance on back-up embedded diesel generation on our islands	Reduce reliance on diesel back-up generation, exploring local solutions and flexibility opportunities from the start of ED2.	£0.4m financial benefits from reduced fuel costs. £0.2m societal benefits from reduced carbon emissions.		Fuel consumption for Embedded Generation has reduced by 59.5% since our baseline year of FY 19/20.



COMMITMENTS	TARGET	CONSUMER BENEFIT	STATUS	COMMENTARY
S7. Nature-based solutions for carbon removal	Plant 258 hectares of native woodland and restore 522 hectares of peatland in our licence areas, which are expected to remove up to 65,000 tCO ₂ e by 2045.	Biodiversity baselining. A transformational and longer-term approach for net zero, that provides a legitimate and transparent record of carbon abatement. Improved air quality and local habitats.		Throughout 2024/25 we awarded funding through Projects for Nature (P4N) for 31 hectares of woodland creation in Somerset through Heal Rewilding and 12 hectares of peatland restoration in Oxfordshire through Freshwater Habitats Trust. We look forward to reporting on further progress and delivery in next year's report.
S8. Polychlorinated Biphenyl (PCB) compounds	Remove of all PCB-contaminated assets from our network by 31 December 2025.	Compliance with new legislative requirement to remove PCB across all DNOs. Transparency on the volume of PCB contaminated equipment on the network (through our AER).		During 2024/25 we completed 9,368 interventions, including oil testing, asset replacements, and oil changes. We expect to deliver around 3,900 remaining interventions to fulfil this commitment.
S9. Reduce leakage from fluid-filled cables	Replace at least 20.9km of fluid filled cable.	£15m societal benefit delivered by reducing oil leakage.		We were allowed reduced funding for investment in this category, so reset our commitment to replace at least 20.9km of fluid filled cable on our network. We are on track to deliver this, with a project underway to replace cables that pose elevated risk in Portsmouth Water's operating area. We've also explored alternative funding mechanisms, identifying a further 27.3km fluid filled cables we can replace. During 2024/5, we replaced 5km of fluid filled cables. A total of 27,991 litres of oil was used to top up fluid filled cables on the SSEN Distribution network in 2024/25. We've seen an increase in oil leakage across both SHEPD and SEPD due to issues such as lead sheath failing, joints requiring refurbishment due to ground movement and third-party strikes. Our ability to reduce leakage is constrained by our allowed funding in this category. Within our Environmental Management Systems, fluid-filled cable leaks are documented as a significant environmental aspect and impact, and we have implemented appropriate operational control measures to ensure that this risk is effectively managed and where possible the risk is reduced.
S10. Complete flood-related activities in compliance with obligations	Complete works at c.73 sites across our network in line with ETR138.	Reduced impact of flooding on our network leading to improved resilience to climate change.		Continued to meet target by completing Flood Risk Assessments at required sites following publication of SEPA and EA flood maps and completing flood mitigation works at sites across both our regions.
S11. Sustainable Supplier Code	Sign up 80% of our supply chain (by value) by 2028 to our Sustainable Supplier Code.	Contribution to lower emissions across multiple companies in our supply chain.		As of 31 March 2025, based on our 2024/25 spend data, 39% of our supply chain by spend – equating to 79 suppliers – had signed up to our Sustainable Supplier Code, reflecting growing alignment with our sustainability goals.



COMMITMENTS	TARGET	CONSUMER BENEFIT	STATUS	COMMENTARY
S11.1 Environmental reporting	Create environmental reporting to include Embodied Carbon and Biodiversity.	Reduce lifecycle emissions and embed circular economy principles to reduce waste, Create Biodiversity Baseline. Take efficient actions to reduce noise pollution and report on these actions.		Met target.
S12. Reduce travel-related emissions	Electrify 80% of our core vehicle fleet by 2028, reduce our average road mileage by 15% (from pre-covid levels) and limit air travel where possible.	£1.9m societal benefits delivered by reduction in carbon emissions.		The increase in delivery requirements of the ED2 programme has led to an increase in operational activity and a poor outcome against this target. To address this, we're switching to HVO for all suitable vehicles, and continuing with our effort to ensure 80% of our fleet moves to electric.
S13. Undergrounding in Areas of Outstanding Natural Beauty and National Parks	Complete undergrounding of up to 83km of lines.	Improved visual amenity of lines in National Parks and Areas of Outstanding Natural Beauty.		We've continued to make progress in relation to undergrounding, beginning construction to remove 560m of overhead line in SEPD. This project will be completed in early 2025/26, and we look forward to reporting on this and other schemes in next year's report. We have continued to increase our stakeholder engagement to raise awareness of this stakeholder driven scheme which has resulted in more applications that we look forward to exploring and undergrounding in the remaining years of RIIO-ED2.
S14. Protecting marine biodiversity: Life below water	Explore opportunities to improve our marine environment.	Restoring ancient seagrass beds that have been destroyed by seabed activity provides carbon sequestration rates three times higher than on-land planting, Improved natural habitats and protection against coastal erosion. £3.3m net benefit to the environment.		In March 2024 we contracted with the Scottish Government's Scottish Marine Environmental Enhancement Fund (SMEEF) for the delivery of 14 hectares of seagrass planting in our SHEPD licence area. Work over the course of 2024/25 has involved identification of delivery projects, undertaking due diligence and supporting projects in moving to delivery. Four delivery projects in SHEPD have been awarded funding to start work in 2025/26 and we're currently in discussions around opportunities for seagrass planting in our SEPD licence area.
S15. Resource use and waste	Commit to Zero Waste to Landfill (excluding compliance waste) by 2028.	Reduced waste from operations. Resource Use Standards in place by 2023.		Met target.
S16. Bunding	We'll construct bunding to bring assets in line with current Oil Storage Regulations with particular focus on assets that are in environmentally sensitive areas.	Reduce the risk of pollution from un-bunded equipment in environmentally sensitive areas.		During 2024/25, six bunds were successfully completed as part of our ongoing commitment to environmental protection. While initial progress was slower than anticipated, looking ahead, delivery is expected to accelerate. We remain committed to working collaboratively across teams to explore solutions and continue progressing toward our bunding targets.



2. WHO WE ARE

Scottish and Southern Electricity Networks (SSEN) is the trading name of the two Distribution and one Transmission businesses that form part of the FTSE-100 energy company, SSE.

This report focuses on the two Distribution businesses, Scottish Hydro Electric Power Distribution plc (SHEPD), that operates to the north of the central belt of Scotland, and Southern Electric Power Distribution plc (SEPD) that operates in central southern England, as shown in Figure 1.

Our role as a distribution network operator has never been more important. Society is evolving, our customers' expectations are changing, and so are we.

The communities we serve continue to depend on us to deliver a safe, reliable supply of electricity to their homes and businesses. And with a net zero future firmly on the horizon, we're also responsible for delivering the infrastructure that will make this greener world a reality for our communities.

Our business purpose - **We power communities to thrive today and create a net zero tomorrow** - unites us and reminds each of us, every day, of this collective aim - regardless of our individual roles.

Our vision - **We're powering change with every connection** - provides us with a longer-term view. It inspires us to go beyond 'keeping the lights on' to make every connection count; whether that's connecting with customers and stakeholders, connecting with each other, or connecting innovative technologies that will take us to net zero.

Our vision means doing everything we can, every day, by working together to build our relationships and understand our customers' and stakeholders' needs and hopes for sustainable change. Only from here can we have open communications, work together, and build a better future for us all.

SSEN DISTRIBUTION

NETWORK AT A GLANCE

SHEPD / SSEH

Scottish Hydro Electric Power Distribution

Nearly **4million** homes and businesses

Over **128,000km** of overhead lines and underground cables

Over **460km** of subsea cables powering our island communities

Over **4,400** employees across the country

SEPD / SSES

Southern Electric Power Distribution



Figure 1: Summary of SSEN Distribution



3. PURPOSE OF THIS REPORT

Our Annual Environmental Report provides stakeholders with a transparent and public account of our commitment to addressing environmental matters in RIIO-ED2. It's intended to provide a holistic overview and clear rationale for our actions and details of actual benefits to customers. It also provides an important update on our continuing progress to meet our environmental targets and demonstrates how stakeholders shape this going forward.



MANAGING OUR ENVIRONMENTAL IMPACT

ISO 14001

SSEN Distribution operates an ISO 14001 certified Environmental Management System. ISO 14001 is part of a suite of international standards developed by the International Organisation for Standardisation and assists organisations to enhance and improve environmental performance, provides a framework to ensure regulatory compliance and set, monitor and achieve environmental objectives.

Our Environmental Management System assists us with managing our environmental and sustainability responsibilities in a systematic manner and progressing our RIIO-ED2 environmental and sustainability business plan objectives.



Figure 3.1 ISO14001 Environmental Management System



4. BUSINESS CARBON FOOTPRINT

4.1. INTRODUCTION

This section details the total Greenhouse Gas (GHG) emissions produced in both SHEPD and SEPD licence areas during the 2024/25 reporting year. Our Business Carbon Footprint (BCF) is published as part of our company reporting obligations and reported annually to Ofgem as part of our distribution licence requirements. Our targets are aligned to the Science-Based Targets initiative (SBTi). Targets are defined as 'science-based' if they are in line with what the latest climate science believes necessary to meet the goals of the Paris Agreement, limiting global warming to 1.5°C above pre-industrial levels.

4.1.1. METHODOLOGY

We collate the data from across our business using the methodology described within international GHG emissions accounting standards, the GHG Protocol and ISO14064-1. We convert our data to equivalent tonnes of carbon dioxide (tCO₂e) using conversion factors as provided by the Department for Energy Security and Net Zero (DESNZ) for annual reporting to Ofgem.

Emissions are reported as equivalent tonnes of carbon dioxide because different gases have different global warming potentials. Our footprint accounts for carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆).

A carbon footprint is composed of three different Scopes defined by the GHG Protocol, and SSEN Distribution currently collects data and calculates the following:

Scope 1: Direct emissions from sources owned or controlled by SSEN Distribution

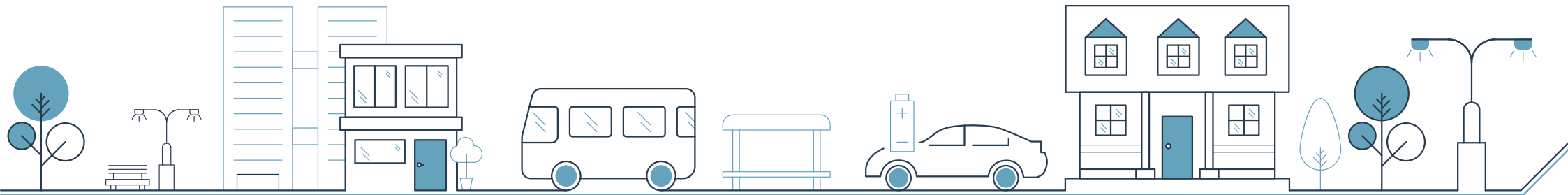
- Building energy use – natural gas.
- Operational transport (road and air).
- Fugitive emissions (SF₆).
- Fuel Combustion.

Scope 2: Indirect emissions from the generation of purchased electricity by SSEN Distribution

- Building energy use – electricity.
- Operational Transport – electric vehicles.
- Substation energy use – electricity.
- Network Losses – as detailed by Ofgem.

Scope 3: Upstream and downstream indirect emissions that are a consequence of SSEN Distribution's activities but occur from sources not owned or controlled by it

- Category 1 - Purchased goods and services.
- Category 2 - Capital goods.
- Category 3 - Fuel and energy-related activities.
- Category 4 - Upstream transportation and distribution.
- Category 6 - Business travel.





4.1.2. BUSINESS CARBON FOOTPRINT CALCULATIONS AND RESULTS

Scopes 1 and 2 emissions

During 2024/25, we saw a marginal increase in emissions from last year of 0.05% mainly due to an 1.6% increase in electricity losses. However, the work we’ve done outside losses has meant that we’ve still managed to meet our 2024/25 RIIO-ED2 reduction target of 20% for our Scopes 1 and 2 by achieving an overall 22% reduction of emissions since our 2019/20 baseline. The main reduction we’ve seen was in our Mobile Generation, with a change of fuel from Diesel to HVO (Hydrotreated Vegetable Oil). When excluding network losses, we’ve seen a reduction of 16% in SEPD and SHEPD against the previous year, and of 34.7% against our baseline. Table 4.1 presents an overview of our reported emissions for 2024/25.



Figures 4.1 and 4.2, show our Scope 1 and 2 GHG emissions by source for the 2024/25 reporting period, with and without losses.

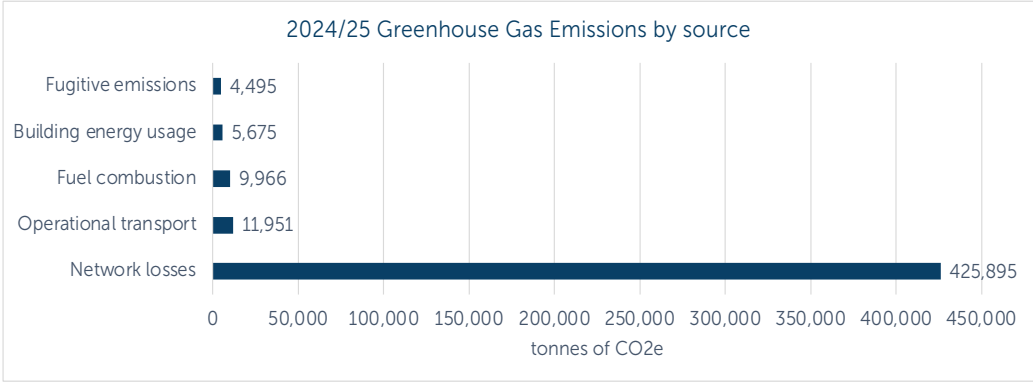


Figure 4.1 2024/25 Greenhouse gas emissions by emissions' source, including losses

SCOPE	Annual BCF (tCO2e)					
	BASELINE YEAR (2019/20)	2024/25 REPORTED	2024/25 SBT TARGET	2024/25 REPORTED V. 2024/25 TARGET (%)	2027/28 SBT TARGET	2024/25 REPORTED V. 2027/28 TARGET (%)
Total Scopes 1 and 2 - excluding losses	49,110	32,088	39,288	-18.3%	31,921	0.5%
Total Scopes 1 and 2 - including losses	587,930	457,983	470,344	-2.6%	382,154	19.8%

Table 4.1: Annual BCF reporting (Scopes 1 and 2) against SBT annual target and end of RIIO-ED2 target (tCO2e)

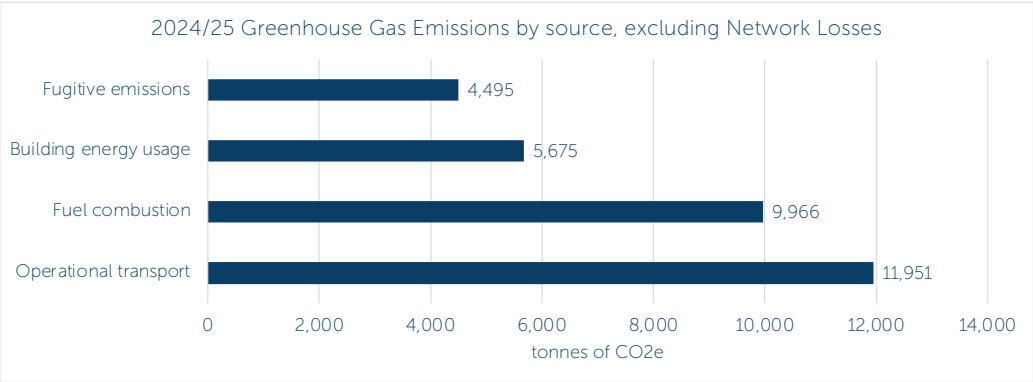


Figure 4.2. 2024/25 Greenhouse gas emissions by emissions' source, excluding losses



Compared to the previous year, we've seen reductions in the use of electricity in our buildings, operational vehicle use, and fuel combustion, especially due to our shift to HVO as a diesel alternative for our mobile generation.

The increases in Network Losses of 1.6% has prevented a higher reduction compared to our baseline. Losses are a significant part of our BCF, and any changes impact our results. The United Kingdom electricity grid decarbonisation will play a key role in curbing these emissions.

Our total operational emissions for the RIIO-ED1 period, against our absolute reduction target, are shown in Figure 4.3. For RIIO-ED2, through our SBT, we're committed to reducing our emissions by 35% by 2028, from our 2019/20 baseline.

