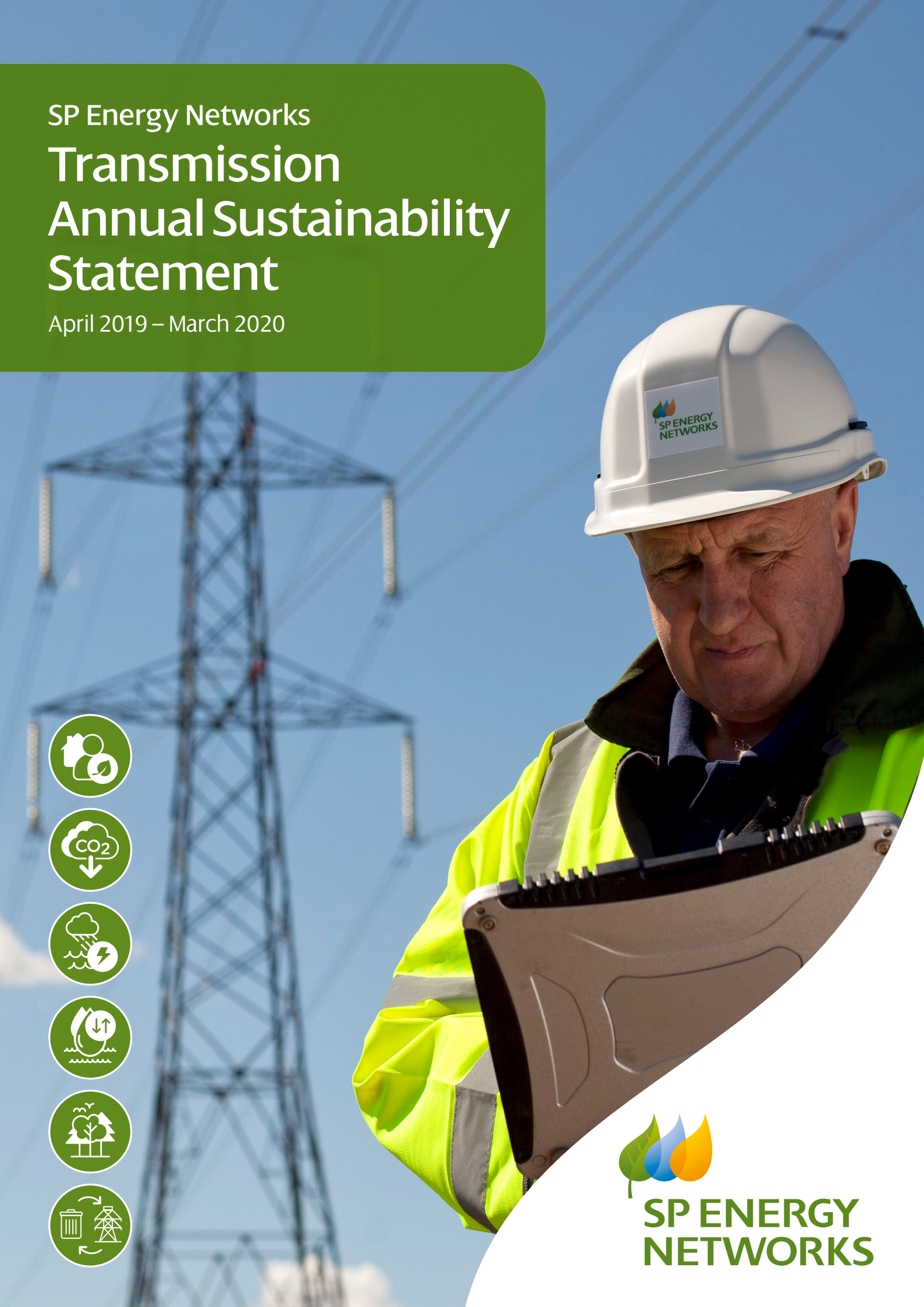
SP Energy Networks

Transmission Annual Sustainability Statement

April 2019 – March 2020



SP ENERGY NETWORKS

Contents

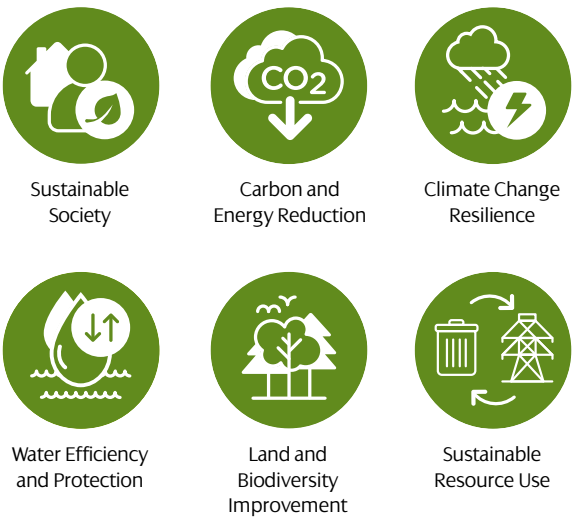
This **SP Transmission Annual Sustainability Statement for 2019/20** provides an overview of strategy developments, describes our performance against key metrics, and gives examples of activities carried out to support the transition to a low carbon economy and manage the environmental and social impacts of our transmission network and operations.

This report conforms to the requirements of the Executive Level Annual Statement (ELAS), submitted as part of Ofgem's Environmental Discretionary Reward (EDR) Incentive for regulatory year 2019/20.

The annual EDR Incentive encourages Transmission Operators (TOs) 'to achieve high standards in environmental management as well as to help move the industry towards a low carbon energy system, where it can do so effectively while providing value for money to consumers'.

Our Sustainability Drivers

Our Sustainable Business Strategy is underpinned by six key drivers, developed in collaboration with stakeholders. Throughout this document, the link between significant outcomes and sustainability drivers will be made clear by the use of one or more sustainability driver icons. The drivers are often interlinked and rarely used in isolation, for example climate change adaptation, land and biodiversity and water are often key drivers in project planning.



Foreword

In 2019/20 COVID-19 began to impact every part of our society and the UK economy. It has changed our ways of working, socialising and living. We won't know the full impact until our 2020/21 review. As the operator of critical national infrastructure, our priority at the beginning of 2020 was to keep the power flowing to our 3.5million customers; in turn keeping us connected to family, friends and work. We've been able to pay particular attention to new connections for hospitals, nursing homes, water treatment works and food supply chain businesses to support the containment of the pandemic. We've also worked closely with other network operators, Government and the industry regulator Ofgem, to adjust all our operations so we can continue to work safely and maintain network resilience throughout the crisis.

Looking to the future, the journey to Net Zero has never been more important. The environmental, social and economic benefits of building a sustainable future and decarbonising various industries, products and services are huge. We're at the heart of being able to deliver the Green Recovery for the UK, which will act as a stimulus for economic growth across a variety of sectors by helping to create jobs and attract investment.

In 2019 Net Zero targets became even more ambitious, the UK Governments commitment to bring all greenhouse gas emissions to Net Zero was brought forward to 2050 and the Scottish Government introduced an even more ambitious date of 2045. SP Energy Networks will adopt a Science Based[1] target for carbon emission reduction, in line with limiting global warming to 1.5°C above pre-industrial temperatures.

Our journey to a Net Zero future is already underway. In the last year we have reduced our business carbon footprint by nearly 33% (excluding losses). We are supporting societal decarbonisation by enabling high volumes of low carbon connections to our network. In 2019/20 we installed 1,360MVA of shared use connection capacity through the development of our Coalburn and Kilmarnock South Substations. From now until the end of our T2 Business Plan, we have 57 Transmission Owner Connection Offer (TOCO) contracted projects, which have the capacity to connect an estimated 6,551MW capacity across our network with the potential to support the annual displacement of 4.4MtCO_2e. We delivered 100% of connections offers on time, reducing the average time to final offer by 5%, offering 11% more connection dates aligned exactly to requested connection dates and reducing the need for post-offer alterations to connections offers by 5%.

[1] Science-based targets are driven by a global carbon budget set to meet the 1.5°C limit, translated to the level of action required at a corporate level.

In 2019/20, with continued engagement with consumers, network users and our wider stakeholders we developed our RIIO-T2 Business Plan, outlining our progressive plans from 2021 to 2026 in the delivery of a sustainable network. Our stakeholders told us that it is not enough to simply deliver on the energy transition, we must demonstrate our vision to become a sustainability leader. We have set ambitious targets en-route to Net Zero, we will take action on reducing our greatest direct impacts, including the carbon from network losses and reduction in SF_6 emissions through driving the development of alternative solutions. We will support our supply chain to drive down embodied carbon, implement circular approaches to resource use and reduce the consumption of primary materials. We will also deliver a cost effective and reliable network for customers, continually driving innovation and applying whole systems solutions. We are ready to deliver these ambitious commitments and are working with stakeholders and Ofgem to ensure that regulatory mechanisms will support us to do so.

We are proud to present this Executive Level Annual Statement to illustrate achievements in delivering our Sustainability Drivers. This year, as we continue to embed the United Nations Sustainable Development Goals, we demonstrate how Goal 17 – delivering through partnership, is crucial in achieving our ambitions. This includes strategic level partnerships to deliver Scottish energy and climate change policy; working with our supply chain to develop innovative solutions; and with the communities we serve supporting the development of local sustainable energy initiatives, helping to reduce carbon but more than this, playing a vital role in growing the green economy and delivering valuable social sustainability benefits.

Frank Mitchell, CEO, SP Energy Networks

Welcome

Who we are

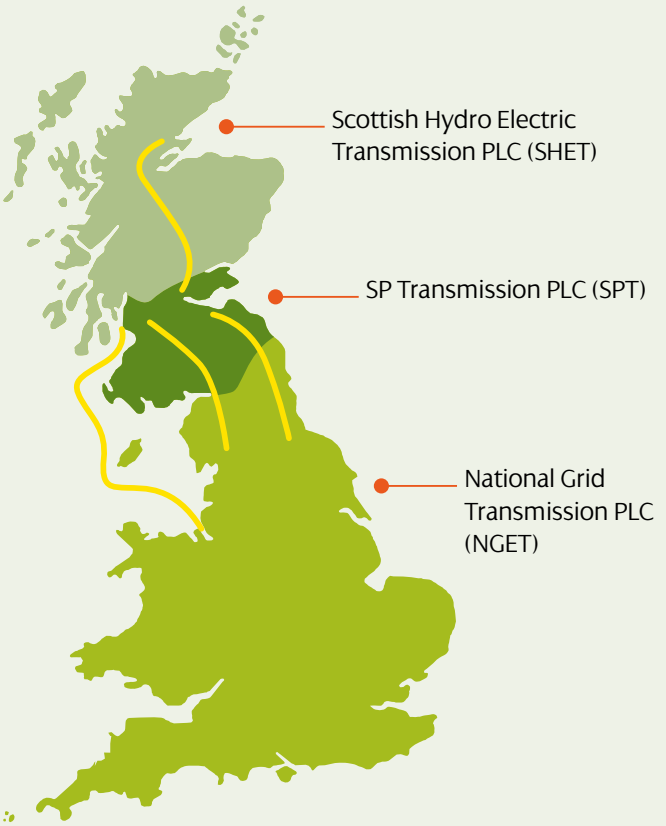
SP Transmission is the Electricity Transmission Operator (TO) that delivers electricity to homes and businesses in Central and Southern Scotland as one of three network operation licences held by SP Energy Networks.

We are responsible for:

- Providing a safe, reliable and economic transmission system for current and future network users; and
- Delivering a sustainable, low carbon energy system.

By adopting a more sustainable approach, we are managing the network more effectively for customers and the environment, year on year.

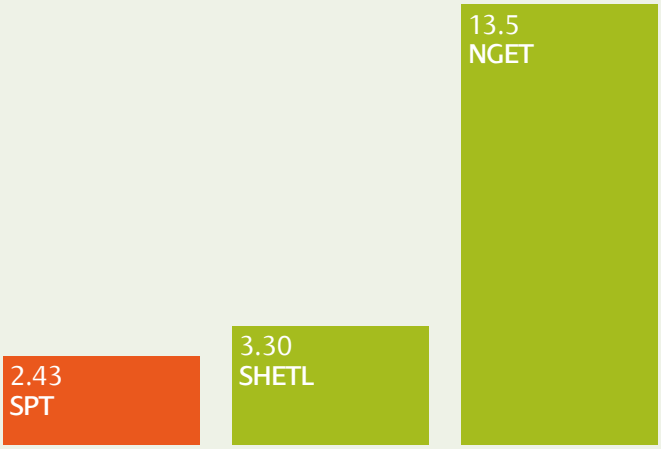
GB Transmission Operators and Interconnections



Company size and scale

SP Transmission is third in terms of the current worth of our regulated assets, but not in terms of our ambition when comparing all three electricity Transmission Operators.

We play a critical role in providing security of supply across GB and in facilitating the connection of new renewables.



(Ofgem Regulatory financial performance report 2017/2018)

Our activities and assets

- Supply around 2 million customers in Central and Southern Scotland
- Cover an area of approximately 23,000km^2
- Comprise over 3,740km of overhead lines
- Comprise over 600 km of underground cables
- 156 substations operating at 400, 275 and 132kV

SP Energy Networks also own and operate the distribution network in Central and Southern Scotland, and the electricity distribution network in Merseyside, the Wirral, Cheshire, North Shropshire, Mid and North Wales.

Our responsibilities

The SP Transmission network is a crucial enabler of the UK's renewable energy objectives.

Opening up renewable energy to the rest of the UK

Our location in an area of exceptional renewables resource and our position linking SSEN Transmission to the North and NGET areas to the South, means that we provide a key link between renewable generation sources and demand centres.

In 2019 we imported renewable energy from the SHE Transmission area in the North of Scotland for 356 days and exported energy to meet demand in England for 326 days.

Providing a reliable, adaptive service

Our network provides vital reliability and security of supply, adapting to the accelerating rate of change in energy production and use.

In 2010, there was 8,000MW of connected generation in Central & Southern Scotland, most of which was connected to transmission network. This generation portfolio primarily comprised fossil fuel powered generators, most of which have since been decommissioned. This capacity has been replaced by renewable generation, resulting in around the same overall level of generation in 2018 as in 2010, however, more of this generation is now located in more remote areas. This means that the transmission network must move energy from these renewable sources to centres of demand in the Central Belt and England. One of the biggest drivers of change is the growth of renewable and smaller scale local generation connected to the distribution network, an increase of 167% from 900MW in 2010 to 2,400MW in 2018.

Supporting long term decarbonisation goals

Driven by more efficient technologies, processes and increased domestic and on-site generation, domestic demand has decreased by 12% and industrial and commercial demand by 18.1% since 2010 in Central and Southern Scotland.

Our RIIO-T2 Business Plan provides a greater focus on decarbonisation, with a more strategic, whole system approach to embedding decarbonisation, both in facilitating a zero-carbon network and also in our own processes and actions.

As focus on decarbonisation of transport and heat intensifies, reliance on electricity is likely to increase. Irrespective of overall demand profiles, more individuals and businesses will use electricity exclusively for all of their heat and transport needs.

We engage with a wide range of stakeholders and work together with our network peers to understand the demands that these changes place on UK networks, and invest wisely to improve performance, ensure security of energy supply and facilitate the connection of low carbon technology.

Managing the network and its impacts

Whilst providing the capacity, flexibility and security of supply to realise this fast-evolving energy future, we work with our supply chain to efficiently manage existing and new network assets in ways that achieve neutral or positive environmental and social impacts.

We operate and maintain linear infrastructure which may be routed through, or adjacent to, a wide range of culturally or environmentally sensitive landscapes and structures, ranging from pristine to degraded habitats. While we provide the network connections and services that customers require, we recognise the need to minimise any negative effects these activities could have on the environment and communities.

