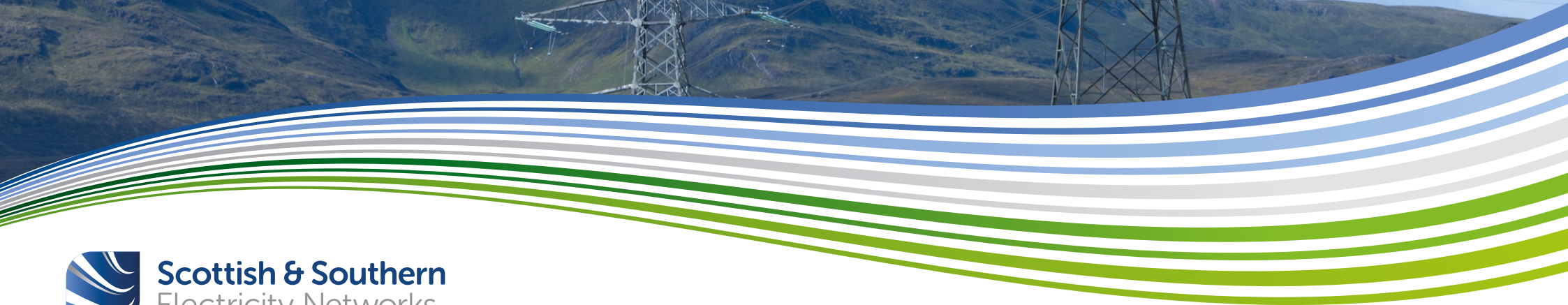


# Sustainability Report

April 2020 - March 2021



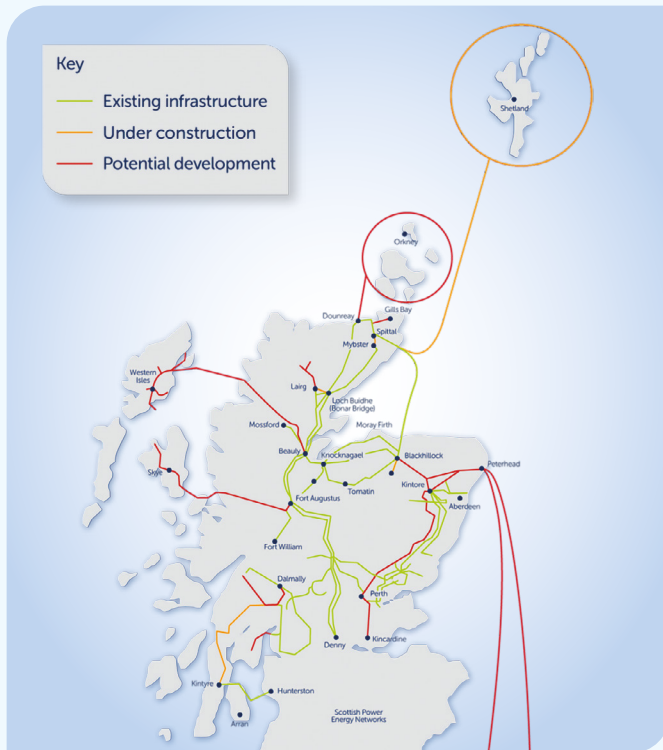
**Scottish & Southern**  
Electricity Networks

TRANSMISSION

# About SSEN Transmission

We are Scottish Hydro Electric Transmission (SSEN Transmission), part of the SSE Group, responsible for the electricity transmission network in the north of Scotland. We operate under the name of Scottish and Southern Electricity Networks, together with our sister companies, Scottish Hydro Electric Power Distribution (SHEPD) and Southern Electric Power Distribution (SEPD). As the Transmission Owner (TO) we maintain and invest in the high voltage 132kV, 275kV and 400kV electricity transmission network in the north of Scotland.

Our network consists of underground cables, overhead lines on wooden poles and steel towers, and electricity substations, extending over a quarter of the UK's land mass crossing some of its most challenging terrain. We take electricity from generators and transport it at high voltages over long distances through our transmission network for distribution to homes and businesses in villages and towns. Our strategic objective is to enable the transition to the low-carbon economy.



## About this report

This Sustainability Report is an Executive Level Annual Statement on our submission to the Environmental Discretionary Reward (EDR) scheme under the RIIO-T1 price control. It also provides an update on progress against our Sustainability Strategy.

The EDR provides a financial and reputational incentive for GB electricity transmission owners, encouraging high standards of environmental management as well as facilitating the transition to low-carbon energy systems. As this report comes at the end of the RIIO-T1 regulatory period, its scope will provide an overall perspective of the trends across this period in addition to the performance data for the financial year reporting period from 1 April 2020 to 31 March 2021. Future initiatives and activities are also described in the RIIO-T2 section in each update under the 'Next' heading. This report has been reviewed by stakeholders prior to publications, stakeholder feedback and changes as a result, are set out on page 34.