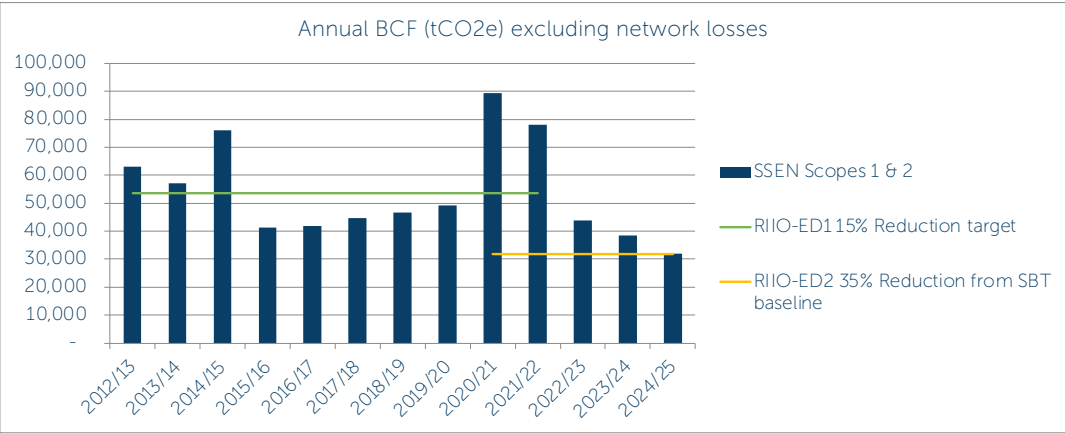


Figure 4.3: SSEN Distribution historical Scope 1 and 2 GHG Emissions (tCO2e), excluding losses

As shown in Figure 4.3, our BCF, excluding losses, has decreased by 49.2% from 2012/13, highlighting the positive action undertaken in our operations to reduce our environmental impact whilst ensuring security of supply to our 3.9m customers throughout our SHEPD and SEPD licence areas.

Figure 4.4 shows the contribution that our network losses make to our overall BCF in relation to our operational emissions and contractor emissions across both SHEPD and SEPD licence areas over the past 13 years. As shown, network losses make up the largest proportion of our total BCF.

In 2024/25, network losses across both licence areas made up 93% of our total GHG emissions. Therefore, we continually strive to keep these as low as is practicably possible. The expected electrification of different systems of daily lives will increase electricity consumption, which will cause total losses of electricity to increase due to physics.

Figure 4.4 shows how our emission trajectory associated with losses has dropped significantly over the RIIO-ED1 period but had an increase due to the UK grid carbon intensity during the first two years of RIIO-ED2. The emission factor is updated every year following the latest published figures by DESNZ. Through our Losses Strategy, we adopt more pro-active measures to reduce network losses e.g. increasing minimum cable size and reducing energy theft.

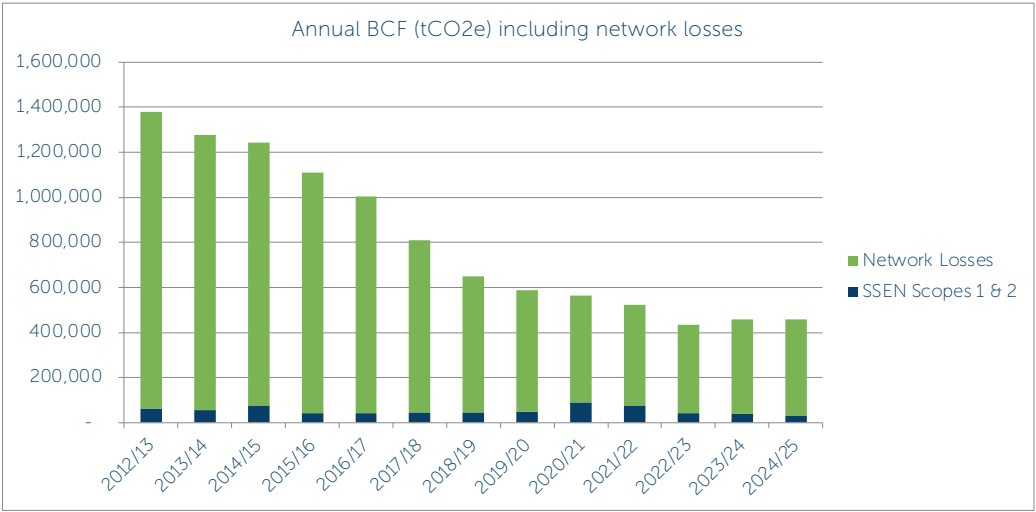


Figure 4.4: SSEN Distribution historical Scope 1 and 2 GHG emissions (tCO2e), including losses

For further details on emissions, please see [AER KPI tables and worksheet E3 – BCF snapshot linked to the Appendix of this report.](#)



OPERATIONAL TRANSPORT

Operational transport emissions come from vehicles owned or controlled by the reporting company. For us, this refers to our large fleet of commercial vehicles (generally vans and lorries) that allow engineers to service our network, and which are either owned, leased or hired. Helicopter fuel consumption is also considered as operational transport under our reporting. Although leased or hired vehicles are technically a Scope 3 GHG emission under the GHG Protocol, our lease/hires are long-term and controlled by us, therefore, we classify them as a Scope 1 GHG emission (for vehicles that consume fuel) and Scope 2 (for vehicles that consume electricity).

SSE has made a commitment to transition as much of its fleet that is operationally practicable to zero emissions by 2030, with a strategic commitment alongside over 100 global companies in joining the Climate Change Groups' EV100 programme. Currently we have 1,912 vehicles (including both cars and vans) that fall under the EV100 commitment with 675 (35%) of these having been swapped across to an EV.

Unfortunately, there is still limited choice of MDV (medium-duty vehicle) and HDV (heavy-duty vehicle) electric commercial vehicles being manufactured and available for fleet operators, especially utility companies. The SSE-wide fleet team has been trialling the use of HVO as a transitional fuel until we have the EV alternatives available.

Figure 4.5 presents our operational transport emissions throughout the years. We've seen a 3.1% reduction from the previous year, but this is still the main component of our BCF when losses are not considered and therefore remains a key area of focus for us.

FUEL COMBUSTION

This component of our Scope 1 footprint covers emissions from our mobile generation and our embedded generation stations.

Several of our Scottish Islands are supplied by a single circuit. In fault and maintenance conditions we rely on embedded generation to maintain security of supply. Storm activity and coverage for transmission outages are essential aspects for the need of using our embedded generation stations. However, our embedded generation team is focussed on improving forecasting and operational practices to ensure our reliance, and the emissions, are as low as practicable. During 2024/25, we've seen a reduction of 10.6% of this type of emission.

Our mobile generation provides energy during temporary fault repairs and planned works on our networks. We've started to use HVO for our generators, achieving a 53.6% HVO consumption share by the end of 2024/25. This resulted in a 63.6% reduction in our Scope 1 emissions associated with mobile generation.

Figure 4.6 shows the levels of tCO2e emitted from generation. Our current numbers are over the expected 35% reduction since our 2019/20 baseline, reaching a 61.4% reduction.

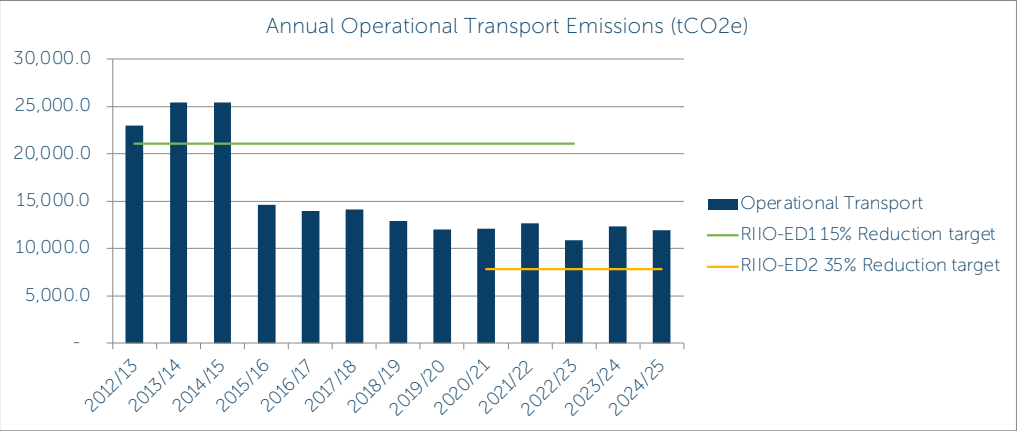


Figure 4.5: Annual operational transport emissions (tCO2e)

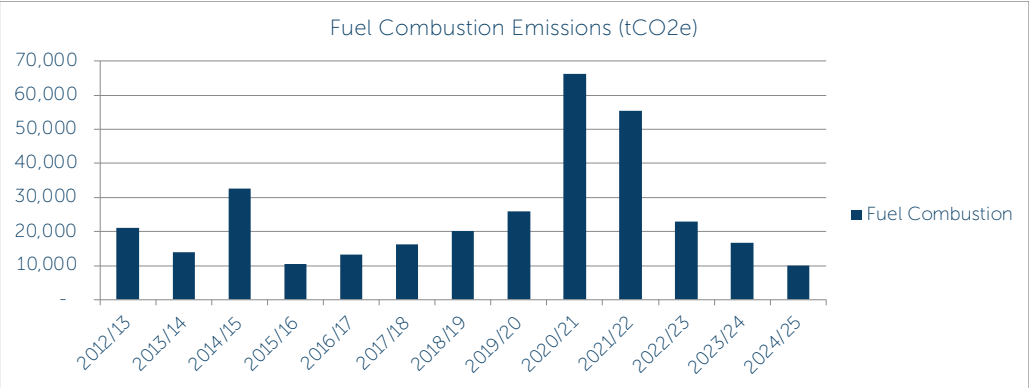


Figure 4.6: Annual fuel combustion emissions (tCO2e)





BUILDING ENERGY USE

As we share building space with other SSE businesses, we can reduce costs as well as energy consumption. Latest data confirms that 100% of electricity supplied to SSE’s facility-managed offices and depot sites is sourced from renewable generation.

To report our portion of the SSE-wide total energy consumption emissions across SHEPD and SEPD, we adopted a recharge model which is based on number of employees per SSE business. The total building energy usage carbon emissions for SSEN Distribution is shown in Figure 4.7. The figure shows we’re reducing our energy-related emissions from our 2019/20 baseline.

In 2024/25, electricity usage decreased by around 1% whilst gas usage increased by around 45% compared to the previous reporting year. The almost stable numbers in electricity are a combination of maintaining an improved data capture methodology and an overall stable occupancy of offices.

Substation electricity is 80% of the reported building energy emissions. Electrical demand in a substation comes from a combination of elements such as space heating, panel heaters, lighting of buildings, battery chargers, mains, transformer coolers and site security equipment (flood lighting, CCTV cameras etc.). Between SHEPD and SEPD, usage described above can vary due to the geographical location and differences in climates.

For substation electricity calculation, we use the total number of substations at Extra High Voltage (EHV) and above, multiplied by a factor that is created through the usage of equipment described above to give us an estimated energy usage. For High Voltage (HV) substations however due to the classification of indoor/outdoor, we assume 3.5% of the total of all HV substations have the equipment mentioned installed. We have over 45,000 substations in our network, and we use assumptions because they are currently not metered. As part of a building energy efficiency project, some substations have been selected to receive meters, and we will be adding energy efficiency measures to them to understand their impact. The measures are composed of spray roof insulation, double glazing, heating and lighting occupancy sensors.

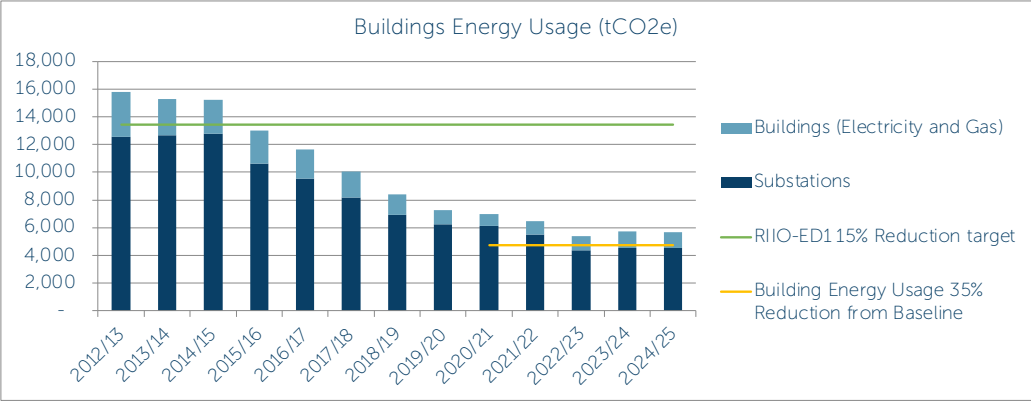


Figure 4.7: Annual building energy usage over time (tCO2e).





FUGITIVE EMISSIONS

Fugitive emissions occur when undesirable and unintentional losses of a gas happen. Sulphur Hexafluoride (SF₆) is an electrical insulating gas which is used in electrical switchgear. In 2024/25, 191.28 kg of SF₆ was emitted by our network, equal to 4,495 tCO₂e. This category saw the highest percentage increase -25% - in our Scopes 1 and 2 carbon footprint compared to 2023/24.

Further details about this Environmental Impact Area and our efforts to manage fugitive emissions are provided in the SF6 section of this report – Chapter 5.4.

YEAR 2024/25	TOTAL DISTRIBUTION LOSSES GWh	EQUIVALENT TCO ₂ _e
SHEPD	491.43	101,750
SEPD	1,565.54	324,145
Total Losses	2,056.97	425,895

Table 4.2: Total losses in the SSEN Distribution network

NETWORK LOSSES

Network losses are a consequence of energy loss due to materials, temperatures and physical properties of the energy distribution process. The total volume of distribution electrical losses in 2024/25 was around 2,057 GWh with equivalent emissions of 425,895 tCO₂e as shown in Table 4.2. The distribution losses' volume is derived from an industry standard model, utilising both percentage of sales and purchases of electricity from the grid.

Figure 4.8 shows the volume of distribution network losses over RIIO-ED1 and to date in RIIO-ED2. Network losses increased by 1.6% in 2024/25 compared to 2023/24 and by 1.9% since the start of RIIO-ED2. The minor variations reflect slight changes in generation and consumer demand over a particular year. Losses are forecast to continue to increase with the growth in electrification of heat and transport, however, GHGs associated with the volumes are expected to reduce due to decarbonisation of the grid.

Further details about our efforts to manage losses are provided in the Electricity Distribution Losses section of this report – Chapter 4.5.

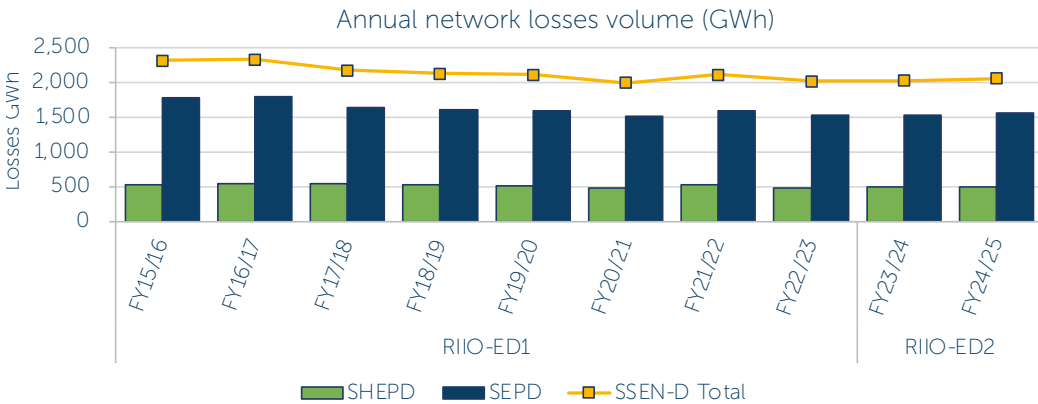
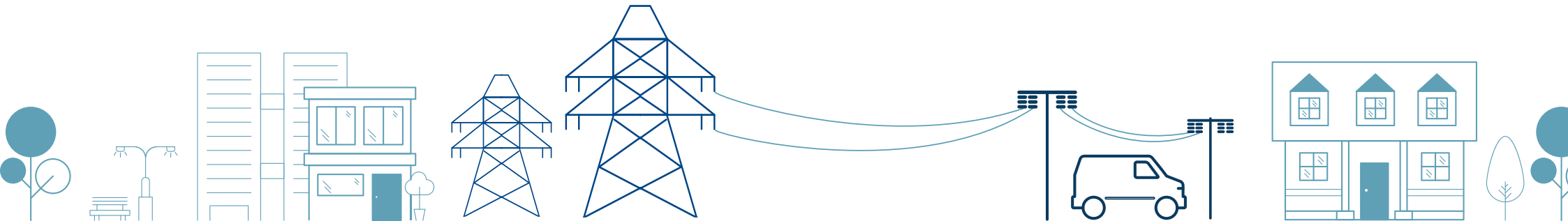


Figure 4.8: Annual network losses volume (GWh)





4.3.2. SCOPE 3 EMISSIONS

Our Scope 3 indirect emissions are not part of our SBTs, but we understand their impact and have set a voluntary target, committing to working closely with our supply chain so that 35% of our suppliers will have SBTs set by 2026.