Throughout the life of our assets, we not only meet the requirements of government policies and legislation but strive to better them by integrating fair and responsible environmental practices with socio-economic considerations.

About this report

This report provides:

- A concise explanation of how we have developed and adapted our business strategy to manage the low carbon transition, protect the environment and support social sustainability, embedding the United Nations Sustainable Development Goals throughout our activities.
- An exploration of significant relevant initiatives contributing to sustainability and low carbon objectives.
- An indication of the next steps for the coming three years.

It conforms to the requirements of the Environmental Discretionary Reward (EDR) Scheme, a key incentive under the Ofgem price control process for electricity transmission 2013 to 2021 (RIIO-T1).

This document is intended to be suitable for a non-technical audience, to enable the widest possible range of interested stakeholders to understand the progress we are making in efficiently developing our network to support the low carbon transition, achieving neutral or positive environmental and social impacts.

If you have any questions about the content of the report, please contact sustainable@spenergynetworks.co.uk

SP Energy Networks Launch of Green Economy Fund partnership with First Glasgow to deliver 100% electric buses to the city.

Performance

Driving Decarbonisation

1192MW
of renewable generation connected to our network since April 2013 displacing over 900,000 tCO_2e annual carbon emissions.

100%
connections offers delivered on time.

62.38
average number of days to develop a connections offer.

10%
increase in connections applications from 2018/19, 59% increase since 2017.

Enhancing the Natural Environment

Full ISO 14001 Environmental Management Certification.

Zero
environmental regulatory interventions in 2019/20.

Keep Scotland Beautiful Gold National Award for Environmental Excellence.

Royal Town Planning Institute Awards for Excellence in Planning for the Natural Environment 2019 and In-House Planning Team of the Year 2020 finalists.

Mitigating Climate Change

27%
Business Carbon Footprint, excluding network losses, decreased by nearly 27% since 2013/14 .

33%
Business Carbon Footprint, excluding network losses, decreased by 33% this year.

5%
Carbon emissions from network losses have reduced by 5% in the last year.

37%
SF_6 carbon emissions reduced by 37% in the last year.

4 years
The Planetmark external verification certificate for 4 years in a row.

Sustainable Society

8.4/10
Stakeholder satisfaction is 8.4/10, well above our 7.4 benchmark.

£35m
innovation investment over 40 projects since 2013.

-2,100 tCO_2e
20m committed to 33 projects through our 2-year Green Economy Fund, delivering an estimated 2100 tCO_2 reduction per annum.

16.76%
gender pay gap for SP Transmission in 2019 – down from 20.06% in 2018/19.

RELX SDG Customer Award 2020 – Outstanding contribution to advancing the Sustainable Development Goals.

Sustainable Resource Use

Partner member of the Supply Chain Sustainability School.

Founding members of Scottish Infrastructure Circular Economy Forum.

Strategy

Vision and Drivers

Our vision is to be a sustainable networks business:

- Efficiently managing and developing our network in support of the low carbon transition; and
- Achieving neutral or positive environmental and social impacts.

We aim to be a leader in this area. Our actions to become a sustainable network operator drive our supply chain and support our customers and communities to become more sustainable.

Our Sustainable Business Strategy has been developed through several years of collaboration with our stakeholders, and is regularly updated in response to internal and external policy developments (described on pages 7 and 10 of the Strategy), in order to ensure that our business continues to manage the transition to a low carbon energy system over short, medium and long-term timelines.

Our Sustainable Business Strategy is built around six Sustainability Drivers, developed with stakeholders to deliver targeted activity where materiality and impact are greatest. Beyond enabling decarbonisation and reducing our environmental impacts, these drivers also deliver activities to enhance social and economic sustainability, supporting the delivery of the United Nations Sustainable Development Goals (SDGs). We carried out a mapping exercise of activity against the Goals, which can be found on pages 14 and 15 of our Sustainable Business Strategy. We continue to align activity and business processes to meet our Sustainability Drivers and the SDGs. This Statement highlights these links, providing an overview of progress against our Sustainable Business Strategy (SBS). This Statement also forms part of our review process, including stakeholder feedback, which then helps to inform our annual SBS review. This year, we have worked to map our drivers against Ofgem priorities for delivering an environmentally sustainable network. Please see the table overleaf.

Key goals

Through analysis of our main environmental sustainability impacts, cognisance of internal and external policy drivers and in consultation with our stakeholders we have developed ambitious goals to drive action towards Net Zero carbon.

Key goals

	Carbon and Energy Reduction	Sustainable Resource Use	Water Efficiency and Protection
2023	*-15% carbon footprint**	*Divert 95% of waste from landfill*	*-10% in water use**
2030	*-80% carbon footprint**	*100% waste recycled or re-used*	*-25% in water use**
2050	*Carbon neutral**	*Zero waste*	*-50% in water use**
Rationale	Essential to meeting global and national CO_2 reduction targets.	Essential to meeting landfill diversion targets particularly in Scotland where the Scottish Government has Zero Waste Strategy target of 5% to landfill by 2025.	Climate change models forecast reduced summer rainfall putting pressure on scarce water resources. Treating water to potable standards and transportation of water is costly and uses energy.

*targets from a 2013/14 baseline (carbon footprint target excluding losses).

Table 1. Mapping Sustainability Drivers to impact area and Ofgem priorities

Driver	Impact area	Ofgem priorities for delivering an environmentally sustainable network
	Carbon footprint of network losses	Decarbonising the energy networks – with a focus on business carbon footprint and embedded carbon in networks
	Reducing embodied carbon and scope 3 emissions	
	Business carbon footprint – sulphur hexafluoride (SF_6)	
	Business carbon footprint – other	
	Climate change adaptation	
	Supply chain sustainability	Supporting the transition to an environmentally sustainable low-carbon energy system
	Enhancing visual amenity	Reducing networks' other environmental impacts, such as pollution to local environment; resource waste; biodiversity loss; and other adverse local effects that are specific to each sector
	Land and biodiversity	
	Preventing pollution	
	Sustainable resource use	
	Waste reduction	

Adapting our Strategy

Our Sustainable Business model is characterised by:

- Consideration of environmental, social and economic costs and benefits in decision making
- Collaboration with stakeholders; and
- Transparency in decision-making processes and reporting of performance.

In line with these key principles, our Sustainable Business Strategy is reviewed annually by key internal and external stakeholders, including our Sustainability Stakeholder Working Group made up of key external stakeholders including SEPA, Scottish Natural Heritage and the Sustainable Scotland Network. Strategy development is underpinned by expert advice and benchmarking from sustainability-focussed organisations including AccountAbility and Planet First. All Directors of SP Transmission and Distribution participate in the Executive Sustainability Steering Group (ESSG). The ESSG conduct a comprehensive annual review of the Sustainable Business Strategy to ensure our goals remain in line with policy developments and are ambitious enough to demonstrate leadership.

2020 Sustainable Business Strategy Updates

In 2019/20, a range of updates were made following extensive review and engagement (described in detail on page 41 of the Strategy). A key area of focus was alignment with the RIIO-T2 regulatory framework and our T2 Business Plan. New and updated objectives central to both documents focused on the following areas:

- Minimise network losses
- Minimisation of SF_6 leakage and drive the development and implementation of SF_6 alternatives
- Decarbonisation of Transmission vehicle fleet
- Increase the value of natural capital on our sites
- Introduce Circular Economy principles to SPEN processes

Our current maturity levels clearly illustrate our commitment to addressing environmental sustainability impacts, above and beyond compliance. We have focused on areas within our direct control, which have a significant impact, including our scope one and two carbon emissions, reducing our waste and preventing pollution. We will continue to drive activity in these areas. Our maturity matrix in Diagram on page 11 illustrates our current progress. We recognise that decarbonisation of our supply chain, sustainable resource use and embodied carbon are impacts that require partnership working to progress through the maturity matrix. We are at the beginning of our journey in these areas and our Sustainable Business Strategy p23 demonstrates our planned progression to 2023 on the maturity matrix, with level 1 impact areas progressing towards level 4, identifying actions and target setting.

We will also develop processes to enhance the natural capital of our sites, looking at how we interact and impact nature and the value of nature for people and the economy. We have established working groups, with representation from across the organisation, to drive forward our sustainability objectives and our T2 Business Plan ambitions.

Diagram 3. SP Energy Networks Sustainability Maturity Matrix 2020

		Increasing maturity →				
	Maturity level	1	2	3	4	5
Driver	Impact Area	Identify and collect initial data	Identify metrics and establish baseline for chosen metrics	Analyse data and identify priorities	Set targets and deadlines / Identify actions to eliminate/ reduce/mitigate	Deliver actions / Track metrics and report progress
		Verify			Review	
	Carbon footprint of network losses				4	5
	Reducing embodied carbon and scope 3 emissions	1	2			
	Business carbon footprint – sulphur hexafluoride (SF_6)				4	5
	Business carbon footprint – other				4	5
	Climate change adaptation				4	5
	Supply chain sustainability	1				
	Enhancing visual amenity					5
	Land and biodiversity	1				
	Preventing pollution					5
	Sustainable resource use	1				
	Waste reduction			3	4	5

Trends and External Influences

Regular review and update of our Strategy enables us to recognise and adapt to changes in the way the network must operate.

These changes are influenced by external factors including UK and devolved Government strategies, plans and regulatory frameworks, trends, scientific thinking and forces of nature. We collaborate with external stakeholders to ensure we plan effectively to maximise opportunities and develop strategies to overcome challenges. Please see pages 7 to 10 of our 2020 Sustainable Business Strategy, Opportunities and Challenges for full details.

The following current trends and external influences impact on the development and delivery of sustainability strategy, including COVID-19 which has impacted since the release of our latest Strategy update.

COVID-19

The global pandemic has changed the way people live, work and socialise. Some of these changes may be long lasting and result in a permanent transformation of electricity demand. As a company we will put the green economy and the road to Net Zero at the heart of COVID-19 recovery.

COP26

Though delayed until November 2021, the United Nations Climate Change conference, taking place in Glasgow, will raise the profile of Climate Change and the demand for decarbonisation. It will present significant opportunities for international collaboration and innovation.

Government Net Zero Targets and Ofgem RIIO-2 Price Controls

UK and devolved Government Net Zero targets became more ambitious in 2019. This coincided with the Ofgem RIIO-2 Price Controls, driving the development of our Business Plan to embed decarbonisation across all activity. We have aligned our goals to match Government ambitions and will set science-based targets to drive action to achieve Net Zero.

Key societal changes in achieving Net Zero include the electrification of vehicles and decarbonisation of heat, alongside a continued transition to both large scale and local renewable generation. These step changes will present a significant challenge for the transmission energy network and we will play a vital role in delivering. We will embrace innovative solutions and a whole systems approach to ensure we deliver an efficient, cost effective reliable, sustainable network. Our Business Plan outlines these challenges and our direction of travel in transforming the network.

UK Environment Bill 2020

The Bill mandates the delivery of Biodiversity net gain in England and Wales. We will develop processes across our network to ensure there is a cumulative net gain and will go beyond compliance to enhance the natural capital as well as biodiversity gains of our sites.

The UK Environment Bill also aims to move the UK towards a more circular model of resource use, keeping resources in use for as long as possible at as high a material value as possible. This is a step change from the traditional linear economy model of make, use and dispose. The Scottish Government *"Making Things Last: A Circular Economy Strategy for Scotland"* also sets out priorities for a Circular Economy. We have already started the transition to circular practices, identifying aggregates as our largest waste stream. We are working with SEPA and Zero Waste Scotland to reduce aggregates waste and the use of primary resources through circular initiatives. Our Strategy drives the maturity of Circular processes in the next 3 years, working to build capacity within our supply chain to deliver change.

Initiatives and Progress

The following sections of this Statement outline our progress in line with our Sustainable Business Strategy, highlighting the significant initiatives that contribute to sustainability, environmental enhancement and low carbon objectives, and laying out drivers, current status, impacts, next steps and links to UN SDGs.

The document is presented under five themes which were developed to align with Ofgem priority areas for delivering a sustainable network.

Theme	Initiatives	Sustainability Drivers	SDG
Driving Decarbonisation	Generation Export Management Scheme		
	Empowering the Connections Customer		
	Project Phoenix		
	Project Distributed ReStart		
	Digital Substations Initiative		
	Electric Vehicle Strategic Partnership		
	Maximising Environmental Benefit from Non-Operational Land		
Mitigating Climate Change	Carbon Management on Projects		
	Reducing Energy in Transmission Substations		
	SF_6		
	Decarbonisation of the Vehicle Fleet		

Initiatives and Progress continued

Theme	Initiatives	Sustainability Drivers	SDG
Enhancing the Natural Environment	Training and Awareness		
	Pollution Prevention		
	Protection and Enhancement of Species and Habitats		
Sustainable Resource Use	Sustainable Procurement		
	Reuse of Plastics in Access Roads		
	Access Road Framework		
Sustainable Society	Green Economy Fund		
	United Nations Sustainable Development Goal (SDGs) 17 – Partnerships for the Goals		
	Employee Networks		
	Supporting our Employees to a Better Balance		
	Community Volunteering		

Driving Decarbonisation

The UK economy is decarbonising at pace, driven by ambitious national and international targets to keep global temperature rises well within a maximum of 2°C, and subsequent reports underlining the importance of sub 1.5°C increases, from pre-industrial levels. Driving societal decarbonisation through the timely connection of renewable electricity generation ranks as our top priority, alongside continuing to provide excellent network reliability and availability. The key uncertainty facing our network – and how we develop it economically and efficiently – is the changing generation landscape, the scale, timing and location of new generation and the timing of generation closures.

Not responding quickly enough risks delaying the connection of new generation and the transition to a low carbon energy sector. But building too much or too far ahead of time leads to higher customer bills. We have an ongoing role to help strike the right balance. This means proactive scenario planning, and where necessary taking decisive action to modify our investment plans.

A wide range of our established activities contribute to managing this uncertainty:

- **Scenario planning:** We contribute key information to the Government's Future Energy Scenarios and National Grid's annual Electricity Ten Year Statement, and we update our own forecasts for new connections to capture new information.
- **Developing strategic investment options:** We work jointly with National Grid and SSE Transmission to develop and specify Strategic Wider Works proposals.
- **Optimising investment needs:** We apply the Security and Quality of Supply Standard, a common and rigorous set of standards to identify what is required in any set of circumstances.
- **Minimising investment costs:** We manage the cost of any necessary investment down to the minimum efficient costs, developing and deploying innovation where required.

Our Transmission Economic Connections Assessment (TECA) Steering Group – developed in response to our commitment Our Transmission Economic Connections Assessment (TECA) Steering Group – developed in response to our commitment to the facilitation of low carbon connections – regularly reviews and adjusts our best view of the contracted generation background over the coming years and evaluates timely delivery of reinforcement works. This regular assessment activity results in more accurate projections of renewable development in Scotland and feeds into our plans on an annual basis, ensuring our investments best meet the needs of users and customers now and into the future. Our monthly Transmission System Review Group reviews whole system planning issues and agrees the best technical solutions and initiatives to deploy, working hand in hand with the SP Distribution System Review Group to ensure solutions deliver whole-system benefits.

We proactively develop our own SP Transmission-specific Future Energy Scenarios (FES) in order to take account of whole system developments in planning for future transmission network capacity. The SP Transmission FES considers a variety of different network pathways that could develop in the future, taking into account the impact of Scottish energy strategy, changes to generation and demand, and the impact of increased interconnection, energy storage and decentralisation. Our FES formed a key input in our participation in the collaborative development of the subsequent cross-sectoral 'Common View' scenario developed by electricity and gas operators.