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# Our Sustainability strategy

## Strategic Objective

Enabling the transition to a low carbon economy



Trusting partners of customers and communities, realising long-term benefit for society, economy and environment.

Since 2010, our strategic objective has been to enable the transition to a low carbon economy. In 2019, we updated our strategic to include four strategic themes, to focus on how we deliver our objective. Leadership in Sustainability is a critical aspect of this, our Sustainability Ambitions focus on how we achieve this in six bold ambitions.

Since 2017 we have continued to engage with stakeholders about what a sustainable business would look like<sup>1</sup>. The insight provided by our stakeholders, along with our own experience and research, highlighted that we should:

- Expand our ambitions beyond standalone decarbonisation aims; and
- Ensure that our activities are mindful of other social, economic and environmental issues.

Based on that consultation, we published our stakeholder-led Sustainability Strategy in May 2018. This sets out six ambitions to deliver an overarching sustainability ambition to enable a smart, sustainable energy future. These ambitions are broad and bold.

We aligned our strategy with the UN Sustainable Development Goals (SDGs) which provide a common framework for targeting improvements in sustainability. When developing our Sustainability Strategy, we undertook an assessment of which SDGs we could make the most contribution to. We then incorporated them into our sustainability ambitions.

When developing our RIIO-T2 Business Plan we engaged with stakeholders to develop our RIIO-T2 Sustainability Action Plan.



## What's next for our sustainability strategy?















**Delivering our ambition:** We're getting on with delivering the actions within our RIIO-T2 Sustainability Action Plan (see page 9).

**Looking beyond RIIO-T2:** we're working with 3Keel - the renowned sustainability advisors - on ways to continue our best practice sustainability strategy. With our sister company SSEN Distribution, we're also participating in the Sustainability First 'Sustainability Principles Project' which aims to develop, test and embed a robust set of practical sustainability principles which economic decision-makers in essential services can readily adopt and apply. Over the next year, we propose to continue engage with our stakeholders on our Sustainability Strategy, aiming to ensure that it continues to be fit for purpose for our Net Zero ambitions

<sup>1</sup>Read our Sustainability Strategy and Action Plan at: [www.ssen-transmission.co.uk/sustainability-and-environment/sustainability-strategy/](http://www.ssen-transmission.co.uk/sustainability-and-environment/sustainability-strategy/)



# 2020/21 Year in Focus

<p><b>Connecting for society</b></p> 	<p>277MW of renewable generation connected to our network</p> <p>Progressing Shetland HVDC link</p> <p>Advocating for policy changes in offshore connections and TNUoS</p>	
<p><b>Tackling climate change</b></p> 	<p>Science Based Target accreditation to a 1.5°C pathway</p> <p>Reduction in overall emissions</p> <p>Signed up to Business Ambition for 1.5°C Campaign</p> <p>World's largest installation to date of g3 SF<sub>6</sub> free gas</p>	 <p>SCIENCE BASED TARGETS</p> <p>DRIVING AMBITIOUS CORPORATE CLIMATE ACTION</p> <p>BUSINESS AMBITION FOR 1.5°C   OUR ONLY FUTURE</p>
<p><b>Promoting the natural environment</b></p> 	<p><b>Biodiversity Net Gain targets recognised by stakeholders and Ofgem</b></p> <p><b>ISO 14001 certification achieved</b></p> <p>Implementing our BNG toolkit and enhancing Alyth and Rothienorman site's biodiversity by 92% and 60% respectively</p>	
<p><b>Optimising resources</b></p> 	<p>Waste reporting system established</p> <p>Working with our supply chain including six projects surveyed in embodied carbon study</p>	
<p><b>Supporting communities</b></p> 	<p>Over 90 virtual consultation events organised in COVID-19 pandemic</p> <p>£370m contributed to Scottish economy</p> <p>115 local council supported during COVID-19 through resilience fund</p>	
<p><b>Growing careers</b></p> 	<p>Living Hours accreditation achieved</p> <p>STEM Returners programme pilot completed</p> <p>Increasing our workforce by 31% and looking after our employees during COVID-19</p>	

## Enabling the transition to a low carbon economy throughout the pandemic

The COVID-19 pandemic has highlighted the critical importance of electricity network reliability to society, with the people and organisations whose work is crucial to the COVID-19 response more dependent than ever on a safe and reliable supply of electricity. Throughout the pandemic we have implemented robust measures to protect our core operations, including operational depots, construction sites and control rooms, through testing, segregating key personnel and adapting our health and safety measures. We remain committed to keeping our customers, communities and colleagues safe and informed, in accordance with government guidelines. Looking ahead, as part of the SSE Group, we outlined policy proposals in our 'Greenprint' in June 2020, for building a cleaner more resilient economy out of the COVID-19 pandemic. You can read more about our employee response to COVID-19 on page 30.