Our RIIO-ED1 Scope 3 emissions reporting only included Business Travel and Contractor Transport. For RIIO-ED2, we recognised that we needed to include our supply chain emissions.

This enables us to include our clear methodology for reporting supplier emissions, establishing and reporting on a reduction strategy, and implementing actions to reduce Scope 3 emissions over time. We are also committed to working collaboratively across the industry to support these efforts. The following sections include our narrative on the categories that make up most of our Scope 3.

PURCHASED GOODS AND SERVICES AND CAPITAL GOODS

Purchased goods and services and capital goods include all upstream emissions from the production of products purchased or acquired by SSEN Distribution during the year. Data for these categories are the expenses from the company multiplied by conversion factors from DESNZ, which is called a spend-based method. Every item of goods or service purchased by a company will have an associated carbon cost. Emissions are classified according to Standard Industrial Codes (SIC), as different sectors will cause different levels of impact.

This analysis provides us a view of where our hotspots for carbon emissions are, and establishes a pathway towards tackling emissions and engaging with suppliers from the main categories for the following years. We'll report data for these categories from Scope 3 in the coming years.

FUEL AND ENERGY-RELATED ACTIVITIES

This category includes indirect emissions from fuel and energy-related activities that aren't already captured in Scope 1 or Scope 2. They are emissions from the production, transportation, and delivery of fuels and energy purchased by a company, but not the emissions from the company's direct combustion of those fuels. Essentially, it covers the upstream emissions related to energy consumption. We will report data for these categories from Scope 3 in the coming years.

UPSTREAM TRANSPORTATION AND DISTRIBUTION

Figure 4.9 presents our contractors' transport emissions. These have been calculated using spend data multiplied by DESNZ Input-Output factors. The volume of work required to meet our RIIO-ED2 target will have a direct impact in these emissions.

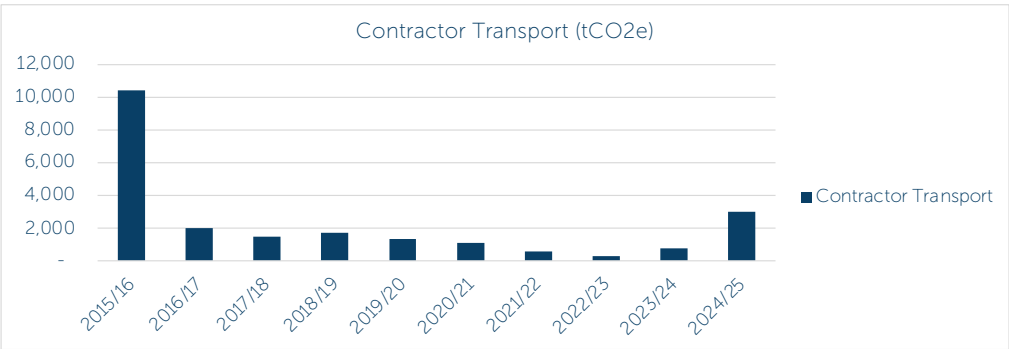


Figure 4.9: Annual emissions for contractor transport (tCO2e)





BUSINESS TRAVEL

Business travel GHG emissions arise from the transportation of employees for business-related activities in vehicles owned or operated by third parties and are a Scope 3 emission, this includes road, rail, sea and air travel. In our RIIO-ED2 EAP, we committed to reducing business travel related emissions by reducing our average business road mileage (from pre covid levels) by 15% and managing return flights to average 0.4 per employee per year.

Figure 4.10, outlines our progress against our average business road mileage target for RIIO-ED2. In 2024/25, our average business road mileage equated to 3,463, a 26% reduction from our 2019/20 base year, and significantly ahead of our RIIO-ED2 business plan commitment target. We continued to utilise flexible working arrangements, conduct engagements virtually using digital technologies, and challenged the necessity of road travel to help meet this target.

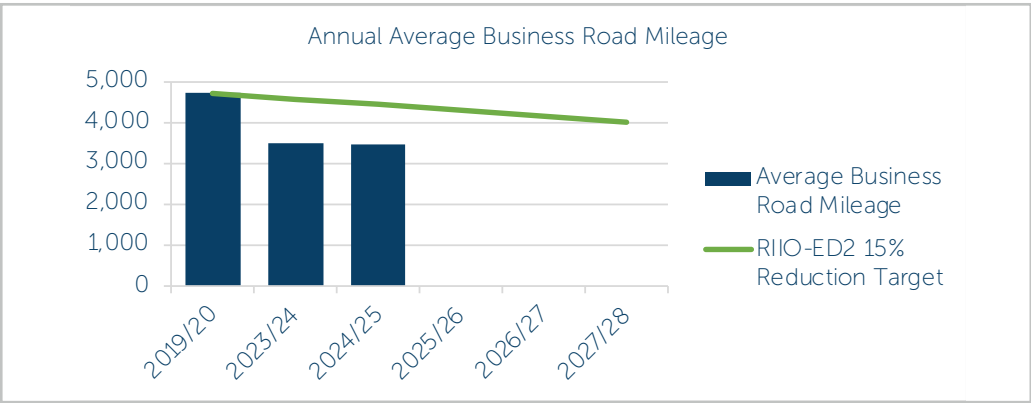


Figure 4.10: Annual average business road mileage over the RIIO-ED2 period (SHEPD and SEPD)

In 2024/25, the number of return flights undertaken equated to 0.44 per employee, a slight increase from 2023/24 and slightly over our RIIO-ED2 business plan commitment target of 0.4. We continued to use virtual meeting platforms, deliver travel awareness communications, and challenged the necessity of air travel. In April 2025, travel restrictions have been introduced to ensure this target will be met in subsequent years.

Emissions from Business travel have steadily increased from the pandemic years. From 2023/24 to 2024/25 we've seen an increase of 19.1%. Figure 4.11 shows the emissions throughout the years.

We've also calculated well-to-tank emissions for our business travel emissions for the first time and these account for extra 534 tCO₂e for 2024/25.

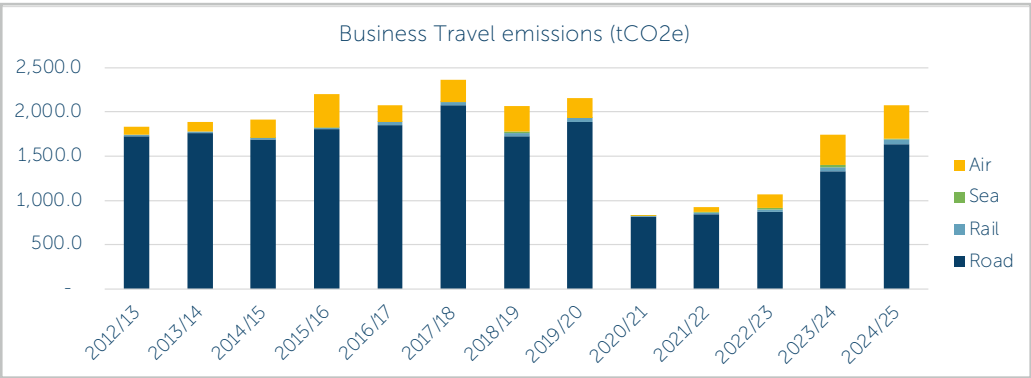


Figure 4.11: Emissions associated with business travel (tCO₂e), excluded well-to-tank emissions

OTHER SCOPE 3 CATEGORIES

There are a total of 15 categories composing Scope 3. From these, we have emissions in seven of them. Currently we are calculating emissions results for five of them. We expect to add emissions from Category 5 – Waste and Category 7 – Employee Commuting/Working from Home in the next years.





4.4. SULPHUR HEXAFLUORIDE EMISSIONS

4.4.1 SUMMARY

Sulphur Hexafluoride (SF₆) is an extremely effective electrical insulator that is used in our circuit breakers, switchgear, and other electrical equipment. It has significant advantages over alternative materials; for example, it's non-flammable – a critical safety requirement in the high-voltage applications, and, because of the excellent insulating properties, it takes up less volume than alternatives. It's also, however, a very potent greenhouse gas – one kilogram of SF₆ is equivalent to approximately 23,500kg of carbon dioxide. SF₆ is consequently a material factor in our business carbon footprint. To meet net zero, we must align with a 1.5°C trajectory and therefore, as a minimum, we need to reduce SF₆ emissions by at least 35% by the end of the ED2 price control in 2028 and by 55% by 2033.

During the 2024/25 reporting period we had a total of 30,173kg of SF₆ installed on our network across our SHEPD and SEPD licence areas. Emissions of SF₆ are recorded in our asset management system and represent the amount of SF₆ used to top up assets during fault repair, routine maintenance or commissioning of assets that use SF₆ as an insulating medium. A total of 191kg of SF₆ was emitted during the 2024/25 reporting period due to natural leakage and subsequently required top-ups as part of the normal maintenance and cold/hot snaps in the weather that exacerbated leaks.

To counter this, improved monitoring and analysis have been developed to track the poorest performing assets on a monthly basis. We're committed to exploring alternatives to SF₆ and deployed our first C4-FN filled asset during the reporting period and will seek to continue installing alternatives where solutions are available. Our ED2 investment plans include the replacement of both severe and poor leakers in the first two years on a like-for-like basis with newer more efficiently sealed SF₆ equipment and are committed to deploying SF₆ alternatives as they become market ready. Over the course of the reporting period a total of 180 SF₆ containing assets were commissioned on our network and 150 SF₆ containing assets were decommissioned.

We're actively engaging with numerous suppliers to discuss and technically review their alternative gas offerings at lower 11kV and 33kV voltages, and we'll continue this approach throughout RIIO-ED2. Several non-disclosure agreements have been signed with a variety of switchgear suppliers to share their own developments in HV switchgear at voltage levels across the distribution arena, in both primary and secondary equipment. We are actively engaging with our framework partners and encouraging new suppliers to discuss possibilities for trailing their alternative-gas offerings on our network with the aim to accelerate the adoption of SF₆-free equipment and understand some of the potential challenges of managing a multiple gas asset base. We continue to actively participate in the Energy Networks Association Switchgear Assessment Panel and ensure that any learning is fed back into our strategy work.

When SF₆ -filled equipment reaches the end of its operational life and is decommissioned, we take measures to ensure that SF₆ is recovered from the equipment. We've got a procedure in our document management system that specifies our requirements for the management and handling of SF₆. We utilise a supply chain partner who is fully licenced to remove SF₆ gas and provide full traceability of the volume of SF₆ removed from the asset alongside traceability that the equipment has been degassed and managed in accordance with the F-Gas Regulations.

4.4.2. SF₆ PERFORMANCE DURING RIIO-ED2

To meet net zero, we must align with a 1.5°C trajectory. Reducing SF₆ emissions is a key part of that, and our overall target is to reduce our leakage rate (the amount of SF₆ emitted, as a proportion of SF₆ contained in our assets, referred to as the 'bank') by at least 35% by the end of RIIO-ED2, and 55% by 2033. In 2024/25, SF₆ emissions for SSEN-Distribution totalled 4,495 tCO₂e. The SF₆ leakage rate for 2024/25 was 0.63% (i.e. 0.63% of our total SF₆ holdings were emitted), representing a 1% reduction in leakage rate as a percentage of bank compared to our 2019/20 baseline, behind our 11% reduction target for year 2 of RIIO-ED2.

For further details on SF₆, please see AER KPI Tables linked to the Appendix of this report.

4.5. ELECTRICITY DISTRIBUTION LOSSES

4.5.1 SUMMARY

Electrical losses are an unavoidable consequence of transferring energy across the electricity network, where they have a significant financial and environmental impact. For Distribution Network Operators (DNOs), electrical losses represent the difference between the amount of electricity entering the distribution network, from the transmission system or directly from generators, and the amount of electricity leaving the distribution network to our customers. These losses are classified as either technical (resulting from our assets and the movement of electricity through our network) or non-technical (resulting from electricity accounting issues).

We have obligations to manage distribution losses and to ensure they are as low as is reasonably practical. In our RIIO-ED2 Environmental Action Plan (EAP) we committed to implementing a strategy to efficiently manage losses on our network in the long-term, reclassify losses as a Scope 2 emission and act to reduce actual losses. Through our losses strategy we aim to deliver reductions in losses by:

- Setting asset and network design policies and specifications to minimise losses where this is demonstrably the right approach.
- Strategically installing lower-loss assets, and optimising network configuration where this is demonstrably the right approach.
- Trialing known and new loss-reducing techniques, such as methods to stabilise power factor and improve power quality, to assess suitable applications within our network.
- Tackling electricity theft and calculation anomalies through investigation works and wide-reaching communications highlighting the issue.
- Improving our understanding of network losses through research, innovation and collaboration.

Through our targeted initiatives, we hope to realise a losses avoidance of approximately 466,612MWh by the end of the RIIO-ED2 price control period.

During 2023/24, we refreshed our losses strategy with a revised structure and added in the latest data and information to improve the clarity of the actions we're taking to reduce electrical losses for our stakeholders. We focused on updating and embedding our design standards for cable and overhead line sizing and improving the energy efficiency of our substations to reduce actual losses. As a result of our targeted interventions, we have achieved a calculated losses saving of 7,513MWh for 2023/24.

Full details of our Losses Strategy can be found at: ssen.co.uk/about-ssen/library/losses-strategy.



4.5.2. LOSSES STRATEGY IN ACTION

To help ensure we meet our commitment to reduce losses and ensure they are as low as reasonably practicable, we've been implementing targeted measures as outlined in our Losses' Strategy. These initiatives and performance during RIIO-ED2 are summarised below.



Installing energy efficient transformers

We've been strategically installing plant and equipment that delivers enhanced losses performance and meets the EU Transformer Eco-design Directive Tier 2 specification. This includes replacing inefficient transformers and accelerated replacement of historical high loss secondary transformers, delivering a calculated losses saving of 6,011 MWh to date in RIIO-ED2.



Upsizing of cables and transformers

In general terms, increasing the diameter of conductors and upsizing the rating of transformers reduces losses. Therefore, we've set asset design policies and specifications to increase the minimum size of new cables and ratings of transformers, delivering a calculated losses saving of 684 MWh to date in RIIO-ED2.



Upgrading network voltages

As losses are proportional to the square of the current, and current is directly proportional to the power throughput, increasing network voltages can reduce losses for the same power transfer. As part of our network capacity increase and standardisation, we've been upgrading legacy 6.6kV networks to 11kV in our SEPD licence area and a number of schemes are in planning for delivery in later years of RIIO-ED2.



Switching off under-utilised plant

During 2024/25, further investigations into the deployment of Transformer Auto Stop Start (TASS) technology has identified numerous technical challenges which mean it would not be appropriate to proceed with the project and could compromise network integrity. We're investigating other opportunities as alternatives.



Reducing energy usage at substations

Our substations consume energy to maintain secure network operation and this usage is currently unmetered, so estimates are used in our settlements process, contributing to non-technical losses. By improving the energy efficiency of our substations, we can reduce substation electricity consumption and as a result also reduce losses. Through our substation refurbishment works we've delivered a calculated losses saving of 3,137 MWh to date in RIIO-ED2.



Resolving Metering Point Administration Numbers (MPAN) Discrepancies

Our Network Protection team continues to focus on investigating and resolving MPAN discrepancies, reducing non-technical losses and through these activities have delivered a calculated losses saving of 12,112 MWh to date in RIIO-ED2. We're also applying for further funding for our I-LAD - Innovating Losses Analysis and Detection innovation project to improve identification and intervention of non-technical losses.



Improving assessment and reporting of losses

During 2024/25, we completed our NATL - New Approach to Losses innovation project where we updated our losses apportionment model to ensure the apportionment of losses and the costs of losses across network users remains accurate and fair. We also began the discovery phase of our I-LAD - Innovating Losses Analysis and Detection innovation project seeking novel approaches to automating and modernising losses management. To improve our visibility of losses on our network we continued to install smart meters and LV monitors and develop monitoring dashboards to improve network management.