Performance

- 1192MW of renewable generation connected to our network since March 2013, displacing over 900,000 tCO_2e annual carbon emissions
- Progressed 33 projects which will lead to a projected 4,233MW connected renewables, displacing approximately 3,35MtCO_2e annually
- Approx. £35m spent on innovation projects since 2013
- 100% connections offers delivered on time
- 10 % increase in total connections applications received in 2019/20, 59% increase in applications since 2017

Connections for Decarbonised Energy, Transport and Heat

Generation Export Management Scheme

Project Background

The South West area of Scotland has great potential for renewable electricity generation, but under conventional approaches, costly network reinforcement would be required to get this energy to where it is needed. Taking future energy scenarios and changes in the low carbon generation sector into account, it is uneconomical to carry out these network reinforcements, but this means that the transmission system in South West Scotland will be operating beyond its firm capacity in the coming years.

SP Transmission is therefore working to develop the Generation Export Management Scheme (GEMS), an innovative, whole-system, cost-efficient technological, operational and commercial solution to actively manage the flow of energy on the network to facilitate up to 2750MW of future generation connections and ensure that the system is not exposed to unacceptable overloads.

Current Status

During 2019-20, project programmes and high-level requirements were agreed with the Electricity System Operator (ESO), the system architecture was developed, telecommunications and cyber security workshops were held with relevant stakeholders, a functional specification was designed, and a System Construction Authorisation document was developed. Engagement with SP Distribution and ESO enabled the interactions between GEMS and the distribution Active Network Management system to be understood and led to changes that will enable generators currently connected to the transmission system via Load Management Schemes to benefit from some of the benefits of Active Network Management ahead of full commissioning of the GEMS scheme.

Timescales for Completion and Next Steps

The project is scheduled from 2017 to 2022 – with scheme scoping in 2017-18, design and tender in 2018-19, scheme development in 2019-20, implementation and testing in 2021 and operational go-live planned for 2022.

Sustainability Drivers

Carbon and Energy Reduction
GEMS will enable up to 2750MW of renewable generation to connect sooner, and access to the additional revenue from selling balancing services has the potential to make a greater number of renewables projects viable, helping to increase the overall proportion of renewable generation in Scotland.

Sustainable Society
Currently only larger generators are able to take part in the national electricity balancing market. Under GEMS – an evolution from load management schemes – generators of all sizes will not only be able to connect sooner and more economically, but to also take part in a balancing mechanism by agreeing for their systems to ramp up or down to balance the network. This enables smaller enterprises to access new markets, increasing the potential for greater local benefit from local renewables resources.

Sustainable Resource Use
GEMS will enable more efficient utilisation of the energy network in the South of Scotland, avoiding the progression of a ~£500m capital investment scheme which would have involved the development of ~170km of new 400kV overhead line, thereby reducing the use of concrete, steel, aluminium, copper and plastics, visual intrusion and construction impacts.

SDGs

This initiative supports the delivery of the following SDGs:

Connections for Decarbonised Energy, Transport and Heat continued

Empowering the Connections Customer

Project Background

As the decarbonisation agenda increases momentum, the number of renewable projects wishing to connect to the SP Transmission network is sharply increasing. SP Transmission saw a 45% increase in total in- and out-of-area connections applications received during 2018-19, leading to a 73% increase in in- and out-of-area final offers provided.

Whilst SP Transmission successfully made 100% of connections offers within the relevant deadlines, customers requested access to self-service online application tracking and information, and we also recognised that we could make the application process even smoother for customers if we carried out a corresponding review of our internal processes.

Current Status

In 2019-20 we progressed our two-year Empowering the Connections Customer project to design and implement an online connection process, focused on customers, where the whole request and project management for new connections can be done online. We also launched a new transmission planner tool, which changes the internal connections application process from a manual, email and spreadsheet-based process to an end-to-end digital process. Although these processes will become more streamlined, customers will continue to be supported by our connections teams as required throughout the connection process. This tool enables multiple control points against critical-to-quality indicators, streamlines the transmission economic connection assessment (TECA) process and reporting, and enhances accountability across all business teams, making the connections process faster and smoother for customers.

In 2019-20, the project delivered a new pre-application engagement process, updated web-based materials for connections customers, a new Connections Guidance Leaflet and a new Charging Statement. Apollo, the transmission planner tool, was finalised and launched to 89 key SP Transmission staff, and the Customer Connections Portal was created in collaboration with stakeholders, ready for soft launch in Summer 2020.

Timescales for Completion and Next Steps

Soft launch and stakeholder testing of the Customer Connections Portal will be carried out in Summer 2020, followed by full launch and additional functionality in early Autumn. Use of the Apollo system will extend to its full functionality during 2020 and the interface between the two systems will be developed and tested to enable end-to-end management and visibility of connections requests for both the customers and the SP Transmission teams involved.

Sustainability Drivers

Carbon and Energy Reduction
This initiative is critical in enabling the level of renewable generation required to meet UK and Global carbon reduction targets. By improving the customer experience and smoothing the related processes, we can continue to successfully manage increases in transmission connection applications and support applicants through the process.

Sustainable Society
This initiative enables a more sustainable society by making the connections application process more accessible, understandable and self-service for all customers. In doing so, it enables us to target our expertise more directly to those customers who need the most support, helping to increase the chances of less experienced connections customers achieving successful outcomes.

SDGs

This initiative supports the delivery of the following SDGs:

Smart Energy System Solutions for Decarbonisation

Project Phoenix

Project Background

Phoenix seeks to allow greater use of renewable power from windfarms, solar arrays and batteries whilst maintaining security and stability of supply against a background of recent and planned closures of conventional generation plants. The project will develop and demonstrate the deployment of a new technology, the Hybrid-Synchronous Compensator (H-SC). Project partners include ABB, National Grid ESO, The University of Strathclyde and The Technical University of Denmark.

Phoenix will facilitate carbon reduction targets by enhancing network strength and stability to ensure renewable energy sources can be securely accommodated and fully utilised to backfill the services traditionally obtained from those large synchronous generators recently closed or planned for closure. The project will address the technical, engineering and commercial challenges that are currently perceived as the main barriers for wider scale adoption of renewables.

Current Status

During the 2019-20 scheme year, civil work was carried out at the project site, ready for installation. Factory Acceptance Testing was completed with representatives from SP Transmission and National Grid ESO in attendance. Monthly commissioning meetings started in June 2019 and the 275kV bay into which Phoenix will connect was successfully commissioned. The Commercial Work Package delivered two output reports aimed at removing commercial barriers to global uptake of H-SC technology, supported by its independently-chaired Commercial Working Group.

Timescales for Completion and Next Steps

The project is funded under the Network Innovation Competition and scheduled to run for four years, from 2017 to 2021, with installation due to complete in Summer 2020 and the live trial running 2020–2021.

Sustainability Drivers

Carbon and Energy Reduction
The project aims to minimise carbon footprint and continue creating a sustainable network for customers, enabling a saving of just over 62 thousand tonnes of carbon – equivalent to the electricity use of over 6,000 homes.

Additionally, the deployment of such devices is likely to further reduce the associated carbon emissions and costs by reducing the need for "must run" thermal generation – a practice that is currently essential to acquire auxiliary system support services particularly in times of light load.

Sustainable Resource Use
The project will release 662MW additional network capacity, greatly reducing raw material and waste impacts due to substantially reduced need for network reinforcement while enabling more Distributed Energy Resources – such as solar arrays and windfarms – to connect and flow through the network.

The decommissioning of numerous coal-fired power stations across the UK presents an opportunity to divert potentially reusable assets from waste streams. There also exists the opportunity to reuse a portion of retired power stations and some of the existing equipment to operate as a Synchronous Compensator.

Smart Energy System Solutions for Decarbonisation continued

Project Phoenix continued

Sustainability Drivers

Land and Biodiversity Improvement
Sites previously used for power generation, or close to the existing network, are also ideal candidates for reuse in our sector, as proximity to the network avoids many issues that arise when considering an alternative green field site. Phoenix will not only evaluate the commercial mechanisms to facilitate future rollout but also conduct an assessment of potential locations for future installations that will include the use of existing generation sites.

Sustainable Society
This collaboration represents a strong commitment from all parties to respond to the changing energy landscape and deliver solutions to meet the needs of all stakeholders. Phoenix will aid the transition to a future GB transmission network that can benefit from clean energy resources without compromising the security and quality of supply to the customers. The project will enhance system stability, helping to reduce power cuts, and supporting the prosperity of an increasingly electrified economy. The joint project will explore future commercial mechanisms by which Synchronous Compensators will be able to compete to provide sustainable electricity network services on the open market. It will reduce the electricity network operating costs, effectively financially benefitting customers.

SDGs

This initiative supports the delivery of the following SDGs:

Smart Energy System Solutions for Decarbonisation continued

Project Distributed ReStart

Project Background

The recovery procedure from total or partial shutdown of the GB Transmission System is called Black Start. The process involves isolated power stations being started individually in sequence and gradually being connected to each other in order to restart the electricity system. Generators can sign up to provide their services in the event of a Black Start, but traditionally this market has only been open to large thermal generators and pump storage, as they are self-starting and can provide consistent levels of generation irrespective of the weather. Inability to access this market is a key barrier for many low carbon generators.

As the GB energy mix decarbonises and decentralises, there are fewer and fewer of these large generation sources available to provide Black Start capability. This is especially true in the South of Scotland, where the majority of electricity is generated by renewables with much of it connected to the distribution network. It is therefore vital that the industry builds a strong understanding of the opportunities and challenges in enabling new providers of this essential service. Recognising the specific challenges in the SP Transmission area, where there are now no non-nuclear thermal power stations larger than 120MW, we are working in partnership with SP Distribution, National Grid ESO and TNEI on a project which aims to investigate the options for using Distributed Energy Resources (DERs) for Black Start restoration.

Current Status

This project seeks to understand the significant commercial, organisational, regulatory and technical risks involved in coordinating black start capability from DERs and develop and test the technical, commercial, procurement and regulatory strategies required to accelerate provision of black start services from DERs into business as usual. SP Transmission and SP Distribution are partnering with National Grid ESO due to the breadth of the prior work that SP Transmission had carried out to investigate the use of large wind and embedded generation in a black start scenario and its co-authorship of the 2017 System Operability Framework (SOF) publication on "Black Start from Distributed Sources".

SP Transmission is leading the Power Engineering and Trials workstream and acting as a system design architect for the project. In 2019-20, this has involved the development of two feasibility reports, the development of restoration strategies across four case studies and development of functional requirements for an automated restoration zone controller.

Timescales for Completion and Next Steps

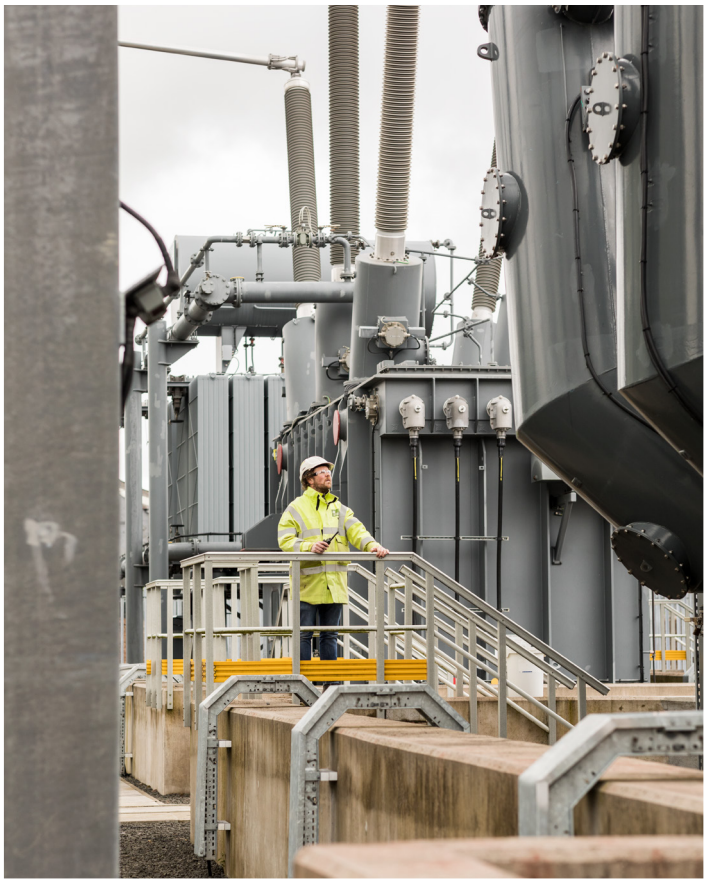
The project was launched in January 2019 and will run until March 2022. The project comprises three workstreams – organisational, technical, and procurement and regulation. Process and technical design and procurement proposals will be completed in 2020 and technical and commercial demonstration will be carried out in 2021.

Sustainability Drivers

Carbon and Energy Reduction
If the project is successful and is rolled out GB-wide from 2025, it will enable the avoidance of 810,000 tCO_2e.

SDGs

This initiative supports the delivery of the following SDGs:



Smart Energy System Solutions for Decarbonisation continued

Digital Substations Initiative

Project Background

The deployment of digital substation solutions, whereby operation is managed by interconnected communications networks, is a key enabler of the digitalised, interconnected network of the future. Beyond the central benefits in terms of design, engineering, installation and operation, the move towards digital substation systems will maximise grid visibility, reliability and security for the benefit of the whole system, even helping to open up peer-to-peer markets. As power generation sources become more volatile and intermittent, digitalisation of many substation processes will enable levels of real-time visibility and control unheard of today.

Our globally recognised FITNESS digital substation project successfully demonstrated the multi-vendor installation and operation of a digital substation. As with many innovations, successful demonstration is only the starting point of the journey towards business-as-usual deployment. Without a coordinated, well-supported approach, a lack of real-world technical data relating to actual network locations and assets could lead to failure to adopt the technology into business-as-usual.

The Digital Substations Initiative seeks to remove barriers to the widespread uptake of digital substations by taking a multi-vendor approach to ensure the convergence of communications protocols to reduce the risk of assets being stranded or unsupported as the market evolves, and through the creation of a replica digital system which will act as a test bed to prove the engineering configurations required for a wide range of installation scenarios.

Current Status

During 2019-20, this collaborative, multi-vendor project developed detailed specifications and process maps for the business-as-usual implementation of multi-vendor digital substation technologies to support both SP Transmission's and other network operators' future roll-out of these new and radically different technologies.

Together with the successful FITNESS project, the work of the Digital Substations Initiative provided sufficient confidence to enable the proposed installation of digital substation assets at Hunterston 132kV substation, Longannet 275kV substation, Westfield 275kV substation and Windyhill 275kV substation within our December 2019 RIIO-T2 Business Plan. Learnings from Project FITNESS and the Digital Substations Initiative also heavily influenced the development of our RIIO-T2 Innovation Strategy, also launched in December 2019.

Timescales for Completion and Next Steps

As the working group progresses towards implementation of the first digital substation at Windyhill, the specifications and process documents will be subject to ongoing review and update. The use of the replica system, in collaboration with our vendor partners, will be key to the development of the documents as it will be necessary to provide the level of detail required to publish the documents.

Sustainability Drivers

Carbon and Energy Reduction
A positive benefit of digital substations is the reduction in need for system outages which often need to be planned up to seven years in advance. Digital substations will enable new connections to be provided more quickly and at a reduced cost to meet the UK's renewable energy targets. The projected system availability improvements translate into a carbon saving of between 40.5 and 129.5 thousand tonnes of CO_2 per year by 2030, depending on level of uptake, and based on increased amount of wind generated.

Sustainable Resource Use
Digital substations utilise smaller, lighter, safer equipment, with greatly reduced reliance upon raw materials compared to conventional substations:

- For transformers, a 25% of reduction of steel and the removal of dielectric oil.
- For relays, a reduction of 90% of the use of low voltage transformers and a reduction of 50-60% in most components.
- For civil works, a 50% reduction in Polypropylene, Fibreboard, PVC and Gravel.
- For wiring, a reduction of 70% of copper wiring (Copper, Aluminium and Propylene).