# Executive summary



**Rob McDonald**  
Managing Director,  
SSEN Transmission

As we work to deliver a network for net zero, we're committed to operating in a just, sustainable way which creates benefit and wealth for the communities, stakeholders and customers we serve. I am therefore delighted to share our annual Sustainability Report for SSEN Transmission which measures our sustainability performance and progress in implementing our stakeholder-led Sustainability Strategy.

This report is being published at what feels like a pivotal point in history as the UK prepares to host COP26, of which we are proud to be a principal sponsor through the SSE Group. Alongside this, society continues to support green recovery from the COVID-19 pandemic and, with urgency, enable the transition towards a low carbon economy to realise the UK's legally binding net zero emissions target. As a Transmission Owner (TO) this year also marks a pivotal point for SSEN Transmission too, marking the end of the last price control RIIO-T1 and the beginning of the next, RIIO-T2.

You may have read the IPCC's recent [report](#) into climate science, which definitively concludes that time is running out to tackle the impact of global warming and protect our natural environment. Throughout RIIO-T1 we have played a pivotal role in helping to decarbonise the energy sector by investing in the wires and cables that are needed to support greater, low carbon societal electrification. Looking back on our Journey to Net zero we have:

- More than doubled the amount of renewable generation connected to our network from 3.4GW to 6.7GW displacing an estimated 38 million tonnes of CO<sub>2</sub>e from generation connected to our network
- Achieved leadership status in Ofgem's Environmental

Discretionary Reward scheme for the last three years

- Become the world's first electricity networks company to receive Science Based target Initiative accreditation for our carbon reduction targets which are in line with a 1.5°C global warming pathway
- Developed an industry-leading and award-winning Biodiversity Net Gain approach to improve the environmental impact of our projects
- Worked with our local communities including £429,286 contributed from the community resilience fund

**But we can and will do more.** Tackling climate change by achieving net zero will require systemic shifts to take place at record speed.

Our 2020/21 Year in Focus highlights that we've continued to connect and safely export the renewable energy needed to support a low carbon economy, on time and on budget. **But our contribution to enabling this societal change goes much further than this.** As a stakeholder-led business, we continue to advocate for our customers in the policy landscape to help deliver net zero at the pace and scale required. This is demonstrated through our engagement and analysis on the impact of Transmission charging and advocating for a more coordinated approach to connect offshore wind to meet government 2030 and net zero targets.

We're also working hard to reduce our own operational carbon footprint as we deliver a network for net zero. This year, as part of our Science Based Target, we're proud to report a reduction in our overall emissions across our business, **and we aim to go even further than this.** As our network grows to deliver net zero, the transparency of reducing our own greenhouse gas emissions is becoming even more important. We've therefore been working closely with our supply chain to reduce their emissions and embodied carbon too. One of our key focus areas is the development and use of alternatives to harmful SF<sub>6</sub> gas in our

operations, in which we've delivered projects which are the first of their kind in GB and internationally this year.

**Our environmental commitments don't stop there.** This year we've begun implementing our RIIO-T2 initiatives to protect and enhance the natural environment of our sites, targeting a net gain by 2025. At Alyth we've enhanced the site's biodiversity by 92%, using our award-winning Biodiversity Net Gain toolkit, creating a pond system and enhancing existing environmental features. The consumer value of our approach to reducing our own emissions and enhancing the natural environment have been recognised and rewarded by Ofgem through the RIIO-T2 consumer value proposition, demonstrating our **industry leading approach.**

We couldn't have delivered our achievements this year without the support of local communities and our most valuable asset, our people. In light of COVID-19 we, alongside our sister company SSEN-Distribution, re-purposed our community resilience to provide support to over 115 North of Scotland communities. For our people we've provided support to help our colleagues' health and well-being in this challenging time. **But we've been doing more.** We've increased our SSEN Transmission team by 31%, continuing to create green jobs to aid the economic recovery from COVID-19, whilst creating opportunities to grow meaningful careers for our existing employees.

Looking to the future, RIIO-T2 will see us play a key role in delivering a network for net zero by connecting renewables, connecting the Shetland HVDC link to the GB electricity network, and reinforcing and upgrading the existing transmission network whilst delivering our Sustainability Action Plan.

I am very proud of what we have achieved over RIIO-T1 and 2020/21 and look forward to continuing to grow an even more sustainable and just network for net zero during RIIO-T2 and beyond.