For further details on losses, please see AER KPI Tables and worksheet E4 – Losses Snapshot linked to the Appendix of this report.



5. EMBODIED CARBON

5.1. SUMMARY

Embodied carbon is a major contributor to the UK's overall carbon emissions, and so it's essential that we address its impact as we strive to meet the country's net zero targets. It encompasses the total greenhouse gas emissions generated throughout a product's lifecycle including the production, transportation, construction, installation, and end-of-life disposal. These emissions are classified as Scope 3 for SSEN Distribution, as they are not directly generated or controlled by the company but occur within its supply chain.

The first half of 2024/25 was dedicated to the creation and testing of our Embodied Carbon Tool (ECT). We've engaged with our internal teams and integrated the tool into the Distribution Governance and Investment Framework (DGIF) process as a mandatory requirement for all projects over a £10m threshold. The DGIF sets out formal interaction and decision-making between the Distribution System Operation (DSO) and wider DNO services such as asset management, customer connections and delivery. We continue to engage with other DNOs through the ENA Carbon Working Group, through which the database for our tool has been acquired and discussed, and we anticipate further discussions with our peers to move forward in this scenario.

We expect to report the Embodied Carbon of our projects in the next reporting period, 2025/26. Meanwhile, we can estimate the embodied carbon of all electrical equipment installed on our network during 2024/25 by using the reported information to Ofgem in conjunction with our database of emissions. The total embodied carbon of installed electrical equipment during 2024/25 was calculated as 124,419 tCO₂e, 44,932 for SEPD and 79,487 for SHEPD. Figure 5.1 presents the most significant equipment regarding emissions by type of item and licence area.

Estimated embodied carbon emissions from electrical assets purchased by SEPD and SHEPD in 2024/2025 (tCO₂e)

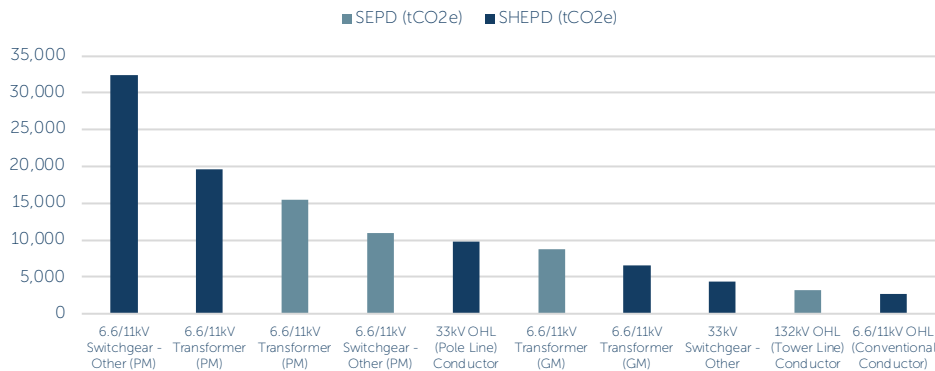


Figure 5.1: Estimated embodied carbon emissions from electrical assets installed by SEPD and SHEPD in 2024/25.



Caption: SSEN Distribution asset



6. SUPPLY CHAIN MANAGEMENT

6.1. SUSTAINABLE SUPPLIER CODE

In 2023, we launched our Sustainable Supplier Code, setting out eleven targeted sustainability requirements that suppliers are expected to meet. These requirements span the full breadth of sustainability and are designed to support the reduction of Scope 3 emissions across our operations, while also enabling suppliers to reduce their own Scope 1 and Scope 2 emissions.

The supply chain plays a critical role in achieving our RIIO-ED2 net zero ambitions. Through the implementation of this code, we aim to ensure that suppliers actively contribute to its net zero journey, while simultaneously enhancing their own sustainability practices and knowledge. The Sustainable Supplier Code serves as a clear route map towards building a more sustainable and responsible supply chain, aligning supplier performance with our environmental standards and strategic goals.

In 2024, we hosted a series of supplier engagement events to strengthen collaboration on sustainability. These included an online webinar focused on Biodiversity Net Gain, as well as in-person Sustainability Supplier Engagement Days held at our Perth Training Centre and Reading office. These events served as valuable platforms for open dialogue, knowledge sharing and strategic planning, with a strong turnout of 110 supplier representatives across both locations.

As of 31 March 2025, based on our 2024/25 spend data, 39% of our supply chain by spend – equating to 79 suppliers – had signed up to our Sustainable Supplier Code, reflecting growing alignment with our sustainability goals.





6.2. SUSTAINABLE PROCUREMENT

Throughout 2024, all procurement tenders – both one-off and framework agreements – included a set of sustainability-focused questions. As part of the tendering process, all bidders were also required to acknowledge and commit to the principles outlines in both the SSE Sustainable Procurement Code and the SSEN Distribution Sustainable Supplier Code.

In addition, in July 2024, we appointed a dedicated Supplier Relationship Manager. This role is focused on strengthening engagement with key suppliers, ensuring that delivery expectations are met while also supporting progress against broader objectives, including sustainability performance metrics.

6.3. SUSTAINABILITY AWARDS

In June 2024, we proudly announced the winners of our Sustainability Awards for 2023/24, recognising outstanding contributions across our supply chain.

The award recipients were:

- Engineering – Briggs Marine.
- Circular Economy – P.F. Cusack.
- Low Carbon – Kyte Powertech.
- Social Value – Lucy Electric.
- Team/Individual - Professor Dr Maurizio Bragagni OBE (Tratos, CEO).



Building on this success, we launched our second annual Sustainability Awards in February 2025. In response to supplier feedback, we expanded the programme to include one new category and a slight change to the team/individual category to People/Culture.

This year's award categories are:

- Low Carbon.
- Social Value.
- Engineering.
- Circular Economy.
- Nature.
- People/Culture.



A panel of senior leaders from across SSEN Distribution – including our Managing Director, Director of Asset Management, and Director of Procurement – will evaluate the submissions. These awards continue to serve as a powerful platform to celebrate and showcase the exceptional sustainability achievements of our suppliers to the wider business, external stakeholders and beyond. The 2024/25 winners will be announced in June 2025.



Caption: Our Sustainable Supplier Awards and certificates.





6.4. ADDITIONAL SUSTAINABILITY TOOLS AND PLATFORMS

The Supply Chain Sustainability School (SCSS) is a virtual learning platform provided at no cost to our supply chain, with the aim to upskill those working within, or aspiring to work within the built environment sector on sustainability topics. As of 31 March 2025, 46.9% of our supply chain is signed up to and using the SCSS.

EcoVadis is an online sustainability performance/rating platform which helps organisations to understand their sustainability performance and improve and track progress over time. As of 31 March 2025, 47.5% of our supply chain is signed up to and using EcoVadis.

The Science Based Targets initiative (SBTi) is a corporate climate action organisation that enables companies and financial institutions worldwide to play their part in combating the climate crisis. As of 31 March 2025, 41.6% of our supply chain have a validated Science Based Target.

6.5. SOCIAL VALUE

At the start of 2023, we established social value targets in collaboration with our SEPD Grid Supply Point (GSP) framework contractors – OCU, Clancy and Aureos. One year on, these efforts have delivered an impressive social value contribution of £5.63m. We look forward to building on this momentum and continuing our partnership with the SEPD GSP contractors to drive meaningful social impact across the communities we serve.

In late 2024, we launched our new procurement framework for SHEPD, representing over £500 million in contract value. Five contractors, OCU, Clancy, Aureos, Freedom and Brush were awarded the contracts.





7. SUSTAINABLE RESOURCE USE AND WASTE

7.1. SUMMARY

As part of SSE Plc, we're actively working towards more sustainable patterns of resource consumption; reducing reliance on non-renewable and single-use products, linking to the objectives of UN Sustainable Development Goal 12 (Responsible Consumption and Production).

In 2024/25 we produced a total of 5916 tonnes of waste, of which 80% was recycled and 99% was diverted from landfill. A large proportion of our recycling tonnage is achieved through adopting circular economy principles, such as regenerating our transformer oil.

Transformers and electrical switchgear require regular testing and renewal of their insulating oil to ensure functionality. We partner with Electrical Oil Services (EOS) to recycle used oil which is then repurchased for maintenance top-ups and refills. In FY 24/25 over 1099 tonnes of reclaimed oil was purchased and more than 1357 tonnes of oil was sent for recycling. This process is 89% circular, with minimal inflow and outflows due to the return of PCB contaminated oil and the purchase of new oil required for specific standards.

We work closely with our waste contractors to continually improve our waste management performance, and we continue to monitor waste management key performance indicators monthly via our ISO14001 certified Environmental Management System.

As part of our Sustainable Supplier Code, we're also working closely with suppliers to ensure we look to reduce the amount of waste that is generated in our operations and support them with implementing a waste management strategy within their businesses.

In 2024/25 SSE continued to host its annual Recycling Awards in partnership with our waste management contractor Biffa, to recognise individuals or teams who have demonstrated excellence in recycling or landfill diversion for their excellent performance. During 2024/25 SSE and Biffa awarded £5,000 to four community projects to promote recycling and the circular economy in its communities. The projects focused on upcycling materials, implementing community recycling bins and zero waste community hubs and delivering outdoor art and play programmes.

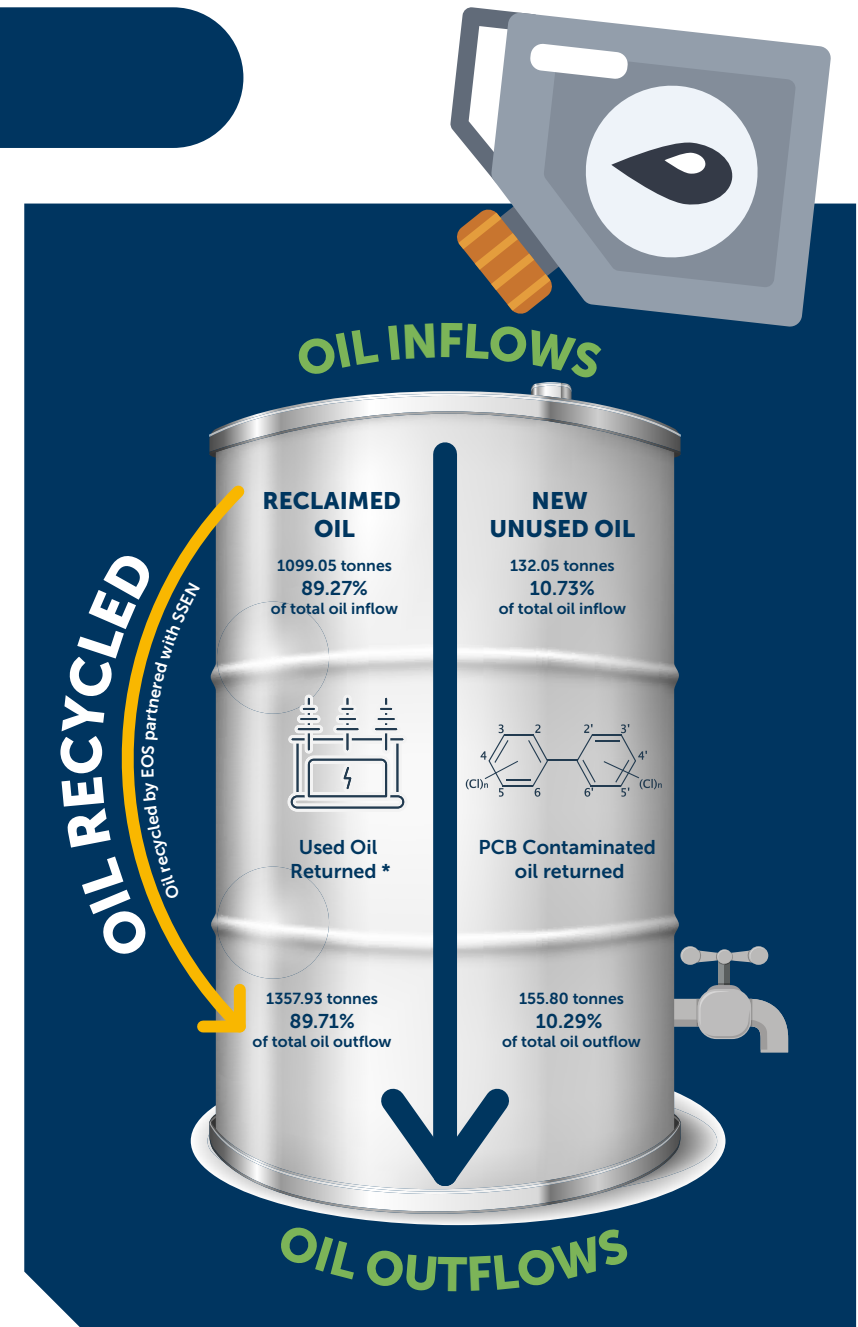


Figure 7.1: Recycled oil inflows and outflows



8. VISUAL AMENITY

8.1. SUMMARY

A large portion of our network is made up of overhead lines (OHL) and we recognise that in sensitive environments this can have an adverse impact on visual amenity. This adverse impact could affect individual wellbeing and local economies if, for example, the primary local industry is tourism. The communities we serve are key stakeholders for our business, so this is an important issue for us to address.

Therefore, to improve visual amenity, we committed to undergrounding up to 83km of OHL in designated scenic areas across both of our distribution networks during RIIO-ED2.

8.2. UNDERGROUNDING SCHEMES IN 2024/25

Visual amenity projects are driven by stakeholder requests, using a nomination scheme and visual amenity impact scoring model, enabling us to ensure areas targeted are best value for the consumer.

This year, we began construction to remove 560m of OHL in North Cerney, in the Cotswolds National Landscape. We are looking forward to completing this project in early 2025/26 and will report on this and other schemes in next year's report.

We've ramped up our stakeholder engagement on visual amenity which has increased awareness of the scheme and resulted in more applications. Subsequently, we now have several projects in the pipeline for the remaining years of RIIO-ED2.

Stakeholders have continued to indicate that undergrounding existing OHL is still important to them from a visual amenity perspective but want us to ensure we minimise the impact to the current environment and that these were considered integral to the scheme selection process. This is currently considered during our application process, and we will continue to build on this for RIIO-ED3.

If you know of a designated sensitive landscape that could be improved by the removal of our overhead lines and wooden poles, we want to hear from you.

Please visit [Undergrounding - SSEN](https://ssen.co.uk/undergrounding) to nominate a scheme.
ssen.co.uk/undergrounding





9. NOISE POLLUTION

9.1. SUMMARY

To help support our customers with concerns regarding noise issues, we've got a dedicated customer relations team that can be contacted by phone, email, post, or online, who work with customers and our regional staff to try and reach a satisfactory solution. Noise nuisance issues may arise from the fixed plant and equipment installed on our network such as transformers, the temporary plant and equipment we use during faults such as mobile generators or from our operational activities where we are developing and maintaining the network.

In our RIIO-ED2 EAP, we committed to take efficient actions to reduce noise pollution where necessary and report on these actions. Figure 9.1 below details the annual trend of noise complaints for RIIO-ED2. The numbers in SHEPD are relatively static, however, the numbers of noise complaints in SEPD have significantly increased, especially for complaints regarding mobile generators, which is thought to be related to the increase in planned works in denser urban areas.

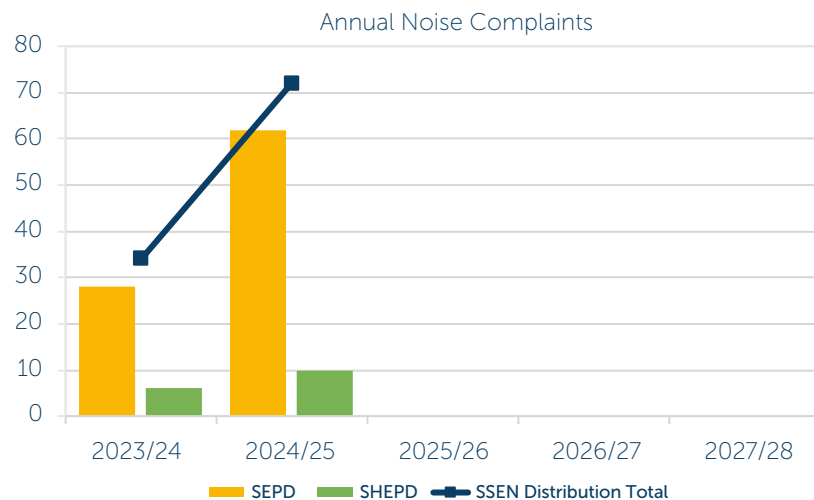


Figure 9.1: Annual Noise complaints

In 2024/25, there were 72 noise complaints in total with 10 in our SHEPD licence area and 62 in our SEPD licence area, with 57 followed up and resolved within 48 hours of the complaint being logged. There were three complaints which required further intervention which included noise monitoring, installation of an acoustic roof over a substation and replacement of equipment. Figure 9.2 below shows the categorisation of noise complaints for 2024/25 with 67% related to mobile generators which are being used to maintain power supply to our customers. We take noise complaints into consideration when planning jobs and work with our customers if there are issues. We also have a growing number of hybrid generator options that significantly reduce operational noise.