In conjunction with the substitution or reduction in quantity of raw materials used, reducing the time spent onsite during construction and maintenance can mitigate environmental and social effects. End of life decommissioning is also less intrusive, with fewer materials to treat and dispose of.

Smart Energy System Solutions for Decarbonisation continued

Digital Substations Initiative continued

Sustainability Drivers

Land and Biodiversity Improvement
A vast number of copper wires can be replaced with a single optical fibre to communicate the same information via a digital signal. This reduces the trenching, clearances and insulation requirements of the substation. The use of optical fibres reduces the number of substation cubicles, as fewer cables require connection within panels. In addition, digital equivalents of current and voltage instrument transformers are inherently safer so clearances to other equipment is reduced.

Overall, the digital substation infrastructure is an estimated 10% smaller than traditional substation design, resulting in a noteworthy reduction in footprint requirements and potential biodiversity impact.

Sustainable Society
Reduced outage time and constraints coupled with greater operational flexibility will enhance system availability and efficiency, meaning that homes and businesses can benefit from fewer power cuts, and that renewable generators can connect sooner and generate with fewer constraints, increasing the potential proportion of renewable energy available for use. Customers and members of staff will benefit from enhanced safety, due to reduced overall hazards, more compact and self-contained substation design and reduced time on site. The digital substation approach will deliver an estimated 10% reduction of substation new-build and replacement costs and 4-5% reduction of constraint payments, effectively financially benefitting customers.

SDGs

This initiative supports the delivery of the following SDGs:

Smart Energy System Solutions for Decarbonisation continued

Electric Vehicle Strategic Partnership

Project Background

We are working to influence the national Electric Vehicle agenda, through the creation of a £7.5m partnership with Transport Scotland and Scottish and Southern Electric Networks (SSEN). This partnership will deliver an integrated networks approach to the rollout of electric vehicle charging points in Scotland, increasing the pace, accessibility and efficiency of the deployment of public chargers; enabling the delivery of whole-systems solutions to accelerate the EV transition.

This Strategic partnership will allow us to efficiently join the dots between renewable electricity generation, the transmission and distribution network, and public electric vehicle charging infrastructure, facilitating Net Zero transportation. The partnership was announced by the Scottish First Minister on 29 August 2019.

Current Status

Working in collaboration with North and South Lanarkshire Council's Environment and Transportation Committees, charging points will be identified and created in car parks across both local authority areas, in a bid to help meet Scottish Government plans to phase out new petrol and diesel vehicles by 2032. The project aims to increase the number of EV chargers across Lanarkshire by 500% which will mean the number across Scotland will rise by 25% in one year.

Preparations for the trial, known as Project PACE, are already underway and aim to determine optimum EV charge point locations and the electricity network infrastructure required to support them. Locations will fill the gaps where commercial charging points won't be placed and align areas of potential demand. New sites will consider existing electricity infrastructure location and capacity, available land and the need to provide public access.

Timescales for Completion and Next Steps

The project will ensure Scotland has access to a world-leading electric vehicle charging network and the electricity infrastructure needed to support it. That's why we are uniquely positioned, as the network operator, to lead this project which aims to increase the number of EV chargers across the two trial areas. This will serve as a blueprint for other areas across the country in the shift to electric vehicles, ensuring every community has equal access to charging points connected into Scotland's electricity networks.

Sustainability Drivers

Carbon and Energy Reduction
The Carbon Account for Transport shows that Scottish transport emissions are now around 13 $MtCO_2e$ per year, with the majority of emissions (over two thirds) attributed to road transport. The initiative will significantly build electric vehicle charging capacity across two local authority areas. The project will identify and facilitate network requirements to enable connections. The provision of increased public charging across a strategic geographical spread will help to gauge demand for charging and facilitate a move towards decarbonisation of vehicles. The project is aligned with both Scottish Government electric vehicle and Net Zero targets and will provide learning for replication across the network in other geographical areas.

Sustainable Society
The provision of increased public charging will provide greater equity in electric vehicle ownership. It will move away from current reliance on domestic properties with personal charging points. Locations will provide local access to residents in flatted properties who would previously not have accessible charging facilities, a key barrier to electric vehicle ownership.

SDGs

This initiative supports the delivery of the following SDGs:

Smart Energy System Solutions for Decarbonisation continued

Maximising Environmental Benefit from Non-Operational Land

Project Background

We often replace old substations assets with newer versions that take up less space or remove redundant assets if they are no longer required. The resulting vacant land represents several opportunities to maximise sustainability benefits, including the installation of renewable technologies.

Our initiative aims to release unused land to local community energy projects to generate and deliver renewable energy to their local communities. The provision of this land for free removes one of the barriers to the development of community energy, providing a more cost-effective model, helping communities to take control of the way their energy is generated, saving money and tackling climate change at the same time.

Current Status

In order to maximise the benefits of the initiative it has formed part of our graduate programme, with a cohort of graduates developing, leading and implementing the project plan. In 2019/20 SP Transmission graduates created a methodology for carrying out surveys to assess project potential across our substation sites. Survey criteria included location, site footprint, access, safety and connectivity to the network. Approximately 20 sites were identified for investigation, which conservative estimates suggest could support upwards of 4MW of renewable generation. The graduates carried out the surveys and created a shortlist of the most viable locations. A partnership was developed with Forum for the Future's PowerPaired programme, an online matchmaking platform for community energy groups and site owners. The platform makes it as easy as possible for community energy projects to identify project opportunities and provides assistance around many common obstacles, such as providing legal templates and other vital resources for asset owners and community energy groups. We uploaded two locations to the platform in 2019/20.

Timescales for Completion and Next Steps

This initiative will continue to be led by graduates, with a new cohort implementing an annual project plan each year until the end of our T2 Business Plan in 2026. Future focus will be the identification of further sites and engagement with community energy networks and groups to encourage the development of projects.

Sustainability Drivers

Carbon and Energy Reduction and Sustainable Society

Supporting the growth of the community energy sector has a multitude of benefits including: the production of zero carbon energy; the creation of green jobs; the provision of local cost-efficient energy; and community cohesion with community members working together to achieve common aspirations. The potential is significant – to install upwards of 4MW of new renewable generation, enable c1,200 tCO_2e carbon savings annually and support biodiversity enhancements at up to 20 sites.

Land and Biodiversity Improvement

Our stakeholders have emphasised the value of us enhancing biodiversity at our sites, where operationally appropriate to do so. Therefore, we will include the requirement for the successful energy groups to also deliver and manage biodiversity and enhancement initiative on these sites over the lifetime of the lease.

SDGs

This initiative supports the delivery of the following SDGs:

Mitigating Climate Change

We mitigate climate change most significantly through our actions to connect low carbon generation for societal decarbonisation. While we do this, we must reduce the carbon footprint of our business and operations and ensure that our network is climate-change resilient.

- **Carbon Reduction Goals:** Inaddition to the goals and targets laid out in our Sustainable Business Strategy, this year we have worked with the Carbon Trust to calculate a science-based target (SBT). Carbon reduction targets are considered science-based if they are "in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement – to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C".

  Our work to develop Scope 1 & 2 Science Based carbon reduction targets started in late 2019. This initial phase will be followed by Scope 3 foot printing and action plan development in 2020. This will involve making several decisions on the appropriate approach for the business and using the resulting methodology to develop a target.

- **PAS2080 Carbon Management:** As part of our commitment to reduce carbon across our networks, we are looking to reduce whole life carbon throughout our projects following the principles outlined in PAS2080 Carbon Management in Infrastructure. PAS2080 is a global standard for managing infrastructure carbon and looks at the whole value chain, aiming to reduce carbon and reduce cost through more intelligent design, construction and use. We are continually developing our understanding of the carbon associated with constructing, maintaining and operating our substations and are encouraging innovative solutions to reduce carbon – both internally and throughout our supply chains. We are implementing PAS2080 on a number of key projects in the next year, with the long-term goal of making carbon reduction a driving metric in the decisions we make when designing, procuring and constructing our assets.

- **External Verification:** We continue to be ISO14001 certified. The implementation of this environmental management system provides a framework for continuous improvement of environmental performance. We remain focused on compliance, and beyond, improving our existing procedures, the environmental content included within contract specifications and the development and roll out of an environmental training programme. We carry out regular audits and assessments including external audit of our Integrated Management System, and use the system to optimise processes and resources.

  We also seek external verification of a reduction in our Business Carbon Footprint via the PlanetMark certification, which we have now held for four years. The PlanetMark is a sustainability certification which "recognises continuous improvements, encourages action and builds an empowered community of likeminded individuals".

- **Governance:** Development and delivery of our Sustainable Business Strategy and Sustainability Plan is governed by our Executive Sustainability Steering Group, chaired by our CEO, and supported by our Integrated Management System Executive and Management Review Groups. Delivery of carbon reduction activities is tracked via a range of internal reports and governance forums.

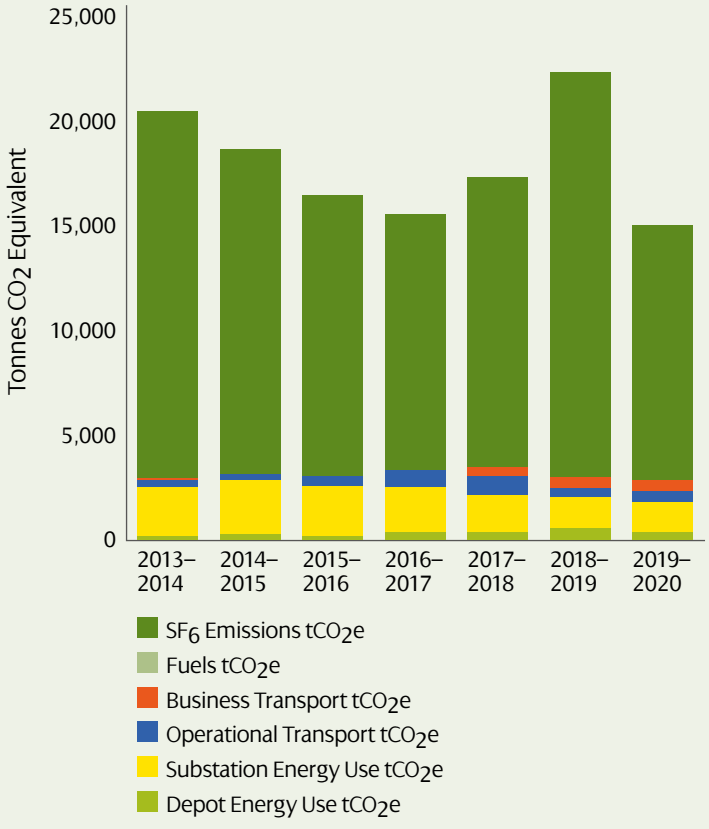
Performance

SP Transmission Business Carbon Footprint[1]

Category	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	tCO_2e difference from 2018–19	% difference from 2018–19
Depot Energy Use tCO_2e	187.8	270.24	161.36	365.50	336.14	560.21	351.89	-208.32	-37%
Substation Energy Use tCO_2e	2301.7	2,553.26	2,377.26	2,123.55	1,798.49	1,439.10	1,433.40	-5.70	0%
Operational Transport tCO_2e	287.69	270.69	322.27	582.05	854.98	432.50	478.45	45.95	11%
Business Transport tCO_2e	113.3	126.8	126.85	213.83	427.78	547.14	558.19	11.05	2%
Fuels tCO_2e	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0%
SF6 Emissions tCO_2e	17,435.05	15,305.56	13,366.04	12,164.26	13,803.00	19,178.22	12,078.98	-7,099.24	-37%
Total BCF (excl. losses)	**20,334.42**	**18,535.57**	**16,353.78**	**15,449.19**	**17,220.39**	**22,157.17**	**14,900.92**	**-7,256.25**	**-33%**

SP Transmission 2019/20 business carbon footprint (BCF) is 14,901 tCO_2e (excluding losses), a reduction of nearly 27% from the 2013/14 baseline of 20,334 tCO_2e. Reduction can largely be attributed to the following:

- Reductions in fugitive emissions of SF_6, from 17,435 tCO_2e in 2013/14 to 12,079 tCO_2e in 2019/20. This was also a reduction of 37% on the previous year which had peaked primarily due to increased (SF_6) leakage
- Reduction in buildings carbon footprint from 2489.5 tCO_2e in 2013/14 to 1785.3 tCO_2e in 2019/20 (28% reduction)
- Decarbonisation of the electricity grid



[1] Greenhouse Gas data is collected in line with ISO14064.

Buildings Energy Use

Buildings energy carbon footprint (depot and substation energy) has reduced by 28% from 2013/14. This can be attributed to the following factors:

- Decarbonisation of grid electricity
- Improvements in data
- Switch to the Green Source tariff – providing Renewable Energy Guaranteed Origin (REGO) certification for a proportion of our consumption. Our scope 2 buildings electricity energy emissions are 1735 tCO_2e for 2019/20 calculated using market based conversion rates as available through the REGO tariff. Our emissions for buildings electricity using location-based conversion rates were 2687 tCO_2e. We continue to use location-based conversion factors to measure carbon from our losses.

Business Travel

Our fleet and business travel emissions have increased since 2013/14, however this is largely due to our work to improve data completeness and improvements made to apportionment across our three Licence areas, as well as a switch to petrol from diesel fleet vehicles to reduce particulate emissions, though consequently increasing carbon.

SP Transmission business travel increased slightly from 547 tCO_2e in 2018/19 to 558 tCO_2e in 2019/20 due to additional travel for RIIO-T2 business planning, resulting in an increase in flights to London. We expect travel will significantly reduce in the next reporting year, as the Business Plan is complete, and travel has been severely limited due to the impact of COVID-19.

Transmission Losses Carbon

Category	2013–14	2014–15	2015–16	2016–17	2017–18	2018–19	2019–20	tCO_2e difference from 2018–19	% difference from 2018–19
Transmission losses tCO_2e	16,9282.4	24,0210.36	194,120.0	263,712.0	186,326.8	203,810.4	194,256.0	9,554.4	5%

The most significant element of our carbon emissions is from transmission losses. In 2019/20 this equated to 194,256 tCO_2e, a reduction in carbon emissions of 5% on the previous year. However, it should be noted that although carbon emissions have reduced, actual network losses have increased and the reduction in carbon is due to the lower carbon intensity of the network.

Losses are an inevitable consequence of transferring energy across electricity networks. Increased renewable generation connections in Scotland lead to increasing amounts of energy being transferred across transmission networks and this leads to higher losses, an upward trend set to continue. Current estimates suggest that total network losses may rise by around 17% during our T2 Business Plan Period (by 2026), however the carbon intensity of these losses will decrease as energy generation continues to decarbonise.

As network losses are largely out with our control these are not included in our Business Carbon Footprint, however, we develop and deliver plans to mitigate network losses and the related economic and carbon impacts where feasible, as outlined in our Network Losses Strategy (link) and our T2 Business Plan for 2021–2026.

Business Carbon Footprint

Carbon Management on Projects

Project Background

As part of our commitment to reduce carbon, we are increasing our understanding of the whole life carbon emissions associated with the infrastructure we build and maintain. Our long-term ambition is to manage and reduce the emissions associated with our new infrastructure developments in line with the PAS2080 Carbon Management in Infrastructure framework.

Considering whole life carbon emissions includes the carbon embedded within the materials and the energy expended to build an asset as well as the carbon associated with operating and maintaining our assets over their lifecycle. In order to maximise carbon reduction, carbon management should be implemented at the start of a project, when different options are being considered, throughout the design of an asset, incorporated in the procurement process and tracked and managed through construction.