# The environment in which we operate: looking back on RIIO-T1

Since 2013 (the beginning of the RIIO-T1 price control), the world has undergone dramatic changes. In this time, sustainability has moved from the fringes into the mainstream of all walks of life and business. The signing of the Paris Agreement in 2015 was a breakthrough moment in humanity's fight against climate change which, combined with Net Zero being enshrined into law in the UK and Scotland in 2019, has set a clear direction of travel.

Our industry has seen one of the greatest transformations<sup>2</sup>. We've delivered infrastructure to connect renewables at an increasingly faster rate, powering the transition to a net zero society<sup>3</sup>. We strongly believe that the GB transmission network has a crucial role to play in this transition and we are committed to doing so. A just transition to net zero presents an opportunity for a green and resilient economic recovery, in which no one is left behind.

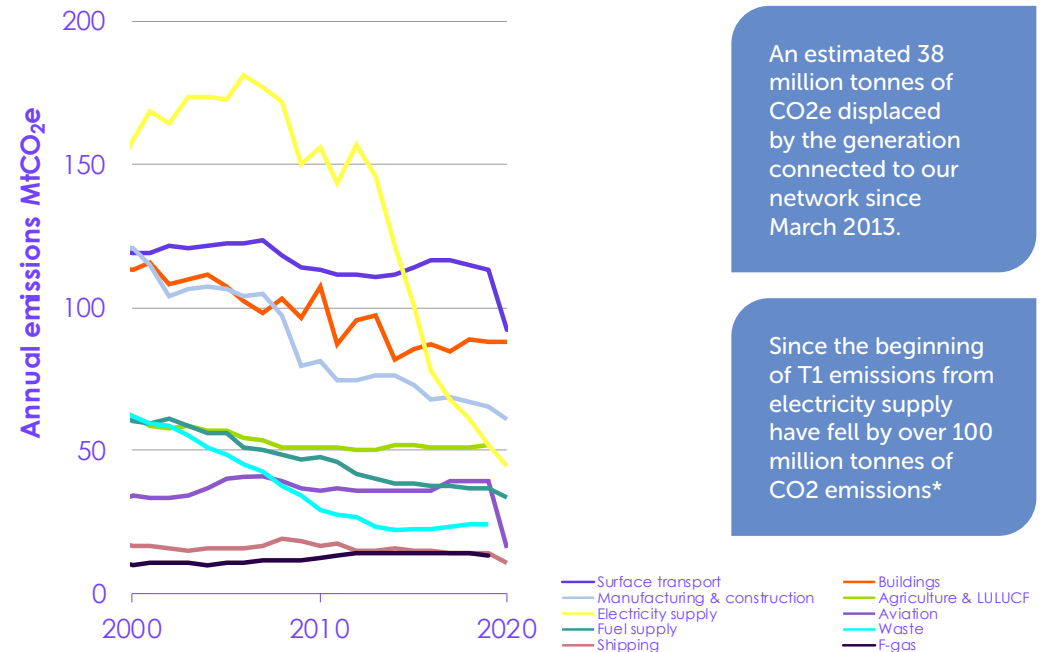
Our [journey to net zero](#) highlights how the number of renewables connected to our network has doubled due to the key infrastructure investments made during RIIO-T1, such as the Caithness-Moray and Beaulieu-Denny projects. In this period, we have also created our stakeholder-led sustainability strategy and been recognised by Ofgem as leaders in sustainability amongst our industry peers for three years running.

The UK electricity sector's emissions fell by over 100 MtCO<sub>2</sub>e from 2013 to 2020 . With 2020 being the greenest year on record for GB energy.



## GB 2020 Highlights from National Grid ESO

- 18 December: highest ever level of wind power (17.2 GW)
- 26 August: highest ever share of wind power (59.9%)
- 30 May: highest ever share of solar power (34%)
- 24 May: lowest ever carbon intensity (46 gCO<sub>2</sub>/kWh)
- May: greenest month on record (143 gCO<sub>2</sub>/kWh)
- 20 April: highest ever level of solar power (9.7 GW)
- 10 April to 16 June: longest ever GB coal-free period
- 2020 total coal-free hours: 5, 147 hours



An estimated 38 million tonnes of CO<sub>2</sub>e displaced by the generation connected to our network since March 2013.