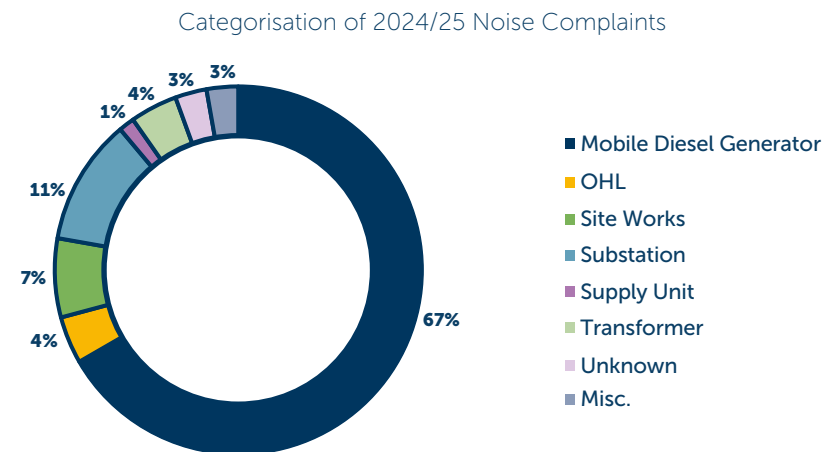


Figure 9.2: Categorisation of 2024/25 Noise Complaints

For the breakdown of noise complaints regarding the normal operational characteristics of electrical distribution assets (eg transformers), please see the AER KPI tables linked to the Appendix of this report.



10. POLYCHLORINATED BIPHENYLS

10.1. SUMMARY

Polychlorinated biphenyls (PCBs) are persistent organic pollutants known to be harmful to human health and the environment. Their manufacture was banned in the UK in 1986, and internationally by the Stockholm Convention on Persistent Organic Pollutants in 2001. Successive changes to legislation have been enacted to drive the elimination of legacy PCBs that were manufactured and used prior to bans.

Historically PCBs were introduced via the supply chain into electrical insulating oil and some electrical equipment (mainly transformers) due to their low flammability and high dielectric performance. SSEN Distribution and its predecessors never specified PCBs in the insulating oil used in its equipment, but cross-contamination in the supply chain for mineral oil has resulted in some equipment, manufactured before 1987, containing low concentrations of PCBs.

Before 2020, transformers containing oil with up to 500 parts per million (ppm) of PCBs could remain in service until the end of their useful working lifespan. Subsequent changes to legislation reduced that threshold and required that all transformers with more than 50ppm of PCB be decontaminated or removed from service by 31 December 2025.

We have a programme of testing, decontamination and asset replacement under way to meet these requirements. We hold registers with regulators the Environment Agency (EA) and the Scottish Environment Protection Agency (SEPA), where any assets that are or may be PCB-contaminated are listed. We complete annual updates to the registers to report our progress on removing PCB-contaminated assets. Assets can be removed from the registers for one of the following reasons:

- An oil test has confirmed the PCB concentration is no greater than 50ppm (a negative test result).
- The asset has been decommissioned, and the oil safely destroyed if the PCB concentration is over 50ppm (a positive test result).
- The asset has been decontaminated to reduce the PCB concentration to no more than 50ppm, by changing the oil, and the waste oil safely destroyed.
- The asset has been classified as unlikely to be PCB-contaminated, by a statistical model approved by the EA and the SEPA.

10.2. PERFORMANCE 2024/25

During 2024/25 we completed 9,368 interventions. Together with data cleansing, we have removed of 23,334 assets from registers held with regulators.

GROUND-MOUNTED TRANSFORMERS

During 2024/25 we tested 5,396 oil samples from ground mounted transformers (GMTs), with results confirming fewer than 4% of these pre-1987 assets have PCB levels above 50ppm. We have 118 GMTs remaining to sample and test by the deadline. Amongst contaminated GMTs, the average PCB level is well below 200ppm.

We have completed oil changes on 432 contaminated GMTs, with subsequent oil tests confirming the majority have been successfully decontaminated. To date, nine GMTs will require a second oil change, which is fewer than anticipated for assets with initial PCB levels close to 500ppm. Following completion of testing we expect to have fewer than 200 GMT oil changes remaining to complete the decontamination programme and are on track to complete this work.

POLE-MOUNTED TRANSFORMERS

During 2024/25 we replaced and tested 3,540 pole mounted transformers (PMTs).

The required intervention volumes are driven by outputs from a statistical model approved by environmental regulators and supported with input from all DNOs. Populations of PMTs across all DNOs have been grouped into cohorts -or families- of manufacture and year of manufacture. Sample PMTs from each cohort are tested to determine the likely contamination status of all PMTs in that cohort. Generally, a larger proportion of negative test results is required to classify a cohort GREEN – likely uncontaminated. A significantly lower proportion of positive test results will classify a cohort RED – likely contaminated. Until enough samples have been tested to determine a cohort's likely status, it is classified AMBER – unknown.

During the first three years of using this model, the intervention targets steadily reduced as AMBER cohorts have been reclassified RED or GREEN, driving adjustments to our work programme. During 2024/25 there have been smaller changes to overall volumes of RED and GREEN PMTs as we progress through the long tail of smaller AMBER cohorts. We anticipate completing around 3,600 PMT replacements to meet the deadline.

GREEN PMTs can be left in service but some are replaced due to other drivers such as new connections or failures. Any PMT older than 1987 must be tested when it is removed from the network and occasionally a GREEN PMT will return a positive PCB test, changing its cohort from GREEN to RED. These swings require disruptive changes to our replacement programme, and there remains a risk that further cohort swings will arise leaving us insufficient time to address them all before the deadline.

Beyond the deadline, we expect to have nearly 17,000 GREEN PMTs remaining in service on the network. The statistical model will remain active as we must test to confirm PCB levels when assets are removed from service at the end of their useful lives. We expect some positive tests and further cohort swings from GREEN to RED, until all PMTs older than 1987 have been removed from the network. To date, we have removed PMTs to sample and test their oil, and the overall contamination rate amongst RED classified PMTs is 16%. Together with another DNO, we have funded development of an innovative sampling tool, with the aim of obtaining oil samples from PMTs whilst they remain in service and energised. If successful, we anticipate this will enable faster response when a cohort swings to RED, enabling identification and targeted replacement of only those PMTs containing greater than 50ppm PCBs. This will both reduce disruption for customers and enable us to maximise the useful lives of the assets that are classified RED but return negative PCB tests.



11. BIODIVERSITY AND NATURAL CAPITAL

11.1. SUMMARY

SSEN Distribution operates across the varied geographies and landscapes of its licence areas in the north of Scotland and central southern England. These are rich with important habitats and species, and designated areas including nationally designated Sites of Special Scientific Interest (SSSI) and European designations such as Special Protection Areas (SPA) and Special Areas of Conservation (SAC), as well as character areas such as National Parks, National Landscapes and National Scenic Areas.

Everything that we do as a business has impacts and dependencies on nature, whether directly through activities like construction projects, or indirectly through our supply chain. We have approaches and processes in place to minimise any negative impacts our activities may have to ensure compliance and deliver best practice, whilst our work on Nature-based Solutions seeks to use the power of nature to deliver multiple benefits to the business, environment and the communities that we serve.

11.2. BIODIVERSITY

BIODIVERSITY NET GAIN

Biodiversity Net Gain (BNG) is an approach that aims to ensure development projects improve the natural environment, leaving it in a measurably better state than before.

Recent changes in statutory requirements in both Scotland and England have made BNG a part of the planning system and developers, including SSEN Distribution, must actively boost biodiversity as part of any development that is subject to planning permission.

In England, starting 12 February 2024, all new major developments which are consented under the Town and Country Planning Act 1990 must achieve at least a 10% net gain in biodiversity value, unless they are exempt (e.g. marine projects). However, Local Planning Authorities (LPAs) can also set higher BNG targets through powers under the National Planning Policy Framework (NPPF).

In Scotland, since the National Planning Framework 4 (NPF4) was adopted on 13 February 2023, all development proposals must show how they will improve biodiversity as part of the planning process. Planning authorities must ensure that proposals aid biodiversity improvement, including restoring damaged habitats and enhancing nature networks. While Scotland does not require a specific percentage gain as England does, major developments are still expected to make substantial biodiversity improvements.

OUR APPROACH

The variety of drivers for BNG means that different construction projects can be subject to differing requirements depending on their location, size and consenting route. Our approach to BNG aims to standardise across project teams and between our SEPD and SHEPD licence areas as much as possible while meeting any policy, legislative and corporate deliverables. To do this, we follow best practice principles such as the Mitigation Hierarchy and Biodiversity Gain Hierarchy.

BNG builds on the Mitigation Hierarchy, a framework embedded in planning and best practice, that seeks to avoid and reduce any impacts on biodiversity in the first place, and to compensate for any residual losses.

The Biodiversity Gain Hierarchy is distinct from, but complementary to the Mitigation Hierarchy. It sets out a structured approach for the delivery of Net Gain – maximising positive outcomes for nature by prioritising on-site measures.

1. Avoid adverse effects	Minimise negative impacts on habitats, especially those with medium to very high distinctiveness.
2. Mitigate unavoidable effects	If impacts can't be avoided, reduce and mitigate them as much as possible.
3. Enhance on-site habitats	Improve the quality of existing habitats within the development site.
4. Create new on-site habitats	If needed, create new habitats on-site to meet the net gain requirement.
5. Secure off-site biodiversity units	If on-site measures are insufficient, secure off-site biodiversity units.
6. Purchase statutory biodiversity credits	As a last resort, purchase statutory biodiversity credits after exploring all other options.

Table 11.1 Biodiversity Gain Hierarchy

SSE PLC

In addition to the current legal and planning requirements for biodiversity net gain in both England and Scotland, SSE has committed to deliver No Net Loss in biodiversity on onshore Large Capital Projects – projects over £40m - consented from 2023 onwards and to deliver Net Gain in biodiversity on those consented from 2025 onwards, as well as having committed to achieving no net loss in native woodland.

During the 2024/25 reporting year, two onshore Large Capital Projects were consented, both within calendar year 2024, and have included No Net Loss measures within their project design.

Committing to a further minimum standard of no-net-loss of woodland cover on all new infrastructure projects.



'NO NET LOSS' IN BIODIVERSITY

on those consented from 2023 onwards



'NET GAIN' IN BIODIVERSITY

on those consented from 2025 onwards

Figure 11.1. Biodiversity commitments.

CASE STUDY: FORT WIDLEY 132KV CABLE REPLACEMENT PROJECT

CASE STUDY

Our Fort Widley project has made further progress over the course of this reporting year. This £7.7 million project will see the replacement of 2.2km of cable with modern and more efficient underground cables, connecting to the transmission tower in Paulsgrove and boosting the resilience and capacity of the area's network.

The purpose of this project is to replace two existing 132kV oil-filled cable circuits which are at the end of their operational life and are at higher risk of leaking oil. Maintenance and repair works have been ongoing since 2015, but to safeguard the security of the electricity supply for Fareham and prevent pollution incidents, a replacement cable is required.

PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

The project was subject to a PEA to identify potential ecological, archaeological and other relevant environmental constraints. The presence of statutory and non-statutory wildlife sites, main river watercourse crossing, and notable habitats including chalk grassland were identified as constraints and detailed surveys were undertaken.

Various environmental and landowner consents were required, not least from Portsmouth City Council (PCC) who own and manage Portsdown SSSI and associated areas of non-designated chalk grassland that would be unavoidably affected by the project.

OPTIONS APPRAISAL

The new cable must connect Fort Widley substation to one of the transmission towers within Portsdown SSSI – a site which supports a rich chalk grassland flora and diverse insect fauna. Because the tower is located within the SSSI, works within the designated site were unavoidable. However, following detailed surveys and extensive consultation with PCC, a cable alignment within the SSSI was selected to minimise disturbance to the sensitive chalk grassland habitat.

Once a preferred cable route had been selected, consideration was given to the potential construction techniques that would be used for cable installation.

CONSIDERATE CONSTRUCTION IN PORTSDOWN SSSI

Open cut trenching is a standard technique used for installing underground cables. This would have required a trench approximately 1.3m wide and 2m deep with a construction corridor roughly 20m wide. Although a route had been identified that would reduce impacts to high-quality chalk grassland, there was uncertainty relating to how well affected habitats would recover, so this method was dismissed.

Mole ploughing was also dismissed as a viable option due to the cable design specification, chalk geology and the very steep slope at Portsdown SSSI.

Horizontal directional drilling (HDD) was selected as the only viable construction methodology for installing the cable through the SSSI.



Caption: Construction underway on Fort Widley 132kV cable replacement project

REINSTATEMENT AND ENHANCEMENT

As a statutory undertaker, we have a duty under the Wildlife and Countryside Act 1981 to further the conservation and enhancement of SSSIs. During the 2024/25 reporting period, extensive chalk grassland restoration works have been carried out at Portsdown SSSI including the removal of mature scrub and trees. The construction work areas will also be reinstated to chalk grassland. This will deliver further habitat enhancement as the affected areas originally comprised species-poor grassland, ruderals and scrub. A period of upkeep and monitoring has been agreed with PCC.

We've designed and are delivering this project in a way that reduces its environmental impact and maximises enhancement of high distinctiveness habitats. This success has been made possible through the close collaboration with Portsmouth City Council and Natural England, and through the collective commitment of our project team to protect sensitive sites such as Portsdown SSSI.



11.3. NATURAL CAPITAL

Section 8.5 of our EAP details the RIIO-ED2 price control commitments we’ve made on biodiversity and natural capital. In line with our Final Determination (FD) and subsequent FD Questions agreement, this includes a requirement to:

- **Part 1: Develop a tool to baseline and monitor our biodiversity and enable cultural change required to enhance biodiversity.**
- **Part 2: Deliver 258ha of woodland restoration and 522ha of peatland restoration, which is expected to remove over 65,000 tCO2e by 2045.**

ACHIEVING PART 1

In performance year 2024/25 we ran a procurement exercise for the build and delivery of a natural capital baseline and a tool to host the baseline, track changes as a result of our construction and land management activities, and to report business performance in these areas. We awarded Jacobs as delivery partner in June 2024.

Our natural capital baseline identifies habitat parcels and linear features across our sites and networks, applying a Biodiversity Unit value as well as various ecosystem service values across carbon sequestration, carbon storage, air pollutant removal, flood regulation, food production, pollination, recreation and timber production.

Our natural capital baseline demonstrates the biodiversity value of the land that we are responsible for and that our network assets span with an average of 4.5 Biodiversity Units per hectare across our SHEPD licence area and an average of 3.6 Biodiversity Units per hectare across our SEPD licence area.

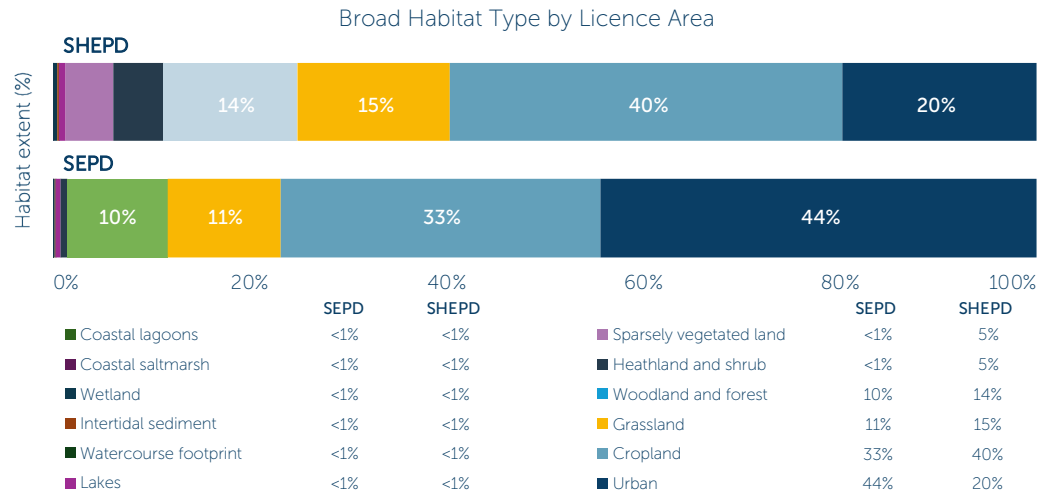


Figure 11.2 Broad habitat type by licence area

Work on building our Natural Asset Platform tool continues with the expectation that it be will operational and embedded by the end of summer 2025, becoming the key tool in managing project and land management natural capital performance.