As we move towards increased digitalisation and 3D modelling within our designs, we have the potential to greatly increase efficiency and innovation. Sustainability in design will be developed within Building Information Modelling (BIM) processes to maximise potential. As part of a pilot project, we are looking to develop and integrate carbon management into the BIM process. The long-term aspiration is to develop a dynamic and automated process, where the effect of design decisions on the carbon footprint of a project can be seen in real time, allowing carbon to be effectively used as a metric in the decision-making process.

Current Status

We have ambitious and industry leading projects which have a core focus on carbon management and reduction including a pilot design project for a 'Net Zero secondary substation'. We are currently designing and engaging with potential suppliers to determine a number of potentially innovative and viable low carbon solutions including:

- An SF_6-free ring main unit
- A synthetic mineral oil filled transformer.
- Low carbon concrete
- Using recycled materials in the build and construction process (Reduce/Reuse)

We are also considering a number of carbon offsetting solutions to offset the remaining inherent carbon footprint including:

- The secondary substations within Glasgow City Centre have limited opportunities for tree planting due to their urban location. We will therefore look to other tree planting locations where we can implement carbon offsetting measures.
- Planting a City Tree: A box with the footprint of 2 park benches that contains moss with the carbon binding power of 275 trees.

In addition to the Net Zero substation project, we are currently identifying a number of other projects on which to implement the PAS2080 Carbon Management in Infrastructure framework. We are developing a carbon database aligned with other Transmission Operators for use within the design process to understand the implication of the design decisions we make and to allow various design solutions to be compared in respect to their carbon footprint. We are collaborating with our supply chain to set targets and quantify carbon emissions across the lifecycle of a project. We are monitoring the carbon associated with transport emissions and site/construction emissions and are working with our supply chain to develop an understanding of the embodied carbon within all construction materials and equipment installed within our projects.

Timescales for Completion and Next Steps

Current proposals are to complete the Net Zero secondary substation in line with COP26, Glasgow, November 2021. PAS2080 will be piloted on projects throughout the RIIO-T2 period, with the aim of making carbon management standard for new major infrastructure projects from RIIO-T3 and beyond.

Sustainability Drivers

Carbon and Energy Reduction and Sustainable Resource Use
Integrating carbon assessment and management into the decision making and design processes on infrastructure developments is crucial on our route to Net Zero. A fundamental part of this is interrogating the resources we use and implementing circular economy principles.

SDGs

This initiative supports the delivery of the following SDGs:

Business Carbon Footprint continued

Reducing Energy Losses in Transmission Substations

Project Background

Electronic protection and smart control assets are designed for indoor use and are housed within substation buildings. Making sure the substation building is dry and at a controlled temperature stops moisture from entering and maximises the life expectancy of the electrical assets. We control this environment through the building fabric, heating, lighting, ventilation and air condition system.

Current Status

The Reducing Energy Losses from Transmission Substations innovation project was completed in 2019/20. The study assessed energy use at five transmission substations and its findings were used to develop an investment proposal for Substation Energy Reduction within our RIIO-T2 Business Plan. This programme will install holistic refurbishment solutions, specifically aimed at creating low energy use substations.

We then undertook condition assessments of 90 sites to prioritise those that would be most suitable for energy reduction measures. The proposed solutions incorporate a selection of the following measures:

- Building fabric: Improved insulation in the walls, roof and floor; draught proofing; door and window replacement
- Mechanical and electrical: Replacement of heating systems and upgraded thermostatic controls; implementation of building management systems; energy efficient lighting and controls, natural ventilation solutions
- Renewables: Installation of photovoltaics or other suitable micro renewables.

Timescales for Completion and Next Steps

We have set an ambitious target to implement carbon reduction measures at 48 substations during the course of our T2 Business Plan, representing around 1/3 of our sites. As well as energy efficient refurbishment of existing substations we are working to incorporate carbon reduction into the specification for new substation buildings.

Sustainability Drivers

Carbon and Energy Reduction
Providing a blueprint for the energy efficient refurbishment of transmission substations provides a clear methodology for reducing energy. If all 48 substations are refurbished this could total energy consumption savings by more than 1,000MWh per year.

SDGs

This initiative supports the delivery of the following SDGs:

Business Carbon Footprint continued

Sulphur Hexafluoride (SF_6) Emissions Reduction

Project Background

SF_6 gas has traditionally been used in electricity transmission assets as an insulator and arc-quenching medium in high voltage equipment. However, it has a global warming potential which is 23,500 times the equivalent of carbon dioxide. This means every kg of SF_6 gas which leaks from our equipment has the equivalent global warming potential of 2.35 tonnes of CO_2.

As a result of its high global warming potential and its widespread use throughout our transmission network, SF_6 gas is the largest controllable element of our direct business carbon footprint. This year, as in past years, SF_6 leakage dominates our footprint, due to the substantial number of SF_6-filled assets on our network and leakage from older assets which is challenging to fix. This issue therefore commands intense focus from our Executive, strategic and operational teams and we are committed to exploring every available solution.

The high dielectric properties of SF_6 which make it an excellent insulator are not commonly matched by other gases on the market. If alternative gases can be used, there is a requirement to design innovative new substations to function with these alternative gases.

Our approach to reducing these emissions is to:

- **Reduce leakage on existing equipment, targeting the leakiest first where it is economically reasonable to do so;**
- **Collaborate with manufacturers of new SF_6 equipment and share best practice industry-wide to minimise leakage; and**
- **Work with manufacturers, innovators and industry peers to develop and install economically viable alternatives to SF_6.**

SF_6 leakage needs to be significantly reduced in order to achieve our 2030 and 2050 carbon reduction targets. We intervene promptly to fix leakages, but in addition to the technical challenges relating to fixing leaks, the outages required to fix leaks must be balanced against a range of competing considerations, including existing outages for network maintenance, modernisations and upgrades, and the strategic nature of generation assets connected via the SF_6-filled equipment.

Measures to address existing plant leakage and the deployment of alternatives currently cost more and will continue to cost more in the medium term. Our ability to meet our challenging business carbon footprint targets will therefore be dependent on securing funding from Ofgem in the forthcoming RIIO-T2 price control and beyond.

The market by which these technologies may become cost-competitive, will, to a large extent, be influenced by legislative and regulatory developments. We are fully involved in influencing legislation and regulatory policy to provide the market stimulation and funding required to address this industry-wide issue.

Current Status

We have made considerable progress in reducing SF_6 emissions during 2019-20, delivering a 37% reduction on the previous year. Overall, we have reduced SF_6 emissions on our network from 17,435 tCO_2e in 2013/14 to 12,079 tCO_2e in 2019/20. We prioritise the repair of leaking assets by leakage rate, taking the accessibility of the asset into account. Specialist surveys are carried out to identify the source of leaks, though the source is not always apparent. We develop action plans then attempt repair or replacement where economically, technically and operationally viable. Unfortunately, not all repairs are successful.

Due to the age of the assets, like-for-like replacement of these pressurised compartments is often not possible as the assets have become obsolete.

Whilst we fix leaking assets, it is also important that we avoid the introduction of new SF_6 assets onto our system where possible. This year, we updated our specifications and now ask all suppliers to include an SF_6 alternative for 132kv gas insulated switchgear in tender submissions. We are working with suppliers and reviewing specifications to increase the use of alternatives to SF_6 across our network. On our Windyhill Project we have been working with our supply chain to implement an alternative dielectric gas to SF_6 within the 275kV Gas Insulated Busbar (GIB). This will ultimately displace approximately 7 tonnes of SF_6 from the network. We are currently in the procurement process and discussing a range of suitable SF_6 replacement gases and associated equipment.

Timescales for Completion and Next Steps

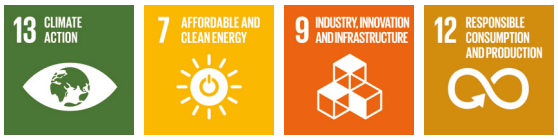
Our RIIO-T2 business plan for 2021–2026 aims to use new alternatives to avoid up to 9.7 tonnes of additional SF_6. We will continue to collaborate industry-wide to drive the introduction of new SF_6 alternatives and share best practice to reduce leakage. We will continue in our efforts to identify and fix leaks more quickly and successfully, drawing on innovation where traditional methods prove unsuccessful.

Sustainability Drivers

Carbon and Energy Reduction
Significant reductions in SF_6 leakage are required in order to achieve our 2030 and 2050 targets to reduce our carbon footprint by 80% and reach carbon neutrality respectively.

SDGs

This initiative supports the delivery of the following SDGs:



Business Carbon Footprint continued

Decarbonisation of the Vehicle Fleet

Project Background

Iberdrola, SP Transmissions parent company, signed up to the EV100 commitment, a global initiative bringing together forward-looking companies committed to accelerating the transition to electric vehicles (EVs) and making electric transport the new normal by 2030.

The agreement will see Iberdrola fully electrify its vehicle fleet and provide charging for staff across its operations in Spain and the UK, where local EV market conditions make this possible, by 2030.

Current Status

SP Transmission aim to decarbonise our operational fleet by replacing 100% of our 72 cars and vans with electric alternatives by 2026. We have successfully piloted the use of small electric vans and are working with our General Services team and our vehicle leasing provider to bring these electric vehicles into our fleet.

Timescales for Completion and Next Steps

We envisage a rapid transition to EVs from 2021 onwards as technology for medium sized vans becomes available and more cost-effective.

We believe, and our stakeholders agree, that we should be leaders in this area due to our role in providing the infrastructure to allow others to adopt electric vehicles. Therefore, we have committed to deliver the electrification of our business fleet by the end of our T2 Business Plan in 2026.

Sustainability Drivers

Carbon and Energy Reduction
"The transport sector is the fastest-growing contributor to climate change, accounting for 23% of global energy-related greenhouse gas (GHG) emissions. Electric transport offers a major solution in cutting millions of tons of greenhouse gas emissions per year, as well as curbing transport related air and noise pollution. With businesses owning over half of all new registered vehicles on the road, it is crucial that companies lead the shift to electric vehicles." (*Source: EV100 website*)

SDGs

This initiative supports the delivery of the following SDGs:

Enhancing the Natural Environment

We aim to protect and continually enhance the biodiversity around our assets and support national and local strategies. Our decision making incorporates an assessment of the environment within which we are working to ensure that levels of natural assets are at least protected, if not enhanced.

In line with the Global Assessment on Biodiversity's five drivers of the loss of biodiversity, we mitigate biodiversity loss most significantly through our actions to maximise the utilisation of our network and connect low carbon generation for societal decarbonisation, which lead to benefits in terms of climate change mitigation, avoidance of additional land use and reductions in pollution. Whilst we do this, we also protect and enhance the ecosystems within which we operate to avoid the introduction or encouragement of invasive non-native species and to ensure that ecosystems are not unduly exploited by our operations.

A wide range of our established activities contribute to this activity, including:

- Continual improvement of our ISO 14001 Integrated Management System
- Robust environmental planning and management processes, activities and governance
- The requirement for all major projects to have pollution prevention plans
- Extensive training to ensure that staff have the skills and awareness to identify and manage environmental risks

Performance

- Zero environmental regulatory interventions in 2019/20
- Full ISO 14001 Environmental Management Certification
- SP Energy Networks Environmental Planning Team finalists in Royal Town Planning Institute In-House Planning Team of the Year 2020

Our approach to Biodiversity and Natural Capital in Projects

We have developed an approach to routeing which considers the opportunity for the establishment of "Green Networks" or corridors of landscape and public access mitigation which can complement or offset the impacts of overhead line (OHL) development. This approach was particularly notable on the Beauly to Denny OHL project where projects to provide off road cycle networks, landscape and biodiversity enhancement were developed alongside communities in and around Stirling; close to the route of the OHL.

This approach has been further developed in our "Changing the VIEW" project where we engaged directly with members of the public and interested groups on the landscape and visual impact of Overhead lines in Loch Lomond and the Trossachs National Park. The overwhelming preference was again to develop landscape-based interventions which enhanced the landscape around existing overhead lines, avoiding the inevitable disruption and impact which would be caused by wholesale changes to the network itself.

As well as the practical implementation of enhanced mitigation throughout the life of these projects, Biodiversity Net Gain is now a key commitment within our overall approach, helping to shape discussions with stakeholders and communities on all the projects we undertake.

Given the nature of our infrastructure and the impacts associated with it, whether actual or perceived, we have launched a pilot project on the implementation of wider 'environmental' net gain and also the adoption of Natural Capital or Multi Capital protocol within the early identification of project options. By looking at an area of our network within the Cumbernauld Living Landscape we have worked with the Scottish Wildlife Trust to develop an approach to ecosystem services and the opportunities which exist alongside our day-to-day activities. Much like the science itself, our approach is developing and will continue to develop through both engagement and the application of such measures.

Environmental Management

Training and Awareness

Project Background

It's essential that our staff understand the environmental processes, programmes and targets contained in our Sustainable Business Strategy, Business Plan and Environmental Management System.

Our internal engagement strategy and plan are designed to ensure that all members of staff have the requisite knowledge of environmental aspects and impacts, and the awareness to be able to identify and solve issues as they arise. This training and awareness raising is delivered via a suite of training courses, monthly team briefs, workshops, toolbox talks and online materials.

Current Status

As part of our commitment to comply with environmental law and invest in our people as part of our Sustainable Networks Business objective we have developed a 3-year Environmental Training Plan for over 3000 people across SPEN. As part of this plan, 2019/20 saw the identification and development of courses across a range of environmental disciplines.

Courses developed and rolled out to staff in 2019 include, Managing Environmental Risk in Project Management and Managing Environmental Risk for Field Operatives. These bespoke courses were developed with an environmental consultant to provide an awareness and understanding of: environmental risks encountered in SPEN activities; how to identify risks; mitigate against them and ensure environmental compliance. These courses were delivered to 48 SP Transmission Field Operatives and 29 Project Managers in 2019/20 in addition to the significant business-wide online training programme.

Environmental Consultants were also engaged to develop bespoke courses on Wildlife Law, Managing with Environmental Sustainability and Leading with Environmental Sustainability. Pilot sessions were held in January 2020 for Managing with Environmental Sustainability and Leading with Environmental Sustainability.

In 2019/20 we also updated the environment and sustainability training to target all new graduates and apprentices when they join the business.

Timescales for Completion and Next Steps

Delivery of our three-year plan will be completed in 2020, after which we will ensure that all staff receive the required refresher training. We will also continue to work in partnership with regulators and our supply chain to ensure that our contractors have access to the right training and awareness opportunities. We have recently partnered with the Supply Chain Sustainability School to deliver a range of quality on line training resources for SP Transmission staff and our Supply Chain. Membership of the School will enable us to carry out an organisation-wide training needs analysis on subjects such as the Circular Economy, Environmental Management, Biodiversity and Ecology; creating a tailored, knowledge-based training programme. The platform also tracks training of staff and the supply chain linked to our organisation. Membership of the School will be promoted to our Supply Chain from 2020 and will be embedded in all contracts by 2023, requiring Supply Chain membership.

Sustainability Drivers

All Sustainability Drivers
Our training and awareness activities cover all aspects of our Business Strategy, processes and activities, driving improvements against all six of our Sustainability Drivers.

SDGs

This initiative supports the delivery of the following SDGs:

Environmental Management continued

Pollution Prevention

Project Background

From September 2018 the Scottish Environmental Protection Agency (SEPA) introduced a requirement for Construction Site Licences on specific projects. A Pollution Prevention Plan (PPP) is a mandatory element of compliance and is to be submitted and reviewed by SEPA as part of this process.

PPPs ensure that steps are taken to prevent potential for pollution arising from construction, the potential impacts of that pollution and that the methods of preventing environmental harm occurring have been adequately considered.