Since the beginning of T1 emissions from electricity supply have fell by over 100 million tonnes of CO<sub>2</sub> emissions\*

<sup>2</sup>Full report at: <https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/>

<sup>3</sup>Full report at: <https://www.nationalgrid.com/stories/journey-to-net-zero-stories/2020-greenest-year-record-britain>

# The environment in which we operate: 2021, the year of COP26 Glasgow

This year, the UK will host the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow. COP 26 aims for countries to work together, moving from ambition to action: *"COP26 needs to be decisive. Whether future generations look back at this time with admiration or despair, depends entirely on our ability to seize this moment."* Alok Sharma, COP President Designate<sup>4</sup>. SSE is proud to be a Principal Partner of COP26.

Late 2020 saw a significant number of energy and climate policy announcements in both the UK and Ireland.

- In November, the UK Prime Minister published his Ten Point Plan for a Green Industrial Revolution setting out plans to quadruple the UK's offshore wind capacity and deliver 5GW of hydrogen production capacity by 2030.
- In December the Energy White Paper set the direction of travel for UK energy policy, and subsequently, the publication of the Climate Change Committee's Sixth Carbon Budget analysis.

Recently in August 2021, the IPCC (Intergovernmental Panel on Climate Change) published their [sixth assessment report](#) which highlighted the urgency of achieving net zero and stated it is "unequivocal" that human-caused GHG emissions have led to *"an increased frequency and/or intensity of some weather and climate extremes since pre-industrial times"*<sup>5</sup>



In September 2020, China joined a growing number of countries in adopting a midcentury net zero goal, and Joe Biden's electoral victory ensured that the United States rejoined the Paris Agreement. Alongside committing to a Plan for Clean Energy Revolution and Environmental Justice aiming for a 100% clean energy economy and reaching net zero no later than 2050. There have also been significant policy developments in the European Union, including the pathway to climate neutrality by 2050.

As a Principal Partner for COP26, SSE Group has introduced a range of new initiatives for everyone at SSE to get involved in the road to COP26 in Glasgow including how we can all play a role in supporting the net zero.

**Keeping up to date:** Delivering interactive sessions from leaders regarding COP26 with a combined audience of around 6,500 employees.

**Pledging to power change:** Working with Do Nation, part of Count Us In, to launch the 'Pledge to Power Change'. The Pledge provides a platform for employees to commit to and record changes in their own behaviour. Our aim is that at least one in four employees make a climate pledge.

**Creating Climate Captains:** More than 40 Climate Captains across the organisation are leading the Pledge to Power Change Campaign.

**Establishing the SSE Climate Academy:** The Climate Academy is being established by Action Sustainability to raise awareness, knowledge and understanding around climate-related issues. A series of virtual training workshops and seminars will be open to all employees and cover a range of topics which relate to climate change.

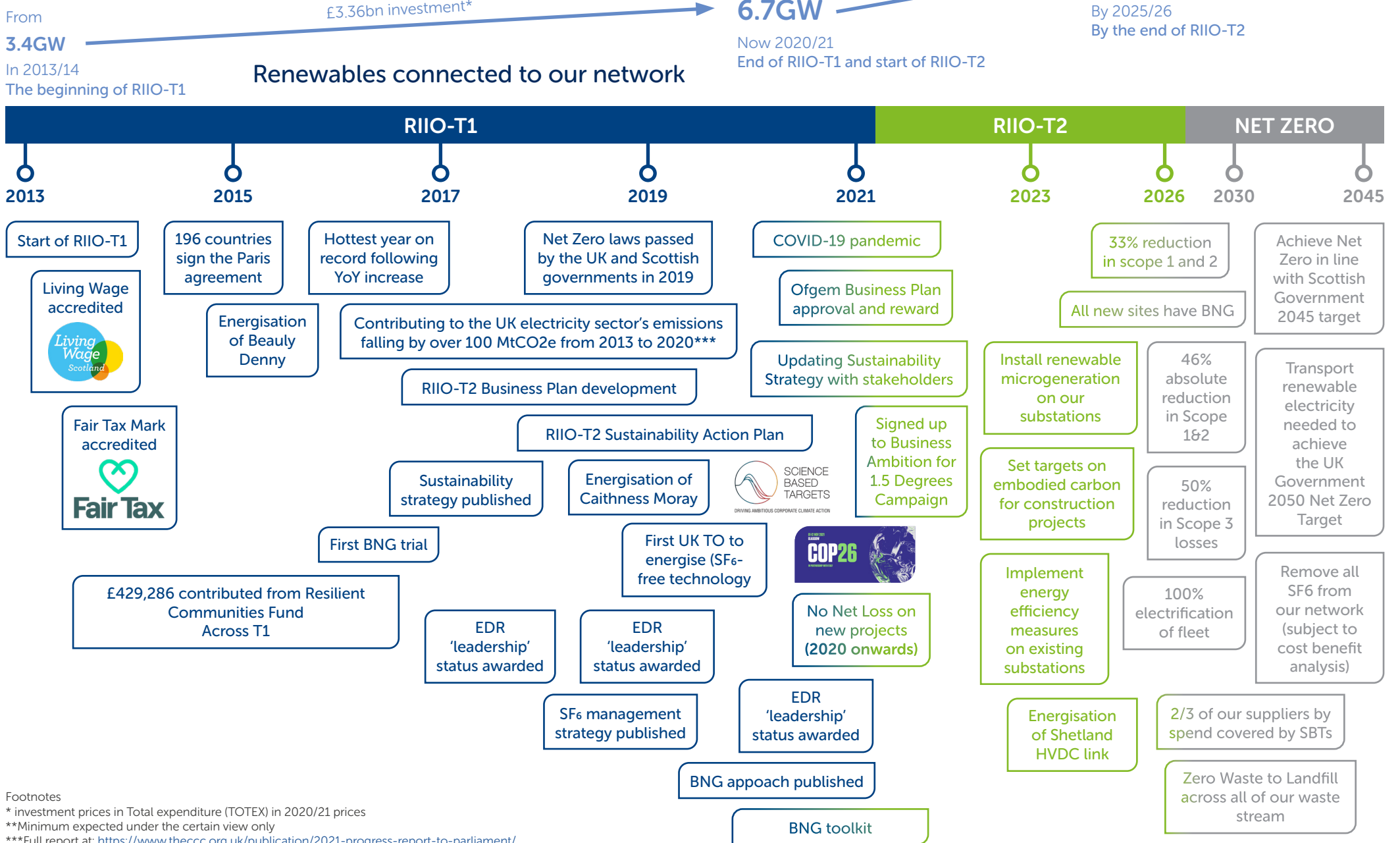
**Updating existing practices:** We're updating practices such as our volunteering programme and employee benefits including a low-emission car scheme and reviewing the green credentials of SSE's pensions provisions.