ACHIEVING PART 2

In June 2024 we became a founding partner and the first utility company to support the Defra-backed Projects for Nature platform, which connects our company with nature recovery projects across our SEPD licence area. We’re leading the way in our support for Projects for Nature, with the platform bringing together the expertise of businesses, environmental NGOs, and the UK Government along with its expert environmental bodies. It showcases nature projects that have been assessed by the Department for Environment, Food and Rural Affairs (Defra), the Environment Agency and Natural England, and aims to make it simpler for businesses to get involved in nature recovery.

We’ve committed funding to support the regeneration of 31 hectares of woodland within the southern fields at Heal in Somerset, which is the Heal Rewilding charity’s first site, and 12 hectares of fen restoration across two sites in Oxfordshire through the Freshwater Habitats Trust.

The site at Heal in Somerset only began its recovery from its ecologically depleted state at the beginning of 2023 and will see a mixture of woodland natural regeneration and some willow planting.

The Freshwater Habitats Trust projects include clearing scrub and trees, mowing, hay translocation and fencing at two degraded alkaline fen sites. Hinksey Heights is a privately-owned site, just west of Oxford. It is partly managed as a nature reserve open to the public. Pea Pits Copse is a site on the National Trust’s Buscot and Coleshill Estate, between Swindon and Faringdon. Freshwater Habitats Trust has been working on the site since 2021 and has had a long-running working relationship with the estate since the mid-1990s.



CONSUMER VALUE PROPOSITION: LIFE BELOW WATER

In March 2024 we partnered with the Scottish Marine Environmental Enhancement Fund (SMEEF) to undertake Scotland’s most ambitious seagrass planting project to date.

During the period April 2024 to March 2025, SMEEF ran a competitive grantee selection process for seagrass planting project delivery. Key to this process was the appointment of a Grants Officer to oversee the awarding and delivery of the grants, bringing a wealth of seagrass restoration experience, which SMEEF is utilising in facilitating delivery on the ground and providing advice regarding best restoration practices.

Eight expressions-of-interest were assessed, including by an expert panel comprised of NatureScot Marine Enhancement Advisors and seagrass restoration experts from the UK and Europe. Six projects progressed from this to a co-design phase. All potential project sites were visited by the Grants Officer, and underwent a grantee due diligence process, enabling detailed information to be fed back to SMEEF’s Grants Panel. The Grant’s Panel and Steering Group agreed that four projects were appropriate to go forward to start on 1 April 2025.

RECIPIENT

UHI Shetland
SCALLOWAY

Wester Ross
Fisheries Trust
LOCH EWE

Mossy Earth
INVERNESS

East Kintyre
Biosphere
CARRADALE



12. FLUID-FILLED CABLES

12.1. SUMMARY

We're committed to reducing our environmental impact in the areas where we operate. An important element of this is to ensure that any oil contained in our assets does not cause damage to the surrounding area.

Oil is widely used as an insulating material or cooling medium across a wide variety of electrical equipment, including fluid-filled cables and some types of electrical switchgear and transformers. We've got robust processes in place to maintain and operate these assets, so that we can ensure any potential leakage is minimised. If there is an incident, we're committed to a fast response and to address and resolve any issues, thus ensuring that there are no adverse environmental impacts seen as a result.

A focus of our oil leak monitoring is oil within fluid-filled cables (FFC), which can leak due to age, wear, or third-party damage. If untreated, a leak will not only cause potential environmental damage but may result in equipment failure and disruption for our customers.

To mitigate the environmental impact and any associated supply disruption, we employ a pro-active leak location process known as tagging. This process allows the circuit to remain in service while the leak is being located by dosing the cable system with a chemical marker that can be detected by equipment above ground. This method of detection can detect multiple leaks on the circuit at each operation. Once identified, repairs and any necessary remedial works will be carried out using a risk-based approach. This process is built into the routine maintenance process of our FFC assets.

In addition to our pro-active oil leakage strategy, we have a comprehensive range of specialist equipment to ensure that we can provide a robust response to any oil leakage event. We've also established service agreements with specialist contractors for support in the event of an incident.

12.2. FLUID-FILLED CABLE PERFORMANCE DURING RIIO-ED2

Oil leakage from FFCs (legacy assets of electricity transmission and distribution networks) is known to cause negative environmental impacts. We have identified funding across our ED2 business plan to replace 48.23km of fluid filled cables during RIIO-ED2. We replaced 5km of fluid filled cables during 2024/25.

Figure 12.1 shows that the total km of FFC on our network decreased from 1,207km in 2015/16 to 1,121km in 2024/25. There was an increase from 2022/23 – 2023/24 due to a data cleanse in our asset management system.

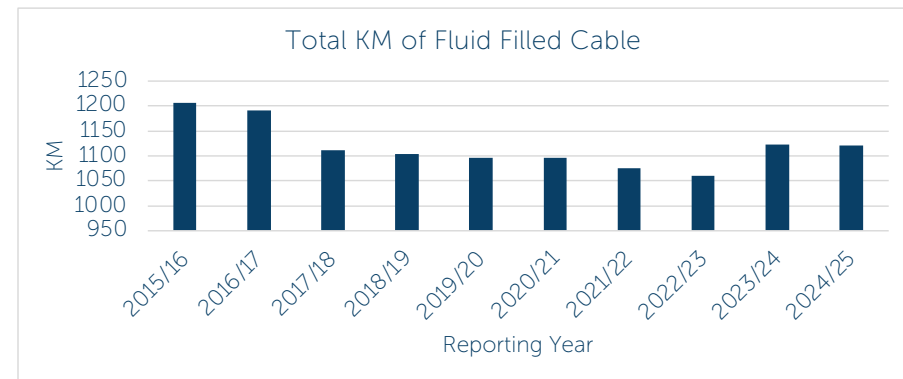


Figure 12.1 total km of FFC on our network.

A total of 27,991 litres of oil was used to top up fluid filled cables on the SSEN Distribution network in 2024/25. We have seen an increase in oil leakage across both SEPD and SHEPD due to issues such as lead sheath failing, joints requiring refurbishment due to ground movement and third-party strikes. It should be noted that volume used to top up the cables does not directly equate to oil directly leaking into the environment, rather is the volume required to bring the cables back up to operational pressure with the leakage rate calculated following a subsequent top-up when we determine whether it meets the leakage investigation and EA/SEPA reporting thresholds.

We are on track to deliver replacement of FFC cable funded within our price control settlement, for cables that pose elevated risk in Portsmouth Water's operating area.

Within our Environmental Management Systems, fluid-filled cable leaks are documented as a significant environmental aspect and impact, and we have therefore implemented appropriate operational control measures to ensure that this risk is effectively managed and where possible the risk is reduced.

For further details on oil leakage, please see AER KPI Tables linked to the Appendix of this report.

12.3. FLUID-FILLED CABLE INDUSTRY ENGAGEMENT

We continue to engage with other industry stakeholders to share best practices to reduce oil leakage. This involvement includes meetings with other Distribution Network Operators to share best practice learnings and ongoing innovative projects. We hold regular meetings with the Environment Agency and Scottish Environmental Protection Agency to review performance. We will continue this work as we progress through RIIO-ED2.

12.4. OIL MITIGATION SCHEMES

We report the number of oil mitigation schemes affecting cables and substation plant - such as transformers and circuit breakers, and the costs associated with these - to Ofgem on an annual basis.



13. WIDER ENVIRONMENT AND OTHER ACTIVITIES

13.1. POWERING COMMUNITIES TO NET ZERO FUND

At SSEN, our purpose is to power communities to thrive today and help create a decarbonised tomorrow. We recognise we have a responsibility to help build the capacity of communities in the regions in which we operate to ensure that they are resilient and have the skills and technologies required to support residents in a low carbon environment. As part of our commitment to local communities we have pledged to invest £3 million between 2024 and 2028 through the Powering Communities to Net Zero Fund (PCNZ Fund).

FUND AT A GLANCE:

Community-led Physical and Environmental Resilience and Low Carbon Technology categories combined:



£927,798 awarded to 75 community projects



25 solar projects supported



UN SDG Goals – Goal 7 (Affordable and Clean Energy) 48%
Goal 11 (sustainable communities) 52%



16 local authority areas benefited



21 flood prevention projects funded

SHEPD/SEPD FUNDING

Community-led Physical and Environmental Resilience Awards focus:



£329,826 awarded to 26 community projects in Central Southern England



£168,884 awarded to 21 community projects in the North of Scotland



PCNZ FUND PRIORITIES

The new PCNZ Fund was developed in 2024, and we completed a range of consultation sessions with key stakeholders and community representatives to ensure we understood the needs and priorities of the areas in which we operate. It was agreed that the priorities of the fund would be:

- **Physical and environmental resilience** – To support communities during prolonged power interruptions caused by storms, and to aid their ability to cope in periods of severe weather.
- **Low-Carbon Technologies** – To support the adoption of new Low-Carbon Technologies like heat pumps and solar panels by non-profit organisations.



£15,000 AWARDED TO FINTRY COMMUNITY COUNCIL

To enhance community flood prevention

We are now living in a more volatile climate and need to make the right preparations in response. In recent years the community of Fintry in rural Stirlingshire has been impacted by flooding causing risk to local homes, transport routes and community services. The community liaised with the local authority, Scottish Flood Forum and the local flood forum group to monitor the causes of the flooding and developed a flood prevention plan.

The funding from PCNZ fund has enabled the community to take natural flood prevention action with the installation of wedged log 'leaky dams' which utilise existing bank structures and local materials to slow the flow of water. The work will be completed by a skilled local contractor with additional support and on-going monitoring from local volunteers and the flood forum.



£10,450 AWARDED TO WEST MEON PARISH COUNCIL

To undertake hydraulic modelling and flood mitigation measures.

Recurring flooding continues to be a significant problem in West Meon. To address the problem in a strategic, planned and impactful way, the Parish Council has commissioned a hydraulic modelling and mitigation plan. A consultant has been appointed to conduct site visits, review historic flood data, and liaise with the Environment Agency, County and Town Councils to generate the latest hydraulic models using key data.

The detailed hydraulic modelling will identify critical risk areas and test mitigation options such as culvert modifications, ensuring that there are no negative impacts further down the river. This community-led project aims to empower volunteers with technical evidence to secure licences, implement effective improvements, and build long-term resilience for people living at risk of flood.



13.2. SSEN VOLUNTEERING DAYS

Listed below are a handful of our successful volunteering days which reflect SSEN's commitment to social responsibility and community engagement. As part of SSEN's volunteering programme, employees are encouraged to take a day away from their usual job and volunteer to help local charities and community projects of their choice.

The programme has helped over 3,000 community projects since its initial launch in 2010 with lots of employees using their volunteering day to support the environment by undertaking tree planting, rewilding of woodland, gardening, beach cleans, litter pick-ups, marine conservation society, relocating native oysters to other areas, pathway maintenance, hedgehog rescue, tree felling to name a few.

IVER ENVIRONMENT CENTRE BENEFITS FROM SSEN AND OCU GROUP VOLUNTEERING DAY

A team of 30 colleagues from SSEN's Large Capital Delivery team and their contract partner OCU Group gathered at the Iver Environment Centre to contribute to various conservation projects, highlighting the organisations' commitments to sustainability and community engagement.

Held at the end of May 2024, participants engaged in a range of activities aimed at enhancing the centre's facilities for the local community to enjoy, including revitalising children's play areas, nurturing allotments and building homes for mini-beasts.

Since its establishment in 1990, the Iver Environment Centre has been dedicated to enhancing the quality of life for local communities. Offering a diverse range of activities and educational sessions, the centre aims to inspire individuals to reconnect with nature. From holiday activities to curriculum-linked education sessions for schools and volunteering opportunities, the centre caters to people of all ages and abilities.

We are grateful for the contribution that OCU Group and SSEN have given to our Centre. As we have no paid grounds staff, corporate volunteer days ensure our site is an inspiring and safe space for children and families....The days make our existence possible as we would not be able to maintain the valuable habitats for native species, we have here without them. It is great to have team members that work at the substation visiting us and making connections with the site.

Emma Rust, Project Officer for the Iver Environment Centre.

SUSTAINABILITY VOLUNTEERING DAY AT TAYSIDE AMPHIBIAN AND REPTILE GROUP

In March, two brave colleagues from the Strategic Planning and Sustainability team in SSEN Distribution volunteered with Tayside Amphibian and Reptile Group to clear vegetation and plant native flowers from North Inch Pond in Perth.

They had wonderful weather, were provided with waders and waterproof gloves and used rakes to remove the matted, heavily rooted rushes, coming across frogs, a toad and quite a few golf balls.

It was hard work but thoroughly enjoyable and will help improve drainage and make the pond better for local wildlife.

It was a real pleasure to welcome volunteers from SSEN to help us make the pond at the North Inch in Perth more wildlife friendly. This involved removing Bulrush which is threatening to overtake the areas of open water, as well as planting pollinator-friendly native wildflowers on the bank. Corporate volunteers are a great asset to us as it means we can get lots done in a short space of time so thanks very much SSEN!

Daniele Muir, Project Officer for Tayside Amphibian and Reptile Group.



Caption: SSEN staff volunteered to help clear vegetation at a local pond in Perth.





CONCLUSION

Throughout the second year of RIIO-ED2, we've made significant progress in many of our environmental initiatives. We're continuing to drive efficiency, improve customer service and enhance the customer experience.

2024/25 represented a continued positive trajectory in many of our environmental and wider sustainability considerations. We saw a marginal increase in emissions from last year of 0.05% mainly due to an 1.6% increase in electricity losses; however, the work we've done outside losses has meant that we've still managed to meet our 2024/25 RIIO-ED2 reduction target of 20% for our Scopes 1 and 2 by achieving an overall 22% reduction of emissions since our 2019/20 baseline.

We're also proud to continue meeting our ambitious 1.5°C SBTi target (including losses), requiring at least a 35% reduction in our carbon footprint by 2028.

We also delivered a reduction of 63.6% in Scope 1 emissions in Year 2. We're deploying HVO as a transition fuel but also tackling usage and alternative technologies.

Fuel consumption for Embedded Generation has reduced by 59.5% since our baseline year of FY 19/20.

This year, 39% of our supply chain by spend had signed up to our Sustainable Supplier Code, reflecting growing alignment with our sustainability goals.

We've also achieved several of our other 2023/24 targets, including Visual Amenity and Sustainable Resource Use and Waste. We've played an active role in steering the direction of the nascent nature markets through responding to consultations and attending roundtables in this space, setting out both our own and the sector's requirements and challenges.

In March 2024 we contracted with the Scottish Government's Scottish Marine Environmental Enhancement Fund (SMEEF) for the delivery of 14 hectares of seagrass planting in our SHEPD licence area. Work over the course of 2024/25 has involved identification of delivery projects, undertaking due diligence and supporting projects in moving to delivery. Four delivery projects in SHEPD have been awarded funding to start work in 2025/26, and we're currently in discussions around opportunities for seagrass planting in our SEPD licence area.

Throughout 2024/25 we awarded funding through Projects for Nature (P4N) for 31 hectares of woodland creation in Somerset through Heal Rewilding and 12 hectares of peatland restoration in Oxfordshire through Freshwater Habitats Trust. We look forward to reporting on further progress and delivery in next year's report.

The second year of RIIO-ED2 has been a positive year for delivery, the hard work that we've completed this year will enable stronger delivery in subsequent years to come, enabling us to ensure delivery on our RIIO-ED2 commitments and pave the way towards a more sustainable grid - crucial to facilitating the energy system transition.

We continuously review our environmental commitments to look for opportunities to reduce our impact on the environment and deliver the environmental expectations of our stakeholders effectively.

This report provides a clear message to our stakeholders that we've got a successfully established programme to deliver environmental benefits, and that we're aware of our responsibilities to both the environment and our customers.