Current Status

One of the first SP Transmission projects to operate under a SEPA Construction Site Licence was the Tralorg Project, a 33kV wind farm connection consisting of 9.4km of wood-pole overhead line and 5.2km of underground cable in South Ayrshire.

The PPP Identified pollution risks, the pathways and the receptors of pollution. The Plan then detailed the pollution control measures that would be implemented.

The main site challenges identified were as follows:

- The risk of silt pollution was high as the cable route crossed a river (Muck Water), with a steep slope and small drains that feed into the river
- This river is important for brown trout and salmon. Work could therefore not take place within the river channel during spawning season (November – May)
- The ground conditions were generally soft with sections of deep peat.

Control measures implemented included:

- Installation of silt mitigation measures including silt fences, settlement ponds, sedi-mats, splash guards and cut-off drains
- The cabling contractor's environmental mitigation team (three men and one machine) was doubled for several weeks
- A Horizontal Directional Drill was used to install the cable duct under Muck Water. This allowed the work to take place without disrupting fish spawning season
- Over 1,600 bog mats were deployed on the flatter sections to help prevent ground degradation.

Timescales for Completion and Next Steps

The project, including remediation, was completed in 2020. As this was one of the first SP Transmission projects implemented under a Construction Site Licence it highlighted vital lessons learned for future development sites. These included delays in project timescales. Initially the Tralog project was due to commence in June but delays in the Section 37 Planning process resulted in a November start date, altering the anticipated ecological factors. In this case, fish spawning became a new factor to deal with, however the bird breeding season was avoided. PPPs therefore should have contingencies to take into account delays.

Sustainability Drivers

Land and Biodiversity Improvement and Water Efficiency and Protection
The development and implementation of Pollution Prevention Plans takes a proactive approach to safeguarding land, water and biodiversity on projects. We will enhance this approach in future by carrying out Natural Capital Assessments on our sites, carrying out options appraisals to increase the positive natural capital impacts delivered.

SDGs

This initiative supports the delivery of the following SDGs:

Environmental Management continued

Protection and Enhancement of Species and Habitats

Project Background

Construction work on our sites can create risks for site habitats and biodiversity. We carry out assessments on sites and implement mitigation measures – in compliance with legislation and beyond – to minimise this impact.

This involves significant engagement with national regulators and local stakeholders, including SEPA, Scottish Natural Heritage, Local Authorities, Land owners and species specialists. All contractors and site staff receive training on protected species and mitigation processes, and in many cases specialist contractors are employed to supervise the activities.

Current Status

In 2019/ 20 we implemented a number species/ habitat protection measures on an access track construction project at Glen Falloch (just north of Loch Lomond).

The site is in golden eagle territory. To minimise impact on the eagles, which are a schedule 1 protected species, we carried out surveys to identify nesting areas and flying routes to minimise the risk of potential disruption. As a result of this approach, we installed the access tracks between September and December 2019, in order to avoid eagle breeding season.

Adder eggshells were found along one of the access tracks during the pre-construction ecology surveys. To mitigate for reptiles, all four access tracks were subject to a two-stage strim. Removing the vegetation meant that there was no risk of reptiles being harmed when the stone was laid down.

The ecology surveys also identified ground water dependent terrestrial ecosystems (GWDTEs) along the access tracks. The tracks were micro-sited around these sensitive features where possible. Where contact was unavoidable, special mitigation, approved by Scottish Natural Heritage (SNH) was installed under the stone to allow water to flow underneath the road.

Timescales for Completion and Next Steps

This project was completed in 2019, however this evidence-based approach is applied to all projects. Moving forward we plan to pilot tools to carry our more detailed natural capital options appraisals on construction projects, including biodiversity, aiming for net positive gain across our sites.

Sustainability Drivers

Land and Biodiversity Improvement and Water Efficiency and Protection
Mitigation of environmental impact on habitat and biodiversity is a crucial part of project development and implementation. As outlined in the next steps we aim to enhance this through the implementation of a pilot project to carry out natural capital assessments, including biodiversity, in project development options appraisals.

SDGs

This initiative supports the delivery of the following SDGs:

Sustainable Resource Use

We are working to embed the principles of a circular economy and efficient use of resources in our business strategy and activities.

Our aim is that materials required for network construction and operation will come from sustainable sources. We are targeting the production of zero waste, with the components of all end-of-life assets being reused or recycled into new products. In line with this, we have set challenging business targets to divert 95% of our waste from landfill by 2023, to recycle or re-use 100% of waste by 2030, and to move to zero waste by 2050.

Innovation and partnership are vital in identifying solutions to ensure the sustainable use of resources. We work closely with Zero Waste Scotland and SEPA to develop initiatives to target our significant waste streams to keep resources in use for as long as possible, while ensuring quality standards and compliance with regulation.

We are a founding member of the Scottish Infrastructure Circular Economy Forum (SICEF), driving forward circular thinking and practice in Scotland.

Performance

- 51% reduction in Transmission Major Projects waste landfilled since 2013/14
- 12% reduction in Transmission Major Projects waste landfilled since 2018/19
- 59% of waste was recycled in 2019, an increase of 13% on the previous year

Process Initiatives

Sustainable Procurement

Project Background

Our process is driven by our over-arching Strategy for sustainable procurement, which includes Supply Chain Engagement, Life Cycle Analysis and Environmental Impacts.

We have continued to emphasise the importance of positive targeted supply chain engagement within our stakeholder engagement strategy and plans, recognising that an engaged and informed supply chain helps us to achieve our sustainability drivers.

Current Status

SP Transmission continued to consider the life cycle approach in our procurement activities for new equipment during the 2019-20 scheme year. The application of the life cycle approach enables us to smooth out the potentially higher initial capital costs of lower impact novel solutions by offsetting these costs against, for example, reduced running costs over the asset lifetime. We employ a materiality-based approach, focusing first on reducing the largest environmental impacts, such as SF_6 emissions, soil and stone waste and losses carbon footprint.

Network losses is an area where life cycle costing can make a positive impact. As part of our procurement process we undertake a cost benefit analysis during the procurement of new or replacement equipment to take account of what can be achieved with options such as the installation of low loss transformers. This information is considered when taking decisions on network development prompted by asset condition, customer connections etc. Although the cost of avoided losses alone is unlikely to justify the replacement or upgrading of a circuit or transformer, the consideration of the lifetime cost of network losses can be used as part of the equipment selection process. This has the added benefit of encouraging suppliers to innovate in producing lower loss technology at a lower cost.

The first contract specification to be redrafted in line with new sustainability commitments is our SPEN-wide Tower Painting contract for treatment and painting of steel lattice towers. As part of the new Tower Painting Framework we held a pre-tender meeting to discuss the new environmental requirements with our supply chain to ensure that suppliers were aware of the importance of these changes to our environmental strategy and changes to tenders and procurement documents.

In autumn 2019, we undertook a Supply Chain survey to gauge supply chain maturity in terms of sustainability and resource use. We also held a Transmission Supply Chain Event to inform our supply chain of our current and future plans. In February 2020 we created a Supply Chain Working Group to drive environmental and sustainability improvements in our Supply Chain.

Process Initiatives continued

Timescales for Completion and Next Steps

SP Transmission are now a partner of the Supply Chain Sustainability School. The Supply Chain Sustainability School works with our staff and supply chain to improve sustainability skills and knowledge. As part of enhanced sustainability requirements within our procurement process all our suppliers with be required to become members of Supply Chain Sustainability School (SCSS) and share evidence of the use of information and resources available to members with SP Transmission. Promotion of the SCSS will commence in 2020, aiming to be embedded in the Supply Chain by 2023.

SP Transmission is a key member of an Iberdrola Global Practice Group, with expertise from all Iberdrola companies working together to identify and deliver best practice approaches to enhancing supply chain sustainability. Standardised sustainability wording for procurement documentation resulting from this group will be approved in 2020.

As we progress to deliver out new Business Plan we will develop our relationships with suppliers to enable us to better understand our embodied carbon emissions and how we can target reductions. We will also look at further embedding circular economy principles in our procurement decisions. An additional area of impact will be opportunities to deliver sustainable society benefits through our supply chain.

Sustainability Drivers

All Sustainability Drivers

In 2013 the HM Treasury published the Infrastructure Carbon Review, which estimated that infrastructure directly accounts for 16% of the UK's carbon emissions. The review identified potential reductions in the infrastructure sector of approximately 24M tCO_2e per year, with an associated cost benefit of £1.46 billion per year. Given a significant amount of the carbon associated with our infrastructure falls within the remit of our Scope 3 emissions, it is imperative that we work in partnership with our supply chain to meet our sustainability goals. This will involve clear messaging on our direction of travel, enabling our supply chain to work with us to achieve improvement targets over time. This approach will bring about the innovation and step changes required to meet corporate and government Net Zero targets.

Working in partnership with our supply chain to deliver environmental, social and economic sustainability will benefit not only SP Transmission in achieving our goals but will also be of benefit to our supply chain, encouraging the innovation that will be necessary for them to deliver sustainability across their customer networks. As we look to embed social sustainability into procurement in the future this will create wider societal benefits.

SDGs

This initiative supports the delivery of the following SDGs:

Process Initiatives continued

Reuse of Plastics in Access Roads

Project Background

SP Transmission Major Projects carried out a pilot project, in partnership with plastic road specialists MacRebur, at Wishaw Substation to use recycled plastics in the construction of site access roads. Instead of using traditional materials to produce access roads within the substation, approximately 6–9% of the bitumen/ asphalt used for road construction was replaced with a polymer modified bitumen (PMB) produced using recycled single use plastic as opposed to virgin material. To the naked eye, the roads look the same as traditional versions but with far greater benefits for the environment. It's estimated that for every 100 square metres of road laid using waste plastic, the equivalent of over 435,000 single-use carrier bags or over 71,000 throwaway bottles are saved.* Experts also suggest that waste-plastic roads can be stronger, longer lasting and more flexible than standard asphalt. (**Stats taken from MacRebur*)

Offsetting our waste – Waste forecasts estimated that the Wishaw Substation project would produce two tonnes of plastic waste in a year. The installation of the roads using MacRebur products resulted in re-use of approximately two to three tonnes of waste plastic material, the equivalent of approximately two years of plastic waste produced at the site.

As well as offsetting the plastic waste collected on site, the project demonstrates the implementation of Circular Economy principles, reducing the use of primary raw materials, utilising resources that would otherwise have been deemed as waste.

Current Status

Work got underway at the end of 2019 and will be completed in sections over the next year. The new roads will be used to extend the site as well as for the reconfiguration of the existing layout.

Timescales for Completion and Next Steps

Plastic roads and kerbs are now approved for consideration in the specification for substations and will become part of the design review process.

Sustainability Drivers

Sustainable Resource Use

SP Transmission is committed to a Circular Economy approach to resource use, moving away from the traditional, make-use-dispose model. This is in line with the Scottish Governments Circular Economy Strategy – Making Things last (2016). This project is the first of its kind, utilising used plastics in the construction of substation access roads. This approach reduces the use of primary raw materials and keeps resources in use at a high resource value.

Offsetting of plastic waste:

- Wishaw site during 2019 generated 1.4T of ducting and cable protection material wastes (hard plastics).
- Domestic plastic waste generated within the site cabins (mainly soft plastics) is approximately 1.5Kg per week.

The estimated total amount of plastic waste generated at Wishaw substation is approximately 2 tonnes per year. This project therefore offsets carbon from site plastic waste for up to two years. Creating value from plastic waste through a sustainable method of reuse also keeps plastics out of the waste stream and reduces the associated potential environmental issues.

Carbon and Energy Reduction

The reuse of plastic not only reduces carbon associated with disposal, through energy derived fuel or landfill, but also reduces the carbon emissions from the manufacturing of road construction materials. Though this project is relatively small scale – repurposing 2 to 3 tonnes of waste plastic – it provides proof of concept and raises the profile of plastics in road construction, hopefully leading to further adoption by SP Transmission, other network operators and other sectors. MacRebur also claim roads with recycled polymers are longer lasting and more durable extending lifetime and reducing repairs, therefore reducing carbon emission and resource use over the road's lifetime.

SDGs

This initiative supports the delivery of the following SDGs:

Process Initiatives continued

Access Road Framework

Project Background

Achieving high recycling rates for aggregates from temporary access roads remains problematic for SP Transmission, as it does for the rest of the construction industry. This is due to recycling options being dependant on the proximity and timing of projects requiring aggregates, to projects producing waste aggregates, uncertainties on the part of the purchaser regarding quality of the material, and the classification of surplus aggregates as waste, limiting their reuse. Disposal also requires treatment via a regulated plant to a strict standard.

Under our materiality-based approach, aggregates are our top impact in terms of resource use, waste production and ultimately landfill. We continue to work on potential solutions with our contractors, other infrastructure operators, Zero Waste Scotland and the regulator, SEPA.

Current Status

During the scheme year 2019-20, we started developing a new Access Road Framework, which will enable temporary access roads to be delivered by a central framework contract (rather than project-by-project provision as previously), enabling far greater re-use of materials and delivering significant reductions in our largest waste stream.

We developed enhanced Pre-Qualification Questionnaires for our new Access Roads Framework, asking more detailed questions regarding environmental considerations. The aim of this exercise was to influence our suppliers to start to act to increase sustainability and to reduce environmental impacts.

In 2019-2020 we engaged with SEPA to seek their support and agreement to enable us to embed more sustainable practices in this framework and to minimise the volume of aggregates from our projects becoming waste and entering landfill. This entails us understanding and, where appropriate, influencing where the aggregate material is sourced, how it is used and stockpiled, the volumes available and expected demand. SP Transmission are working to implement circular economy principles by managing aggregate materials as a circular resource, such that they continue to be reused as long as the relevant quality standards are met. This requires SP Transmission to demonstrate to the regulator, SEPA, that the aggregate meets requirements for re-use and the environment is protected, and to engage with the supply chain to manage supply and demand. It is often easier and cheaper to simply dispose of this material to landfill, but we expect the effort currently being made to be rewarded with cost and resource savings in the long run (from reduced costs for supply of aggregates as well as avoided disposal costs).

Timescales for Completion and Next Steps

The initial approach to SEPA was made in early 2020, with further discussions and a draft submission completed in April 2020. The submission sought SEPA's agreement to circular use of aggregate material where the aggregate remains fit for purpose and the environment remains suitably protected. After further discussions, SEPA confirmed their agreement to the SPT reuse model in July 2020.

This will now be embedded in the Access Road Framework and practices will be introduced to increase aggregate reuse and maximise the amount of aggregate that avoids landfill. This is likely to be an iterative process where a number of steps and changes are completed to further improve the resource efficiency of this activity, supporting our targets of avoiding landfill for 95% of waste produced by 2023 and 100% landfill avoidance by 2030.

Sustainability Drivers

Carbon and Energy Reduction and Sustainable Resource Use

Creating a central framework contract will facilitate greater resource reuse through collaboration across projects. Our aim is to work in partnership with our supply chain to encourage innovation in circular economy practices and proactively deliver a suite of sustainable solutions to reduce carbon.
A central framework contract will make change easier than addressing through multiple individual contracts.

SDGs

This initiative supports the delivery of the following SDGs:

Sustainable Society

We aim to have a net positive impact on the environment and the communities in which we operate.

Externally, we do this by working in collaboration with national and local stakeholders to understand their needs and to maximise the positive social and economic impacts of our operations on communities including education, skills and employment.

Internally, at SP Transmission, people really matter, our plans for the future mean we need to retain and attract the best people to help realise our business vison. We have a wide range of programmes in place to develop skills and experience in energy sector careers. These include student sponsorship, graduate trainees, student summer placements and a returners programme.