**Supporting activities during the two weeks of COP26:** A number of employees will be volunteering during COP26 and plans are in place to bring activities to SSE's larger sites ensuring everyone in SSE feels involved and inspired by the activities taking place in Glasgow.

<sup>4</sup><https://2nsbq1gn1rl23zol93eyrcj-wpengine.netdna-ssl.com/wp-content/uploads/2021/07/COP26-Explained.pdf>

<sup>5</sup><https://www.ipcc.ch/report/ar6/wg1/>

# SSEN Transmission Net Zero Journey



Footnotes  
 \* investment prices in Total expenditure (TOTEX) in 2020/21 prices  
 \*\*Minimum expected under the certain view only  
 \*\*\*Full report at: <https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/>



# Looking ahead: RIIO-T2: A Network for Net Zero

As we look ahead to the RIIO-T2 period, we are more committed than ever to build on the progress we have already made to deliver the changes needed to enable the transition to net zero. Our RIIO-T2 Business Plan, A Network for Net Zero, covers the period from April 2021 to March 2026.

It's clear that the UK Government's Net zero ambitions can only be realised if there is sufficient investment in the transmission network to connect renewable energy sources and transport the energy to homes and businesses. Our RIIO-T2 total expenditure (TOTEX) provides a significant investment programme of over £2 billion creating jobs and aiding the UK's Green Recovery under the Certain view.

Our Business Plan was developed over an 18-month period by working closely with a broad range of stakeholders, to ensure delivery of a responsible and sustainable business plan. This included our Sustainability Action Plan which sets out our detailed forward plan, including timebound actions and outputs, to implement stretching sustainability outcomes. Headline outcomes are detailed below for each of our sustainability ambitions:

-  **Transport the renewable electricity that powers 10 million homes**
-  **One third reduction in our greenhouse gas emissions consistent with the Net Zero pathway**
-  **Delivery biodiversity No Net Loss outcomes leading to Net Gain in 20125**
-  **Achieving Zero Waste to Landfill across our waste streams**
-  **Using local supply chains and meeting the needs of vulnerable customers**
-  **Expanding our inclusion and diversity programme**

**What does a Network for Net Zero mean?**






We aligned our business strategy to the Committee on Climate Change recommendations and the UK and Scottish legally binding targets to reach Net Zero emissions. Net Zero means balancing the amount of greenhouse gas added and the amount removed from the atmosphere until it balances to zero.

Our Network for Net Zero does this by advocating for and connecting low carbon energy and transporting it onto homes and businesses. Whilst minimising our own impact on the environment, communities and consumer bills. Our success will be measured using our Five Clear Goals.

**Ofgem recognises value to consumers from our Sustainability Action Plan**

We were awarded the highest Business Plan Incentive (BPI) in the industry, with a £21.8 million reward including acknowledgement of the additional consumer value in our greenhouse gas emissions reduction and biodiversity targets. If we do not deliver on our RIIO-T2 targets, Ofgem can take back the reward. This holds us to account to ensure delivery of the actions we've developed and set out with stakeholders.