Supporting Documents

- AER KPI Tables 2024/25
- Environment and Innovation Regulatory Reporting Pack 2024/25 Worksheets E1, E3 and E4

More information can be found here: SSEN Environment reports document library

ssen.co.uk/about-ssen/library/environment-reports-document-library





APPENDIX

- **APPENDIX 1:**
PROGRESS UPDATE ON OUR CLIMATE
RESILIENCE STRATEGY IMPLEMENTATION AND
IMPROVEMENT PLAN
- **APPENDIX 2:**
PROGRESS UPDATE ON OUR CLIMATE
RESILIENCE ADAPTATION PLAN
- **APPENDIX 3:**
PROGRESS UPDATE ON OUR SUSTAINABILITY
STRATEGY 2024/25





APPENDIX 1: PROGRESS UPDATE ON OUR CLIMATE RESILIENCE STRATEGY IMPLEMENTATION AND IMPROVEMENT PLAN

Progress update against each action of the Climate Resilience Strategy for the performance year 2024/25.

AREA	ACTION	PROGRESS TO DATE
ASSESSING CLIMATE CHANGE RISKS	Investigate the effects of climate change across our seven different regions	We've delivered regional climate resilience workshops to help develop regional climate change risk assessments and adaptation plans to provide bottom-up site-based assessment of our climate risks and resilience across our operational regions. We continue to support the DESNZ 'Climate Services for a Net Zero Resilient World' (CS-NOW) research programme, running from 2021 to 2025 to investigate potential future climate impacts on our regions. The most recent report considers the impacts on energy assets from extreme heat and heatwaves.
	Identify the critical thresholds that will cause our distribution systems to suffer an intolerable shift in performance and undertake threshold analysis. Monitor the proximity and likelihood of exceeding defined climate thresholds	Through our climate change risk assessment and continued collaboration with the Energy Networks Association Climate Change Resilience Working Group (ENA CCRWG), we have identified the critical thresholds/climate hazards we need to monitor and implemented an adaptation response through our adaption risk actions which aim to reduce the likelihood of crossing these thresholds. We continue to engage with Ofgem on the development of their climate resilience network stress testing approach and will ensure that this informs our future strategy.
	Further investigate and analyse our interdependencies to develop a better understanding of the impacts of climate change on our business	We've further developed our understanding of interdependencies and cascading risk through our internal regional climate resilience workshops as well as collaborative events with the government, other infrastructure operators and our customers. And we will be embedding our learnings into our regional climate change risk assessments and adaptation plans. We are also a key member of the Climate Ready Infrastructure Scotland Forum and the Infrastructure Operators Adaptation Forum where understanding and addressing interdependencies is a priority.
	Investigate additional scenarios and timeframes, which could include an assessment of our risks to climate change at the end of the century and to different climate model scenarios	We've extended our climate change risk assessment to consider a future climate scenario of 4°C rise by 2100 across our 15 direct adaptation risks (AR1 – AR15) with the results reported under ARP4, the fourth round of climate adaptation reporting coordinated by Defra which feeds into the UK National Adaptation Programme and Climate Change Committee Risk Assessment. We've also widened our risk assessments to consider wind and organisational risks such as loss of communications for our regional climate risk assessments.
	Review and update our climate risk and resilience assessment in conjunction with the ENA CCRWG, including any additional direct climate impacts and risks identified through historical learnings and further research e.g. wind	We've extended our climate change risk assessment to consider a future climate scenario of 4°C rise by 2100 across our 15 direct adaptation risks (AR1 – AR15) with the results reported under ARP4, the fourth round of climate adaptation reporting coordinated by Defra which feeds into the UK National Adaptation Programme and Climate Change Committee Risk Assessment.
	Identify the climate risks associated with our low-income and vulnerable customers/ communities, and work together to manage these risks	Through our consumer vulnerability strategy, we continue with our commitment to protect and support our customers and communities. We're embedding Vulnerability Future Energy Scenarios (VFES) into our business-as-usual processes to help target our services for communities that are less resilient, less affluent, and more seriously affected by prolonged or frequent power cuts. We're working with our Priority Services Register (PSR) customers piloting tailored Personal Resilience Plans, provisioning battery packs to those who depend on electricity for medical reasons and preparing power cut resilience packs. We've also funded 47 projects to support communities during storms (a total of £485,781.87) through our 'Powering Communities to Net Zero' £3m fund.

AREA	ACTION	PROGRESS TO DATE
ADAPTATION PLANNING	Collaborate with stakeholders to develop an adaptation plan for the indirect and interdependent climate risks assessed, as well as other risks associated with climate change.	Through the ENA CCRWG, we've collaborated with governments, industry and academia to further investigate indirect, interdependent and cascading climate risks. We're also a key member of the Climate Ready Infrastructure Scotland Forum and the Infrastructure Operators Adaptation Forum, where understanding and addressing interdependencies is a priority. We've considered indirect and interdependent risks through our regional climate resilience workshops and will embed our learnings into our regional climate plans.
	Further develop our Adaptation Pathways approach to prioritise our climate change adaptation actions utilising threshold analysis and based upon a multi-criteria 6 capitals approach.	Through our continued collaboration with the ENA CCRWG, we're developing our adaptation pathways approach and determining how to best measure levels of climate resilience through metrics and stress testing. We're exploring using a Capitals Framework approach to develop our business plan and climate resilience plans for the next price control period, RIIO-ED3 2028-2033. We've progressed our Nature 4 Networks innovation project to investigate how Nature-based Solutions may provide a more efficient and collaborative approach to providing climate resilience to assets with 2 use cases, linear woodland for overhead lines and sustainable drainage systems for substations.
	Continue to embed climate risk and resilience into business -as-usual operations - strategic tactical, operational decision-making and investment governance-by establishing clear roles, responsibilities, and leadership within SSEN.	Our Strategic Planning and Sustainability team continues to drive our climate resilience strategy forward and has been developing our approach for the next price control period, RIIO-ED3 2028-2033. We've also delivered regional climate resilience workshops improving understanding and helping to develop regional climate change risk assessments and adaptation plans. To improve our climate resilience competency, we funded Verture to deliver climate adaptation leadership briefing sessions to 61 of our leaders. Our Strategic Environment, Social and Governance subcommittee oversees the strategic direction and performance. We are also supporting Predict 4 Resilience, an innovation project to predict the location and expected volume of faults up to five days ahead to improve the tactical response to severe weather events.
MONITORING AND EVALUATION	Update policy documents, codes of practice and progress reports to consider the impact of climate change. Develop a specific Climate Resilience Policy.	We are part of SSE plc and adhere to the Group Climate Change Policy which outlines SSE's approach to mitigate and adapt to the impacts of climate change and ensure that climate-related risks and opportunities are integrated into both strategic and operational decision making. We continue to monitor whether our policies and procedures need updating in response to climate change.
	Review and update our Adaptation Action Plan and our Implementation and Improvement Plan, including any updates from our climate risk and resilience assessment.	We review our Adaptation Action Plan and our Implementation and Improvement Plan annually to ensure actions remain suitable, adequate and effective. Currently there are no changes, however, we are developing our regional climate change risk assessments and adaptation plans and approach for the next price control period, RIIO-ED3 2028-2033.
REPORTING AND COMMUNICATION	Update customers and the wider public on action taken to improve our resilience to climate change via our website and newsletter.	Our Climate Resilience Strategy and annual progress reports are available on our website, with our third progress report being included in our 2024/25 Annual Environmental Report. We also regularly update stakeholders on other initiatives undertaken via our website and social media platforms, such as our 'Powering Communities to Net Zero' fund.
	Actively participate in the ENA Climate Change Resilience Group with other DNOs, collaborating with industry and experts (e.g. supporting the DESNZ CS-N0W programme and any other relevant academic projects or partnerships).	We actively participate in the ENA CCRWG with the current focus of the group on developing the approach for the next price control period, RIIO-ED3 2028-2033 including climate resilience metrics and stress testing.
	Deliver climate resilience-related reporting including: an Annual Progress Report to Ofgem, highlighting the progress we have made against our Adaptation Plan and Implementation and Improvement Plan; government reporting such as Adaptation Reporting Power and National Adaptation Programme for the 4th round; contributing to SSE Plc- level reporting including TCFD.	Our Climate Resilience Strategy and annual progress reports are available on our website, with our third progress report being included in our 2024/25 Annual Environmental Report. Through the ENA CCRWG, we supported the preparation of the sectorial ARP4 report for the fourth round of climate adaptation reporting through Defra which feeds into the UK National Adaptation Programme and Climate Change Committee Risk Assessment. We also produced a SSEN Distribution-specific ARP4 report to provide more detail. We continue to provide information for SSE's climate-related disclosures and input into its climate-risk and resilience reviews.

This is a progress update on our Climate Resilience Strategy launched alongside our RIIO-ED2 Business Plan and Climate Resilience Strategy Implementation and Improvement Plan published in October 2023, to read the original documents please visit:

- ssenfuture.co.uk/wp-content/uploads/2021/12/A_7.3_ClimateResilienceStrategy_CLEANFINAL_REDACTED.pdf
- ssen.co.uk/globalassets/about-us/sustainability/documents/ssen-climate-resilience-strategy-progress-report-2023.pdf





APPENDIX 2: PROGRESS UPDATE ON OUR CLIMATE RESILIENCE ADAPTATION PLAN

ADAPTATION RISK	ACTION(S)	PROGRESS TO DATE
(AR1) Overhead line conductors affected by temperature rise, reducing rating and ground clearance.	Review and update design standards for overhead lines, where necessary, to specify the upsizing of capacity to meet future load demands and projected higher temperatures. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	Considering the impact on ratings and ground clearance of our overhead lines from increased average temperatures due to climate change, we have increased our minimum design standards for overhead lines, for both low and high voltage applications, in line with our Environmental Action Plan. We're monitoring if further changes are required, and we've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.
(AR2) Overhead line structures affected by summer drought and consequent ground movement.	Undertake a technical review of the impact of summer droughts on ground shrinkage and the destabilisation of the foundations of single structures and towers to ascertain the real risk of this occurring and any mitigation required. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	Droughts experienced to date have not impacted overhead line foundations, but our regional climate resilience workshops identified it as an important risk especially in clay areas and we have developed adaptation actions to address the risk. We've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.
(AR3) Overhead lines affected by interference from vegetation due to prolonged growing season.	Explore the use of LiDAR to aid in the management of trees, allowing a better understanding of circuit resilience. Increase the tree-cutting cycle frequency from four to three years in SEPD to account for more favourable weather conditions for vegetation growth. Commence project to determine if a tree-resilient overhead line can be achieved, to ensure that a line can remain live and safe despite falling trees, using covered conductor and 'Smart' technology to detect when a tree has fallen on the line. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	We have a statutory duty to identify and address vegetation intrusions to our overhead lines to keep them within safe limits. To build greater efficiency into managing these works, we're investigating new data-management and modelling solutions to target vegetation management through a risk-based approach, instead of relying on cyclical survey requirements and have created a specialist survey role to support this process. We've amended our cyclical tree cutting policy in SEPD to aim for a 3-year cycle and are monitoring performance. Investigations are continuing into improved fault detection and automation systems to determine if a tree-resilient overhead line can be achieved. And we've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.
(AR4) Underground cable systems affected by increase in ground temperature, reducing ratings.	Investigate and determine the effects of increase in ground temperature on our underground cable systems. Verify the thermal models currently being used for distribution cables. Consider the effects of the changes to cyclic loading to low voltage levels. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	Considering the impact on ratings of our underground cables from increased average temperatures due to climate change, we've increased our minimum design standards for underground cables in line with our EAP. This increase in cable sizing has mitigated the current projected increase in ground temperature in our licence areas, however, we'll continue to monitor this and develop mitigation and management policies as necessary. We've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.
(AR5) Underground cable systems affected by summer drought and consequent ground movement, leading to mechanical damage.	Review and update design standards for the use of ducted systems and joints at high voltage in urban environments, where required, to mitigate the impacts of ground movement. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	Our internal investigations have concluded that this would primarily be a risk to areas with clay soil where the ducts fill with soil during periods of ground movement. We've developed adaptation actions to address the risk in our regional climate adaptation plans. We've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.



ADAPTATION RISK	ACTION(S)	PROGRESS TO DATE
(AR6) Substation and network earthing systems adversely affected by summer drought conditions, reducing the effectiveness of the earthing systems.	Investigate a risk-based approach to inspect and monitor changes in the conditions of network earthing systems.	Our internal investigations have concluded that current Global Earthing System specifications mitigate the current projected impacts of increases in earthing resistance. We're continuing to investigate this, particularly in relation to islanded systems, and will continue to apply a risk-based approach to the inspection routine. We've developed adaptation actions to address the risk in our regional climate adaptation plans.
(AR7) Transformers affected by temperature rise, reducing rating.	Where transformers have radiators, investigate the need for increasing the size of the radiators or the use of water cooling to comply with excess heat and to reduce temperature. Explore the installation of temperature monitors for monitoring conditions in our substations and current primary substations where applicable.	Preliminary findings of our internal investigations have suggested that this impact is seen most significantly in secondary substations as opposed to primary or grid substations. We've been piloting load verification at a number of our secondary substation and we'll look to carry out further investigations into temperature monitoring in the future. We've developed adaptation actions to address the risk in our regional climate adaptation plans.
(AR8) Transformers affected by urban heat islands and coincident air conditioning demand leading to overloading in summer months.	Where transformers have radiators, investigate the need for increasing the size of the radiators or the use of water cooling to comply with excess heat and to reduce temperature. Explore the installation of temperature monitors for monitoring conditions in our substations and current primary substations where applicable.	Preliminary findings of our internal investigations have suggested that this impact is seen most significantly in secondary substations as opposed to primary or grid substations. We've been piloting load verification at a number of our secondary substation and we'll look to carry out further investigations into temperature monitoring in the future. We've developed adaptation actions to address the risk in our regional climate adaptation plans.
(AR9) Switchgear affected by temperature rise, reducing rating.	Embed new design standard with the provision for suitable environmental conditions (e.g. increased ventilation, air-con and dehumidification) that will function in line with projected changes to the climate in our regions. Consider the provision for ventilation/air-conditioning in current substations.	Our current primary and grid substation switchgear is rated to run at 40°C. Our current policies reflect the need for ventilation, air conditioning and dehumidification where containerised solutions are employed. We've developed adaptation actions to address the risk in our regional climate adaptation plans.
(AR10) Substations affected by river flooding due to increased winter rainfall.	Assess the risk and resilience of critical substations affected by river flooding and, where required, develop a local flood mitigation plan. Build and invest in flood mitigation measures for critical Substations affected by river flooding (e.g. raising individual sites above the flood level or the installation of temporary barriers). Continue to develop substations in line with the ENA Engineering Technical Report 138 which applies to Grid and Primary sites. Investigate automating the management of flooding data and review the Environment Agency and Scottish Environment Protection Agency flood maps as and when they are updated.	We've continued to complete further surveys and flood risk assessments across our licence areas to inform our decision making for where flood mitigation investment is needed the most and effective planning for the rest of RIIO-ED2. We've delivered flood mitigation works to 3 sites for our communities across both SEPD and SHEPD. Additionally, we have produced a specific use case for sustainable drainage systems at substations through our Nature 4 Networks innovation project, which we hope to develop with further funding.
(AR11) Substations affected by pluvial (flash) flooding due to increased rainstorms in summer and winter.	Assess the risk and resilience of critical substations affected by pluvial flooding and, where required, develop a local flood mitigation plan. Build and invest in flood mitigation measures for critical Substations affected by pluvial flooding (e.g. raising individual sites above the flood level or the installation of temporary barriers). Continue to develop substations in line with the ENA Engineering Technical Report 138 which applies to Grid and Primary sites. Investigate automating the management of flooding data and review the Environment Agency and Scottish Environment Protection Agency flood maps as and when they are updated.	We've continued to complete further surveys and flood risk assessments across our licence areas to inform our decision making for where flood mitigation investment is needed the most and effective planning for the rest of RIIO-ED2. We've delivered flood mitigation works to 3 sites for our communities across both SEPD and SHEPD. Additionally, we have produced a specific use case for sustainable drainage systems at substations through our Nature 4 Networks innovation project, which we hope to develop with further funding.