We endeavour to treat everyone fairly and are committed to promoting a culture where individuality is celebrated. Being a diverse organisation goes beyond having legally compliant policies and practices; it includes a focus on creating an innovative, integrated organisation where people feel valued, inspiring them to perform at their best. We also value the difference our team can make in the community, through our volunteering programme.

Performance

- Stakeholder satisfaction is 8.4/10, well above our 7.4 benchmark
- £35m Innovation investment over 40 projects since 2013
- £20m committed to 33 projects through our 2 -year Green Economy Fund, delivering an estimated 2,100 tCO_2e reduction per annum
- 16.76 % gender pay gap for SP Transmission in 2019
- RELX SDG Customer Award 2020 – Outstanding contribution to advancing the Sustainable Development Goals
- Ranked in the FTSE 4Good Index as part of the Iberdrola Group
- Dow Jones Sustainability Index – only European electric utility included in all 20 editions
- Ethisphere - World's Most Ethical Companies 2020 – Iberdrola
- AENOR Healthy Company Certificate Iberdrola

Enabling Societal Sustainability

Green Economy Fund

Project Background

The Scottish Government's ambitious drive to a low carbon economy will ultimately require a transformation in all forms of transport and heating. This is dependent upon the key infrastructure that the energy network provides. In response, we pledged to voluntarily contribute £20m over a two-year period to support initiatives that will enable communities and businesses to develop their ideas and to fund the implementation of those ambitious projects that support Scotland's low carbon future, helping accelerate existing ideas and supporting projects that may not otherwise occur.

The fund supports a wide range of different activities that positively impact the SP Transmission network in direct or indirect ways, and all projects must demonstrate measurable social and environmental impact. Initiatives seeking funding are required to demonstrate that they have green credentials and are targeted at areas that may ordinarily struggle to access funding. Lessons learned from projects supported by the fund are shared with other communities to facilitate widespread benefit.

Current Status

Our two-year, Green Economy Fund (GEF) is currently supporting 33 diverse and innovative projects to deliver over 21,000 tonnes of annual tCO_2e savings, creating over 40 local jobs, and directly supporting over 2,300 customers. Within the last year, the £20m fund has been fully committed and is now closed for further applications.

Recognising the capacity-building aspects of the GEF, the sharing of experience and best practice between Round 1 and 2 projects was a key focus during the 2019-20 scheme year. In May and October 2019, SP Transmission held dedicated networking events to enable Round 1 and 2 projects to meet and share their experiences. In addition to these key events, the fund also held an Awards Ceremony to celebrate the successes of the GEF projects.

Enabling Societal Sustainability

Recognising the specific needs of community projects, SP Transmission has a dedicated project liaison team, provided by the Energy Saving Trust, who keep in regular contact with the projects to guide their development and enable robust governance and reporting. In addition, every project is also offered communications support from a professional PR agency.

Timescales for Completion and Next Steps

For RIIO-T2 we have proposed a £20m Net Zero Fund to support local communities to maximise the social, economic and environmental benefits of local energy solutions. We engaged widely with stakeholders, including the Scottish Government and consumer energy groups on this proposed fund and received an overwhelming amount of positive support.

Sustainability Drivers

Carbon and Energy Reduction and Sustainable Resource Use

The fund was established to build the infrastructure and the learnings needed to decarbonise heating and transport, essential in meeting ambitious Net Zero carbon targets. The projects themselves will produce significant carbon savings but perhaps, more importantly, will provide proof of concepts, which in years to come will be replicated to create the step changes required for the green recovery and transition.

A key challenge is the provision of low carbon, low cost energy to off-gas-grid communities in many of the rural areas we serve. Demonstration projects, implemented through this fund, included the development of battery storage and hydroelectric energy serving households in rural Dumfries and Galloway. A further innovation in rural Scotland aims to tackle barriers to electric vehicle use by generating and storing electricity for use in three new electric community transport vehicles.

Several bike hire schemes, including e-bikes were also supported. As well as cutting carbon by providing an alternative to car use, bike hire schemes support a circular economy approach to resource use with the sharing of resources, reducing the need for individual ownership and reducing the number of bikes purchased, therefore reducing the use of raw materials.

Sustainable Society

In a regulatory framework that means that (outside of the community liaison carried out around transmission investment projects) many interactions between SP Transmission and its end customers are either conducted via the Electricity System Operator or via SP Distribution as DNO, the Fund enables SP Transmission to reach communities directly.

The projects have a real impact on the social and economic wellbeing of communities, with strong links to the UN Sustainable Development Goals. Cycle hire schemes provide an economic method of travel, improving physical and mental health and wellbeing. Community electric vehicle transport provides affordable, accessible, sustainable travel, improving mobility and reducing isolation in rural communities. Increased provision of electric buses provides additional health benefits associated with reduced air pollution. Renewable and battery storage projects provide low carbon energy at lower cost, helping to tackle fuel poverty in off-gas-grid communities and increasing the financial sustainability of community hubs.

Project dissemination increases education, building knowledge and capacity in STEM subjects related to decarbonisation of energy.

Funding community projects also builds capacity and innovation, leading to low carbon job creation.

GEF also funded the development of six Local Area Energy Plans, a community led, grassroots approach to decarbonisation, facilitating a more local, self-sustaining approach to energy production and utilisation at source.

This multifaceted approach provides a way for SP Transmission to invest in the communities that we serve, making a real difference to the environment as well as delivering clear economic and social benefits.

SDGs

This initiative supports the delivery of the following SDGs:

Enabling Societal Sustainability

United Nations Sustainable Development Goal (SDGs) 17 – Partnerships for the Goals

Project Background

"A successful development agenda requires inclusive partnerships – at the global, regional, national and local levels – built upon principles and values, and upon a shared vision and shared goals placing people and the planet at the centre."
United Nations

SP Transmission recognizes that partnerships are crucial to the delivery of the SDGs, our Sustainability Goals and in reaching Net Zero carbon. As can be evidenced throughout this Annual Statement we work in partnership with stakeholders, customers, governments, industry, public sector, education, communities and the third sector in driving innovation and action on sustainability.

Current Status

The following examples further illustrate partnership developments in 2019/20.

Scottish Government Energy Networks Strategic Leadership Group. SP Energy Networks is a member of this group, chaired by energy minister Paul Wheelhouse, which first met in January 2020. The draft purpose of the group includes: discussing the ways in which the development of Scotland's energy networks can recognise and deliver Scottish energy and climate change policy objectives and the role of electricity and gas networks in delivering Scottish energy and economic policies, addressing fuel poverty, raising consumer awareness and engagement, and issues around electricity security of supply.

SP Energy Networks Sustainability Stakeholder Working Group (SSWG). We value partnership in shaping our strategies. The SSWG is populated by representatives from organisations with strategic interests in sustainability including: Scottish Environment Protection Agency (SEPA), Scottish Government, Scottish Natural Heritage, Scottish Wildlife Trust, Keep Scotland Beautiful, 2050 Climate Group, Sustainable Scotland Network and ScottishPower Corporate representatives. We engaged extensively with the SSWG during the scheme year for the review of the Sustainable Business Strategy, and development of our RIIO-T2 Environmental Action Plan and Business Plan chapter, to ensure that we identified the key current and future environmental issues associated with our business activities.

The Getting to Net Zero Working Group, formed in 2019 and led by the University of Edinburgh, is considering the progress of networks to date in addressing Net Zero and identifying immediate actions to remove barriers to progress. Our participation, as a founding member, alongside representatives from other networks and low carbon trade bodies, has led to our lead authorship of the group's first piece of research examining current and future developments across electricity, gas, heat and transport networks and the resulting innovative steps required to accelerate the low carbon transition.

SP Energy Networks is a founding member of the Scottish Infrastructure Circular Economy Forum (SICEF), convened by AECOM with representatives from airport operators, utilities including Scottish Water and Scottish Hydro Electric Transmission, and public-sector bodies including Transport Scotland and the Scottish Environment Protection Agency. The forum focuses on transformation from a 'take-make-waste' culture to a concerted drive to use fewer virgin materials and instead use materials that are recycled or from secondary sources. Scotland is one of the countries stepping up to a leadership role in the circular economy and SICEF believes a fully circular economy in Scotland can be achieved by 2030. One of the key focuses of the group in the reporting year was the development of the white paper "Scotland's Circular Economy Call to action for the Infrastructure Sector".

'Scotland's Race to Net Zero' Event in Glasgow. In November 2019 SP Energy Networks welcomed some of Scotland's top energy experts to our HQ for exciting conversations around where we need to focus our efforts to meet the Scottish Government's 2045 Net Zero target. Representatives from the Scottish Government, Ofgem, SCDI, Glasgow City Council and some of our Green Economy Fund Projects provided attendees invaluable insights and views on the priorities and what they are focused on in their own action plans to deliver against Net Zero. This timely debate was an opportunity for us to discuss infrastructure, regulation and policy in more detail while answering questions from a 200-strong audience. The debate explored a vast array of topics from the infrastructure needed to enable the accelerated uptake of low-carbon heating and EV's, to encouraging clean public transport and cycling.

SP Energy Networks held its first Community Awards at Scotstoun Stadium in Glasgow in May 2019, to celebrate community work carried out across central Scotland. We joined forces with Glasgow Warriors, to celebrate partnerships which have been making a difference to communities across the region. The Awards acknowledge the positive impact which the rugby club has made on encouraging girls in sport through our SP Energy Networks Warriors Championships for schools. Winners on the night were Kenny Bowie, Head of Planning, Design and Resources in SPEN Dumfries and Galloway District and President of Young Enterprise, who scooped the Community Advocate of the Year award for his voluntary involvement in community activities; Maggie's who won the Charity Partner of the Year Award for working together with SP Energy Networks to raise money for cancer services, while the Scottish Association of Young Farmers Clubs (SAYFC was announced as the Best Community Partnership Initiative for their work to encourage people to speak up on Mental Health issues through their 'Are ewe OKAY?' campaign with SP Energy Networks in the farming community.

Enabling Societal Sustainability continued

Timescales for Completion and Next Steps

SP Energy Networks along with the ScottishPower group of companies has signed up to the C-19 Business Pledge, highlighting its commitment and efforts to help customers, colleagues and communities through the COVID-19 crisis and into the recovery phase. Strategic partnerships will be key to ensuring a sustainable recovery.

Sustainability Drivers

All Sustainability Drivers
Our partnerships span all of our Sustainability drivers with a key focus on Carbon and Energy Reduction and Sustainable Society, driving Net Zero targets and the broader societal benefits many of the partnerships bring.

SDGs

This initiative supports the delivery of the following SDGs:

Promoting a Sustainable Workplace

Employee Networks

Project Background

Our Employee Networks are created and run by people with a drive and a real interest in bringing people and teams together – different backgrounds and experiences make us stronger. Supported by ScottishPower and led entirely by employees, the growing number of employee networks help build our business and help us to attract and retain diverse talent, developing an open and supportive workplace where we all can grow.

VIBE Voice of Inclusion & Balanced Ethnicity
Focused on ethnicity, VIBE is our newest Network – and with recent research indicating that ethnically diverse teams can out-perform by as much as 30%, having a diverse and balanced workforce at every level, including senior leadership, is a huge opportunity for the business.

Current Status

Unconscious Bias is a topic high on our agenda, it is automatic, ingrained, universal and has the ability to influence. One of the barriers to a more diverse and inclusive organisation is unconscious bias and within VIBE we wanted to ensure that unconscious bias does not exist within our organisation.
In December 2019 VIBE ran an unconscious bias workshop, focusing on the following areas:

- Highlight the nature of unconscious bias; how it works – including affinity and confirmation bias
- The impact within the work environment
- Explore strategies and tips or managing.

Timescales for Completion and Next Steps

Looking ahead, VIBE has ambitious plans for future activities, with events centred around the following topics:

- Multi-Cultural Awareness
- Equality
- Unconscious Bias
- Role Models
- Reverse Mentoring
- Celebration of the United Nations World Day for Cultural Diversity

Sustainability Drivers

Sustainable Society
Equality, diversity and Inclusion are core principals of an effective and sustainable society. VIBE and our other employee networks help us to deliver these principles, supporting United Nations Sustainable Development Goals 10 on Reduced Inequalities and 16 Peace, Justice and Strong Institutions – building effective and inclusive organisations.

SDGs

This initiative supports the delivery of the following SDGs:

VIBE
Voice of Inclusion & Balanced Ethnicity

Promoting a Sustainable Workplace continued

Supporting our Employees to a Better Balance

Project Background

Working in a more flexible and agile way can bring many benefits both to our employees and to the organisation.

We have created an innovative approach to working by introducing a range of newly designed working spaces at our Glasgow headquarters, focusing on a variety of ways to work. We're giving our people the autonomy to choose the right setting to work in, depending on the task being delivered. We're empowering our people to decide if this is within these new workspaces or outside the office – as long as business requirements are met.

Current Status

We have created better balance areas, with a range of workspaces, including flexible, technology rich workstations, informal breakout spaces and quiet working pods. The following principles support employees to choose work solutions suited to the task at hand and facilitate work balance.

Our Six Better Balance Principles

Timescales for Completion and Next Steps

During the COVID-19 lockdown the majority of SP Transmission employees based at Glasgow headquarters transitioned to working from home. As the country progresses on the route out of lockdown a better-balanced approach to working will be the new normal with a blended model of work settings. Lockdown expediated the adoption of remote working tools, such as web conferencing, which are now common place across the workforce, enhancing the Better Balance model.

Sustainability Drivers

Sustainable Society
Supporting employees to work in a more balanced, flexible manner can have significant benefits for employee welfare and productivity. Various studies show that enabling employees to balance work with lifestyle and family commitment reduces sick days, increases productivity and workplace retention. Creating collaborative spaces in the workplace also fosters stronger working relationships, encourages creativity and innovation.

Carbon and Energy Reduction
A more flexible approach to the workspace reduces the traditional workplace footprint which in turn reduces the energy demand in our buildings. Less reliance on traditional office working also reduces commuting and the associated carbon emissions.

SDGs

This initiative supports the delivery of the following SDGs:

Promoting a Sustainable Workplace continued

Community Volunteering

Project Background

Employees are at the heart of all of our fundraising activities. We have our own volunteering portal which highlights activities being delivered across the Iberdrola group, promotes local opportunities and helps employees to share their volunteering experiences.

We're very proud that our employees are using their skills, knowledge and energy to support local organisations, charities and community groups making a real impact towards the work they do and the lives they enhance.

Current Status

In the last year ScottishPower group employees raised over £70,000 for Cancer Research UK. They also raised more than £32,000 for charities of their choice, which was boosted by a donation of £8,000 from ScottishPower group through our Charity Chest programme. Our staff also gave a further £135,000 to charity through tax efficient payroll giving.

2019 International Volunteer Day – More than 2,200 volunteers took part in initiatives organised by Iberdrola group to mark its International Volunteer Day in the main countries where it carries out its activity: Spain, the UK, the USA, Mexico, Brazil and Portugal. This is a 22% increase on the previous year.

The company holds this event every year, with the slogan "Together we'll build the world we want!", raising awareness of the fight against climate change and the need to care for the environment. Volunteers also take part in inclusiveness projects with vulnerable groups and raise awareness of the importance of diversity. This year the event was dedicated to recycling and cleaning of waste. In the UK, ScottishPower employees got involved in cleaning activities to regenerate the natural environments of Cumbernauld and Bowling Harbour, both in Scotland.

Timescales for Completion and Next Steps

Our volunteering programmes are continuous. COVID-19 may result in a change of focus for our volunteers. We respond to areas where we can make the greatest impact. We have introduced an employee volunteering scheme that allows staff to get involved in local and national coronavirus support initiatives both during and outside normal working hours. This has resulted in SP Energy Networks' employees getting involved in sewing PPE and scrubs for frontline NHS staff across the country and apprentices volunteering with charities providing vital food delivery services.