**Five years. Five clear goals**

-  **Transport the renewable electricity that powers 10 million homes**  
Build electricity network flexibility and infrastructure that can accommodate 10GW renewable generation in the north of Scotland by 2026.
-  **100% network reliability for homes and businesses**  
Make cost-effective investment in new technology to achieve 100% transmission system reliability for homes and businesses by 2026.
-  **Every connection delivered on time**  
Provide every network connection, tailored to meet our customers' needs, on time and on budget.
-  **One third reduction in our greenhouse gas emissions**  
Reduce the Scope 1 and 2 greenhouse gas emissions from our operations by 33% by 2026, consistent with 1.5 degree climate science pathway.
-  **£100 million in efficiency savings from innovation**  
Through targeted new technology and ways of working, achieve £100 million customer benefits by 2026.

**Delivered for around £7 a year**

# Connecting for Society

**What's the ambition?** Connecting and transporting renewables for society has a central role to transitioning the economy to net-zero.

## SEEN Transmission's role

The north of Scotland is a net exporter of renewable energy. In 2019/20, the volume of electricity generated in our network area was around three-times the amount consumed, meaning we export two thirds of the generation connected to our network to GB Consumers in the rest of the UK. Transporting safe and reliable renewable energy through our network also enables other sectors to transition to net zero, like manufacturing and transport through Electric Vehicles (EVs). Through our North of Scotland Future Energy Scenarios, we currently predict that by 2050, the North of Scotland will have nearly 200-times more EVs than today (circa. 700,000).

As part of RIIO-T2, we have committed to deliver tailored solutions and services for all our customers, which are optimal for both the customer and the wider GB energy consumer, with a clear goal of connecting customers on time and on budget, tailored to customers' needs.

## 2020/21 in Focus

This year, we've seen a record number of connection applications. At the same time as this increased workload, we are focusing on improvements to our customer experience, providing more information, and tailoring services for customer groups like offshore wind. This section covers key projects from this year that demonstrate how, by collaborating with stakeholders<sup>6</sup>, our network and services are adapting to connect increasing levels of renewables and transition to net zero.

An estimated

**4.1 million tonnes of CO2e displaced**

by renewable electricity generation connected to our network in 2020/21

An estimated

**38 million tonnes of CO2e displaced**

by the generation connected to our networks since March 2013

**277MW**

of renewable energy capacity connected to our network in 2020/21

The volume of

**electricity generated was around three-times the amount consumed**

in our network area in 2019/20

**104 connection offers made**

in 2020/2021

## Section Summary

- Summary of sections:
- Planning for net zero: North of Scotland Future Energy Scenarios
- Advocating to remove barriers to net-zero
  - Transmission charging
  - ScotWind offshore connections
  - Connecting Shetland to GB
  - Network Rail study
- Improving the connections customer experience

<sup>6</sup>Our forward stakeholder engagement plan is available at: <https://www.ssen-transmission.co.uk/media/5519/draft-annual-engagement-plan-21-22-final.pdf>



## Planning for net zero: North of Scotland Future Energy Scenarios

### SSEN Transmission's role

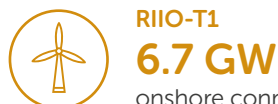
**Introduction:** Scenarios are an important business planning tool that present alternative views of the future. They help with modelling how changes in the energy landscape will impact the transmission network by using a range of future generation and demand scenarios and accommodate future uncertainty within development plans.

#### 2020/21 in focus

This year, following stakeholder engagement, we published an update to our North of Scotland Future Energy Scenarios. For the first time this extended out to 2050 to focus on reducing net zero emissions.

Of the three scenarios explored, two would lead us on the pathway to net zero: the Green Economy and the Green Society. Each scenario sees the continued growth of the North of Scotland Transmission system, evidencing our critical role in the low carbon transition.

**Next:** This year we've been assessing the North of Scotland electricity sector's contribution to Net Zero using these scenarios and the UK Climate Change Committee Sixth Carbon Budget<sup>7</sup>. We're aiming to share the outcome later this year.



**RIIO-T1**  
**6.7 GW**

onshore connected / offshore wind



**RIIO-T2**  
**11.2 GW**

10GW of renewables connected in line with our T2 Plan



**2030**  
**20 GW**

NoS FES – Green Society scenario



**2050**  
**35.6 GW**

NoS FES – Green Society scenario

6.7 GW to  
**33-35 GW**  
of renewable energy capacity.

By 2050, the north of Scotland will need 33-35GW of clean, green renewable capacity to support net zero delivery. For context, 6.7GW of renewable generation is currently connected in the north of Scotland.