ADAPTATION RISK	ACTION(S)	PROGRESS TO DATE
(AR12) Substations affected by sea flooding due to increased sea levels and/or tidal surges.	Assess the risk and resilience of critical substations affected by sea flooding and, where required, develop a local flood mitigation plan. Build and invest in flood mitigation measures for critical substations affected by sea flooding (e.g. raising individual sites above the flood level or the installation of temporary barriers). Continue to develop substations in line with the ENA Engineering Technical Report 138 which applies to Grid and Primary sites. Investigate automating the management of flooding data and review the Environment Agency and Scottish Environment Protection Agency flood maps as and when they are updated.	We've continued to complete further surveys and flood risk assessments across our licence areas to inform our decision making for where flood mitigation investment is needed the most and effective planning for the rest of RIIO-ED2. We've delivered flood mitigation works to 3 sites for our communities across both SEPD and SHEPD. Additionally, we have produced a specific use case for sustainable drainage systems at substations through our Nature 4 Networks innovation project, which we hope to develop with further funding.
(AR13) Substations affected by water flood wave from dam burst.	Continue to monitor the current position regarding dam burst and develop and implement a mitigation plan where necessary.	Our regional climate resilience workshops identified this as a moderate risk, and we've developed adaptation actions to address the risk in our regional climate adaptation plans.
(AR14) Overhead lines and transformers affected by increasing lightning activity.	Continue with the current strategy to use class 2 surge arresters and investigate the latest technology and research where applicable. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	During RIIO-ED1, we installed surge arresters across both of our licence areas and will continue to monitor and assess future changes in technology and research. Our regional climate resilience workshops identified this as a risk and we've developed adaptation actions to address the risk in our regional climate adaptation plans. We've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.
(AR15) Overhead lines and underground cables affected by extreme heat and fire smoke damage.	Explore wildfire risk areas and develop and implement a mitigation plan where necessary. Progress the internal weather-related fault forecasting model workstream and utilise learnings to drive network planning and investment decisions.	We've begun initial investigations into wildfire risk areas, considered this risk in our regional climate resilience workshops and developed adaptation actions to address the risk in our regional climate adaptation plans. We've continued work on our internal weather-related fault forecasting model to support improved resource planning and drive network improvements.





APPENDIX 3: PROGRESS UPDATE ON OUR SUSTAINABILITY STRATEGY

Progress update against each action of the Sustainability Strategy for the performance year 2024/25.

SUSTAINABILITY AMBITION	TOPICS	PROGRESS TO DATE
1. RELIABLE NETWORK	1.3 A climate-resilient decarbonised network.	During 2024/25, we continued to make good progress against our adaptation actions including delivery of regional climate resilience workshops to help develop regional climate change risk assessments and adaptation plans. For further information refer to appendix 1 and 2 of the AER.
2. ENABLING NET ZERO	2.1 Whole System Approach to the Energy Transition.	We published our first Strategic Development Plans (SDPs) last summer and are on track to cover our entire licence area within 12 months. SDPs have become valuable tools for stakeholder engagement, enabling early input on future infrastructure needs such as substation land and wayleaves. Our Distribution Network Options' Assessments now include HV and LV networks, identifying opportunities for energy efficiency. The Local Energy Net Zero Accelerator (LENZA) is now available to all local authorities, supporting initiatives like home insulation grants and community energy schemes. In 2024, we hosted workshops to explore how LENZA can support and develop Local Area Energy Plans (LAEPs).
	2.2 Distribution Future Energy Scenarios (DFES).	In September, we published Regen's research on the just transition, exploring its impact on communities and how to better integrate it into future network planning. Many recommendations are already being implemented, including the consideration of vulnerability in our Strategic Development Plans and Distribution Network Options Assessments. Our 2024 Distribution Future Energy Scenarios (DFES), published in February 2025, includes three reports: a shared introductory guide and two regional reports offering insights for each license area.
	2.4 Decarbonisation of transport and heat.	We've launched a suite of innovation projects that aim to help support our customers with the decarbonisation of non-domestic transport and rural industries. FARM (Future Agriculture Resilience Mapping) is helping to future-proof UK food production and security by identifying the energy and network needs of a low-carbon agricultural sector, along with identifying key clear commercial, policy and planning actions for DNOs, the agricultural sector, and policy makers, enabling that effective decarbonisation. RIDES (Rural Industrial Decarbonisation Support) is developing a tool which will smooth and accelerate the path to net zero for rural industry, helping SSEND to make the right decisions through effective planning, efficient and coordinated network investments in rural areas where reinforcement are more complex and costly. SeaChange supports the decarbonisation of the marine sector by creating a replicable investment model, which explores different decarbonisation scenarios for ports, enabling strategic planning for both port operators, their users and DNOs. Though delivered as separate projects, the intent is that these initiatives will ultimately combine into a scalable, data-driven solution to accelerate transport and industrial decarbonisation.
	2.5 Future connections and LCT supply.	Over the past year, we've been developing an innovative project to help customers understand how ready their property is for Low Carbon Technology (LCT) installations. The project introduces LCT Connections Readiness Indicators, which show whether a property may need upgrades – such as a larger main fuse or dedicated supply cable – before installing technologies like EV chargers or head pumps. Many customers are unaware of these requirements until they begin the installation process, which can cause delays. To address this, we surveyed over 2,000 customers and used their feedback to design a website that explains their homes LCT readiness, what can be connected now, and what upgrades might be needed. Our Data and Analytics team has generated readiness indicators for over 96% of homes in our license areas. A field trial launching later this year will test customer engagement and help shape future rollout plans.



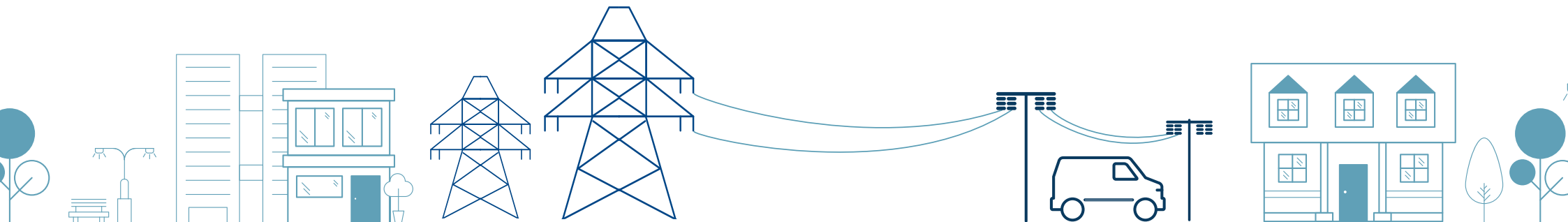
SUSTAINABILITY AMBITION	TOPICS	PROGRESS TO DATE
2. ENABLING NET ZERO	2.6 Innovation for the net zero transition.	During 2024/25 the Nature4Networks Strategic Innovation Fund (SIF) project has now completed its second phase. The project investigates how Nature-based Solutions can be used as a credible, scalable intervention option as an alternative to 'grey engineering', to provide both network and societal benefits. Together with GHD, Frontier Economics and Scottish Power Transmission, the Project has developed four use cases: 1. Use of Linear Woodland for OHL resilience and Visual Amenity 2. Sustainable Drainage Systems for substation flood protection 3. Use of Bioswale as an alternative to concrete bunding for transformer oil capture, and 4. Use of Thorny Planting for wooden pole protection. The team have developed a set of practical tools, like - site based designs of each use case, straw models of standards and KPIs, assessment of investment methodologies, policies and regulation; CBA tools and more. The project relied heavily on stakeholder insights and collaboration from a wide range of subject matter experts across and outside of the industry. Please visit the project's Smarter Networks Portal page for outputs of the Alpha Phase: smarter.energynetworks.org/projects/10128804/.
	3. CLIMATE ACTION	
	3.1 ISO14001.	See section 7.
	3.2 Reducing our business carbon footprint.	See section 4.
	3.3 Reducing electricity losses.	See section 4.5.
	3.4 Efficiently manage Sulphur Hexafluoride (SF₆).	See section 4.42.
	3.5 Reducing embodied carbon.	See section 5.
	3.6 Sustainable supply chain.	See section 6.
	3.7 Reducing resource consumption.	See section 7.
	3.8 Enhancing biodiversity and natural capital.	See section 11.
	3.9 Efficiently manage fluid-filled cables.	See section 12.
	3.10 Minimising noise pollution.	See section 9.
	3.11 Efficiently manage PCBs.	See section 10.
	3.12 Additional sustainability initiatives.	Additional sustainability initiatives are outlined throughout the AER.



SUSTAINABILITY AMBITION	TOPICS	PROGRESS TO DATE
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4. SERVING OUR CUSTOMERS	4.3 Support customers in a vulnerable situation.	In 2024/25, we made strong progress in supporting customers in vulnerable situations, focusing on growing our Priority Services Register (PSR) supporting customers in fuel poverty and preparing for the delivery of Low Carbon Transition Services. We reached 1,018,295 households on the PSR, hitting our 1 million target three years early, with over 112,000 new registrations driven by partnerships with local authorities and community groups. Our partners supported over 16,000 households with energy efficiency advice and LCT readiness. We also launched the Powering Communities to Net Zero fund in Summer 2024, awarding over £900,000 to 75 projects focused on physical and environmental resilience schemes and low carbon initiatives across our license areas.
	4.4 Maintain strong and strategic partnerships.	In 2024, we introduced a new two-year strategic partnership framework, offering guaranteed funding through to 2026 and greater stability for advisors supporting our customers. We launched two new partnerships for 2024/25: ■ Carers UK (August 2024) to promote the Priority Services Register and connect carers to energy efficiency support. ■ Warm Welcome (Winter 2024) to expand access to warm, safe community spaces across the UK. Our Vulnerability Strategy is reviewed annually to stay aligned with emerging customer needs. Following stakeholder engagement in September 2024, we refreshed the strategy in October to reflect progress and ensure it remains fit for purpose.

5. OUR PEOPLE	5.1 Investing in workforce resilience.	We continue to align closely with the SSE's wider inclusion and diversity (I&D) strategy, helping to amplify its impact across our own teams. Our diversity data completion rate now sits just under 70%, reflecting strong progress in building a more inclusive culture. Key initiatives this year included: ■ Ongoing support for our Reverse Mentoring programme. ■ Introduction of improved female PPE and workwear. ■ Completion of brand research to inform decision-making.
	5.2 Enabling inclusive and accessible workplaces.	Our EDI collective has grown to over 100 members, and we've supported the rollout of I&D dashboards, monitored Great Place to Work (GPTW) inclusion scores, and gathered insights from exit surveys to guide continuous improvement.
	5.3 Enabling inclusive and accessible products and services.	Since 2017, our Inclusive Service Panel (ISP) has guided us in delivering accessible services, drawing on the lived experiences of external experts. Their feedback helped shape our customer personas and inclusive service design, which is now embedded across the business. As more customers engage digitally, we ensure accessibility through annual audits by Sitemorse. In Spring 2024, ssen.co.uk scored 8/10, ranking as the top-performing utilities website for accessibility and performance.



GLOSSARY

Business carbon footprint (BCF)

A measure of the total Greenhouse Gas Emissions (in tonnes of carbon dioxide equivalent, tCO₂e) resulting from operations on which the DNO has full authority to introduce and implement their operating policy, as well as contractors' emissions.

Common distribution charging methodology

Used to calculate charges to users who are connected to the LV and HV levels of the network.

Demand-side response

Demand side response is a scheme where customers are incentivised financially to lower or shift their electricity use at peak times. This helps manage load and voltage profiles on the electricity network.

Designated area

Areas in which Visual Amenity Projects may be undertaken, according to the relevant definitions in CRC 3J (allowed expenditure on Visual Amenity Projects).

Distributed generation (DG)

Plant or equipment for the production of electricity that is directly connected to the distribution network.

Distribution losses

Units lost while being transported through the licensee's distribution system, either as electricity turns to heat as it is transported through the network or non-technical losses, such as theft or measurement errors.

Distribution losses' strategy

The DNO's strategy for designing, building, and operating the distribution system in a manner that can reasonably be expected to ensure that distribution losses are as low as reasonably practicable.

Environmental Report

SpC 9.1 (Environment Reporting) sets out requirements for the licensee to publish an annual Environmental Report about activities that it has undertaken in relation to environmental matters.

Fluid-filled cables

Pressurised fluid-filled underground cables, high voltage cables in which the insulating medium is liquid oil as opposed to a solid insulator such as oil impregnated paper or PVC.

Fluid recovered

Fluid associated with pressurised fluid-filled underground cables that has leaked from a cable and is subsequently recovered and includes:

- Fluid captured in a container whilst jointing works are being undertaken.
- Spoil removed from site because it has become saturated with fluid during a cable leak.
- In order to avoid double counting, the volume of fluid used to top up a cable to prevent pressure reaching the Pressure emergency (PE) level prior to jointing or repair should be excluded.

Fluid used to top up cables

Fluid pumped into pressurised fluid-filled underground cables and includes fluid used to:

- Bring a circuit back up to the appropriate pressure from a lower pressure level.
- Sustain a circuit fluid pressure from reaching Pressure emergency level prior to jointing or repair of a leak.

Greenhouse gas (GHG) emission

The release of greenhouse gases into the atmosphere, including carbon emissions. Within the BCF, greenhouse gas emissions, e.g. SF₆, are calculated as equivalent carbon dioxide emissions.

Low carbon technologies (LCTs)

LCTs is the collective term for technologies that are being introduced to the market with the aim of reducing carbon emissions through the more efficient use of energy, the storage of energy in a flexible way or a move from another energy vector such as oil to electricity. Examples include:

- Heat pumps.
- Electric vehicles.
- Domestic batteries.

Noise pollution

The activity of investigating reports of noise pollution, and consequential remedial works (if necessary). In this context, noise pollution is defined as levels of noise associated with the normal operational characteristics of electrical distribution assets that may be deemed to be a nuisance and subject to Part III of the Environmental Protection Act 1990 (EPA).

Non-technical losses

Electricity units lost for reasons such as theft and measurement inaccuracy.

Oil leakage

The discharging of insulating oil into the environment because of a DNO's equipment and activities.

Network innovation allowance (NIA)

A set allowance per network licensee to fund smaller technical, commercial, or operational projects directly related to the licensee network that have the potential to deliver financial benefits, and / or to fund the preparation of submissions to the Network Innovation Competition (NIC).

Regulatory instructions and guidance (RIGs)

The term RIGs refer to a collection of documents issued by Ofgem to the DNOs to enable them to complete the reporting requirements associated with the RIIO-ED1 price control arrangements. It includes Excel reporting packs, instructions and guidance, commentaries, and the glossary.

RIIO-ED2 Business Plan

For SHEPD and SEPD, the document submitted to Ofgem and published by the licensee in December 2021. This business plan covered the period 1st April 2023 to 31st March 2028.

RIIO-ED2 Cost Benefit Analysis (CBA) Tool

The CBA tool DNOs used when completing their RIIO-ED2 Business Plans.

SSEH/SHEPD

This stands for Scottish and Southern Electricity Hydro. It is the acronym provided to our Scottish network.

SSS/SEPD

This stands for Scottish and Southern Electricity South. It is the acronym provided to our Southern network.

Sulphur hexafluoride / SF₆

The chemical symbol for sulphur hexafluoride, a gas that is used as both an insulating and arc extinction medium in electrical plant. The reporting requirement is in respect of fugitive BCF emissions attributed to SF₆ lost from electrical plant.



SF₆ bank

The total mass (in kg) of sulphur hexafluoride held by the DNO for both assets installed on the network and those held in inventory. Each DNO's SF₆ bank should be calculated according to the methods set out in ENA Engineering Recommendation S38.

SF₆ emitted

The total mass (in kg) of sulphur hexafluoride emitted during asset installation (only if gassed by the DNO), service life and decommissioning. Service-life emissions include those due to leakage (measured through top-ups); those measured during service activity requiring gassing and degassing; and those due to equipment failure resulting in the loss of all gas contained by the asset. The SF₆ emitted value should account for gas recovered.

Each DNO's SF₆ emitted should be calculated according to the methods set out in ENA Engineering Recommendation S38. DNOs should not assume a percentage leakage rate to determine any element of SF₆ emitted and if a DNO does not have measured records of SF₆ emitted, this should be highlighted in the accompanying commentary.

SMEEF

Scottish Marine Environmental Enhancement Fund
<https://smeef.scot>

Tagging

Tagging is the process where the worst-performing cables are targeted and injected with radioactive isotopes, which helps to identify leaks, monitor the cables and track their performance over time.

tCO₂e

Carbon dioxide (CO₂) equivalent, measured in tonnes. This is a measure for describing how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of carbon dioxide (CO₂) as the reference.

Technical losses

Electricity units lost owing to the physical properties of the network. This also includes the way the network is configured and operated.

Visual amenity inside designated areas

Activity undertaken as part of a Visual Amenity Project funded under the Visual Amenity Allowance funding mechanism described in Special Licence Condition CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence which relates to overhead distribution assets located within a Designated Area.

Visual amenity outside designated areas

Activity undertaken as part of a Visual Amenity Project, funded under the Visual Amenity Allowance funding mechanism. This is described in CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence, and relates to overhead distribution assets which form part of an overhead line that spans the boundary of a Designated Area, and is located outside the boundaries of the DNO's Designated Area; In these scenarios, up to 10% of the Visual Amenity Allowance funding mechanism described in CRC 3J (Allowed expenditure on Visual Amenity Projects) of the electricity distribution licence may be used.



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