Sustainability Drivers

All Sustainability Drivers
In 2019, a total of 7,489 volunteers from different countries took part in the Iberdrola programmes, in alignment with our Sustainability Drivers and the Sustainable Development Goals. Action delivered benefits for environmental, social and economic sustainability of the communities we serve.

SDGs

This initiative supports the delivery of the following SDGs:

Next Steps

Driving Decarbonisation

- Green Recovery – The ScottishPower group have created a 10-point plan to deliver jobs and investment for green recovery. The plan includes: supporting new jobs and apprentice opportunities for today's generation of young people; and ensures the right framework is in place to attract the investment in network infrastructure needed to meet Net Zero. We will also work in partnership to deliver a recovery in line with the Scottish Government "four capitals" approach which involves viewing the economy through four pillars of economic, natural, human and social capital.
- Project Pace – Installation of electric vehicle charging points across Scotland as part of the Electric Vehicle strategic partnership, increasing Scotland's charging capacity by 25%.
- Facilitate the potential for community energy projects to maximise the environmental benefit from non-operational land.
- Soft launch and testing of the online connection portal for renewable projects from 2020 "Empowering the Connections Customer" to make the connection process smoother and faster for customers.
- The use of Distributed Energy resources for Black Start restoration will be procured in 2020 and trialled in 2021.
- The first digital Substation at Windyhill will be commissioned in 2021. This will provide a model for replication reducing carbon and resource use in future substation developments.
- We will develop the GEMS active network management schemes and contracts, ready for commissioning in 2021.
- We will accelerate the implementation of load management schemes where they can offer earlier connection of renewables, tripling the total capacity of renewables connected via these schemes by 2021.

Mitigating Climate Change

- We will officially commit to setting a Science Based Target for carbon reduction and define our methodology methodology for tracking our progress.
- We will continue the process of measuring and reducing whole life carbon throughout our projects following the principles outlined in PAS2080 Carbon Management in Infrastructure.
- Play an active role in COP26, the United Nations Climate Conference, based in Glasgow in 2021.
- Drive digitalisation both as a vehicle for decarbonisation and a route to improving carbon reporting in partnership with our supply chain, via implementation of our 2019 Digitalisation Strategy and our corresponding working group.
- Decarbonise our car and van fleet by 2026 in line with our EV100 commitment.
- Implement carbon reduction measures at 48 substations by 2026.
- Collaborate industry-wide to drive the introduction of new SF_6 alternatives and share best practice to reduce leakage and avoid up to 9.7 tonnes of additional SF_6 by 2026.

Enhancing the Natural Environment

- Incorporate natural capital assessment in our business planning process. Initially this will be through targeted pilot projects.
- Work in partnership with key stakeholders to implement methodology to measure biodiversity and make relevant business decision to deliver biodiversity net gain and positive effects of biodiversity.
- Work in partnership with stakeholders to continue and enhance delivery of environmental excellence.

Sustainable Resource Use

- Embed Circular Economy principles to business and supply chain processes, encouraging innovative approaches to keeping resources in use as long as possible.
- Embed sustainability in business processes.
- Supply Chain – Launch the Sustainability Supply Chain School partnership to our supply chain and embed in procurement processes by 2023.

Sustainable Society

- We will continue to support projects funded by our Green Economy Fund to enable successful completion, reporting regularly on the benefits delivered and learnings identified.
- We will continue to identify opportunities and deliver activity in line with the UN Sustainable Development Goals.
- We will continue to support and develop our employees through delivering an open, supportive and diverse workplace. We will continue to develop employee networks, volunteering and better-balanced workplaces.

Stakeholder Engagement & Feedback

Stakeholder Engagement Strategy

We develop our Sustainability Stakeholder Engagement Plan in line with the SPEN Stakeholder Engagement Strategy and use the resulting stakeholder feedback to inform the development, review and implementation of our Sustainable Business Strategy. Our Stakeholder Engagement Strategy is a fundamental part of our business operations, ensuring that our strategic priorities and vision continue to be aligned with our stakeholders through a process of continuous proactive engagement.

Our strategy embeds, at its core, the four principles of the AA1000 stakeholder engagement standard – Inclusivity, Materiality, Responsiveness and Impact. These ensure we engage at all levels, with a specific focus on those who are hard to reach, determine the most relevant and significant issues for us and our stakeholders, act on the outcomes of our engagement – making the necessary changes to our business – and then measure the results.

Embedding these principles is important to our business, as good engagement with stakeholders helps us to improve impact, reduce inefficiencies, create greater socio-economic value and reduce risk. Most importantly, effective engagement leads to real, tangible action in our business and benefits for customers and stakeholders.

We are continually looking to make improvements to this process and have built on the strength of our Stakeholder Engagement management system – Tractivity – This provides us with one central source for our engagement planning and delivery, a single location where we can see the extent of our engagement across all topics, regions and stakeholders.

We have improved our engagement planning process to now include Engagement Planning Workshops, held at the beginning of the year for each of our strategic topics, led by Senior Manager. These workshops are to discuss the approach and priorities for the year ahead and plans to conduct high quality engagement events.

Sustainability Engagement

Our key engagement route on policy level sustainability issues is with our Sustainability Stakeholder Working Group, comprising key organisations with interests in sustainability issues at a policy level.

Examples of sustainability engagement activities during 2019/20 include:

- Quarterly Sustainability Stakeholder Working Group meetings
- Workshops with key sustainability stakeholder organisations, the Scottish Environment Protection Agency (SEPA) and Scottish Natural Heritage (SNH)
- Annual SP Transmission Supplier Conference
- Annual SP Transmission Supplier Survey
- Quarterly Supplier Newsletters
- Quarterly Connections Stakeholder Newsletters
- Contractor Health, Safety, Environment and Quality Forum
- Annual Transmission Connections Summit
- RIIO-T2 Stakeholder Consultations and Events
- Green Economy Fund Awards, Networking Event and Race to Net Zero Panel
- Project-based engagement with developers and communities
- Engagement via our Online Stakeholder Community

All SP Transmission Engagement outcomes are summarised in our report, Making a Difference: Highlights of our activities and outcomes following stakeholder engagement available **here**.

Engagement on this Statement

Each year, we provide a draft of this statement to a wide range of stakeholders for their comment before we finalise it.

Once again, stakeholder feedback has been overwhelmingly positive. Stakeholders liked that it was very comprehensive and gave a clear view of us as a company, our strategy and vision and included an interesting range of case studies that related well to our sustainability drivers and the UN Sustainable Development Goals.

Feedback implemented in this statement:

A number of minor clarifications were made throughout the Statement. More substantive changes made from Stakeholder feedback were:

- More information on our Green Recovery plans. This was added into the Next Steps section
- The majority of comments were regarding the natural environment and therefore the introduction to this section was significantly expanded
- Further explanation was provided on our Business Carbon Footprint
- Provided greater detail around Circular Economy Partnerships under Sustainable Resource Use
- Added information on Local Area Energy Plans and community energy.

We welcome feedback on the content of this report and hope that it provides you with useful information on our activities. If you have questions or need more information about this report or our sustainability activities, please contact us at sustainable@spenergynetworks.co.uk.

Further Information

If you would like further information on SP Energy Networks please visit our website: spenergynetworks.co.uk

Our Sustainable Business Strategy:
www.spenergynetworks.co.uk/SustBusStrat

All annual reports, including our Transmission Annual Report:
www.spenergynetworks.co.uk/pages/stakeholder_reports.aspx

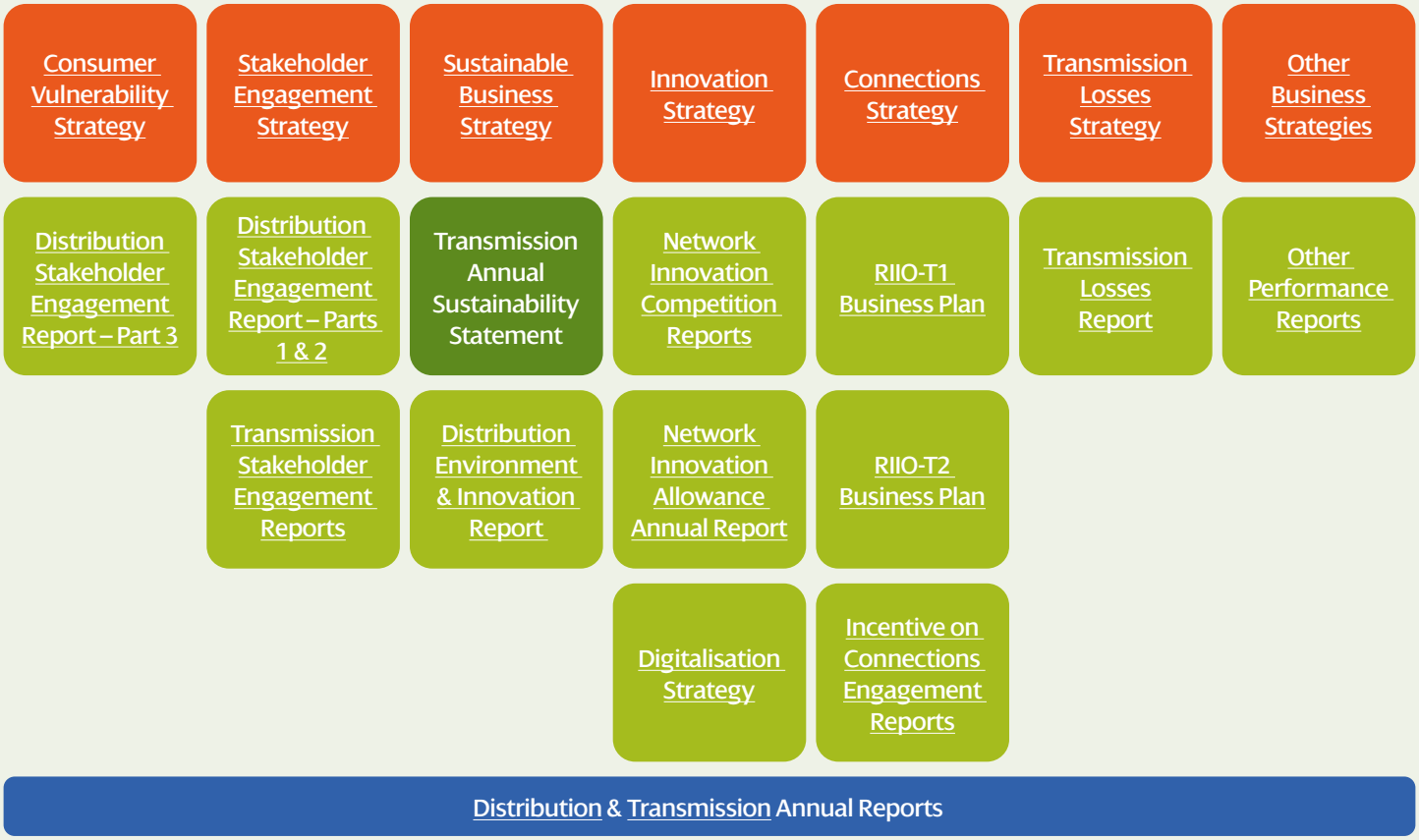
Our Green Economy Fund:
spenergynetworks.co.uk/pages/green_economy_fund.aspx

Information on our RIIO-T2 Business Plan:
www.spenergynetworks.co.uk/pages/riio_2.aspx

If you would like to be informed of forthcoming engagement opportunities, please register as a stakeholder:
www.spenergynetworks.co.uk/pages/register_as_a_stakeholder.aspx

Other Sources of Information

The document forms part of a suite of interrelated strategies and stakeholder facing performance reports. These are mapped below with links to their locations:



List of Acronyms

BCF	Business Carbon Footprint
BIM	Building Information Modelling
CO_2	Carbon dioxide
COP26	26th UN Climate Change Conference of the Parties
COVID-19	Coronavirus disease 2019
DER	Distributed Energy Resources
DNO	Distribution Network Operator
EDR	Environmental Discretionary Reward
ELAS	Executive Level Annual Statement
EMS	Environmental Management System
ESO	Electricity System Operator
EV	Electric Vehicle
FES	Future Energy Scenarios
FITNESS	Future Intelligent Transmission Network Substation
GB	Great Britain
GEF	Green Economy Fund
GEMS	Generation Export Management Scheme
GHG	Greenhouse Gas
GW	Gigawatt
GWDTEs	Ground water dependent terrestrial ecosystems
H-SC	Hybrid-Synchronous Compensator
ISO	International Organisation for Standardisation
IT	Information Technology
kV	Kilovolt
MW	Megawatt
MWh	Megawatt hour
NGESO	National Grid Electricity System Operator
NGET	National Grid Transmission
NIC	Network Innovation Competition
Ofgem	The Office of Gas and Electricity Markets
PAS2080	PAS 2080:2016 Carbon Management in Infrastructure (Publicly Available Specification)
PPE	Personal Protective Equipment
PPP	Pollution Prevention Plan
RIIO	Revenue = Incentives + Innovation + Outputs (regulatory framework)
RIIO-T1	Revenue = Incentives + Innovation + Outputs (regulatory framework for period 1: 2013-2021)
RIIO-T2	Revenue = Incentives + Innovation + Outputs (regulatory framework for period 2: 2021-2026)
SBT	Science-Based Target
SCSS	Supply Chain Sustainability School
SDGs	Sustainable Development Goals
SEPA	Scottish Environmental Protection Agency
SF_6	Sulphur Hexafluoride gas
SHET	Scottish Hydro Electric Transmission
SICEF	Scottish Infrastructure Circular Economy Forum
SOF	System Operability Framework
SNH	Scottish Natural Heritage
SPEN	ScottishPower Energy Networks
SPT	SP Transmission
SSEN	Scottish & Southern Electricity Networks
SSWG	Sustainability Stakeholder Working Group
STEM	Science, Technology, Engineering and Maths
T1	Transmission regulatory period 1 2013-2021 see RIIO-T1
T2	Transmission regulatory period 2 2021-2026 see RIIO-T2
tCO_2e	tonnes of Carbon Dioxide equivalent
TECA	Transmission Economic Connections Assessment
TO	Transmission Operator
UN	United Nations

Appendix – Initiatives Sustainability Drivers

	Initiative	Carbon and Energy Reduction	Climate Change Resilience	Sustainable Society	Land and Biodiversity Improvement	Water Efficiency and Protection	Sustainable Resource Use
Driving Decarbonisation	Generation Export Management Scheme	✓		✓			✓
	Empowering the Connections Customer	✓		✓			
	Project Phoenix	✓		✓	✓		✓
	Project Distributed ReStart	✓					
	Digital Substations Initiative	✓		✓	✓		✓
	Electric Vehicle Strategic Partnership	✓		✓	✓		
	Maximising Env Benefit from Non-Operational Land	✓		✓	✓		
Mitigating Climate Change	Carbon Management on Projects	✓					✓
	Reducing Energy in Transmission Substations	✓					
	SF_6	✓					
	Decarbonisation of the Vehicle Fleet	✓					
Enhancing the Natural Environment	Training and Awareness	✓	✓	✓	✓	✓	✓
	Pollution Prevention				✓	✓	
	Protection of Species and Habitats				✓	✓	
Sustainable Resource Use	Sustainable Procurement	✓	✓	✓	✓	✓	✓
	Reuse of Plastics in Access Roads	✓					✓
	Access Road Framework	✓					✓
Sustainable Society	Green Economy Fund	✓		✓			✓
	SDG 17 Partnerships for the Goals	✓	✓	✓	✓	✓	✓
	Employee Networks			✓			
	Supporting our Employees to a Better Balance	✓		✓			
	Community Volunteering	✓	✓	✓	✓	✓	✓

SP ENERGY NETWORKS

spenergynetworks.co.uk