**71% increase**  
in electricity demand (across NoS)

**2019>2050**

Based on 2019 figures, electricity demand is expected to increase up to 71% by 2050 as electrification of transport and heat grows to support net zero targets

Find out more at: [www.ssen-transmission.co.uk/media/5280/north-of-scotland-future-energy-scenarios-summary-report-2021.pdf](http://www.ssen-transmission.co.uk/media/5280/north-of-scotland-future-energy-scenarios-summary-report-2021.pdf)

Scenarios	Key details in new scenarios
 <b>The Green Economy</b>	Scottish consumers and businesses are supportive of achieving net zero carbon emissions, increasing their use of renewables and engaging with the energy sector at local levels. The focus is on achieving net zero through two main routes; capital investment in renewable generation projects and decarbonising heat through the increasing use of hydrogen and electrified heating.
 <b>The Green Society</b>	Scottish consumers and businesses engage directly with the energy industry by investing in micro-generation and renewable heating technologies, allowing them to contribute to achieving net zero carbon emissions. The focus is on achieving net zero through the electrification of heat and investment in both large-scale and community renewable projects.
 <b>The Decelerated Transition</b>	Scottish consumers and businesses are less inclined to engage with the energy industry so fewer invest in micro-generation but local planning policy encourages uptake in renewable heating technologies. There is low uptake in domestic and community-based generation whilst increases are seen in large-scale renewables. Decarbonisation is a secondary consideration for Scottish consumers and businesses, with the 2050 net zero target not being achieved.

<sup>7</sup>Further information available at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>



# Advocating to remove barriers for new renewables

**Introduction:** Stakeholders have told us that high, volatile and unpredictable Transmission Network Use of System (TNUoS)<sup>8</sup> charges are acting as a barrier and effecting the sustainability of renewable energy projects.

## 2020/21 in focus

We acted on this feedback and published our Transmission Charges paper. This details findings of our analysis and backs the calls from our stakeholders, that reform is required for TNUoS; identifying generation charges are significantly higher in the north of Scotland than elsewhere in GB with generators in more remote areas paying more to transmit power onto the system. Charges for a single generator can swing dramatically from year to year, which is near impossible to predict. This volatility and unpredictability is not unique to Scotland but experienced by all generators across GB. Such timing and sizing uncertainty for generation developments also creates huge uncertainty for us, as a TO, in terms of efficient system planning, as we work to connect the renewable energy needed to support greater electrification in society and deliver a network for net zero. The north of Scotland has a critical role in delivering the renewable energy required for the timely delivery of net zero, and, as we noted above, consumers outwith our network area rely on our network to export renewable energy. Yet, our analysis shows us that transmission charging does not facilitate this and, in fact, hinders its progress.

**Next:** Our paper, backed by Scottish Renewables and independently verified by Baringa, suggests that there's a clear case for reform. We will continue to work with stakeholders to advocate for the removal of barriers for new renewable generation. We're also publishing an offshore wind addendum to focus on offshore specific barriers.

**93%**

of participants agreed that some form of change to the current TNUoS methodology is required to support Scotland and the UK's net zero targets.



While a wind farm in the north of Scotland pays **£5.50** per unit of energy, an equivalent wind farm in Wales **will get paid £2.80** per unit.

**Find out more at:** [www.ssen-transmission.co.uk/media/5261/ssen-transmission-tnuos-paper-february-2021.pdf](http://www.ssen-transmission.co.uk/media/5261/ssen-transmission-tnuos-paper-february-2021.pdf)

Generators across GB can see their **charges swing from +770% and -2090%** from one year to the next.

<sup>8</sup>TNUoS charges, managed the ESO and regulated by Ofgem, recover the cost of installing and maintaining the transmission system in England, Wales, Scotland and Offshore. Further information can be found at: <https://www.nationalgrideso.com/industry-information/charging/transmission-network-use-system-tnuos-charges>





## ScotWind offshore connections

**Introduction:** To reach net zero the government has set ambitious targets to connect 40GW of offshore wind in GB by 2030, including 11GW in Scotland (an increase from 1GW today). More seabed will become available for offshore wind development at the end of this year from Crown Estate Scotland, through a process known as the 'ScotWind' leasing round. Our NoS FES indicates 10.5GW of offshore wind will be seeking to connect to our network by the mid-2030s<sup>9</sup>. At the same time, BEIS has also launched the Offshore Transmission Network Review which recognises that in order to meet government targets, a new, more coordinated, approach is required to network design, planning, development, and delivery.

### 2020/21 in focus

This year we've seen a huge increase in offshore wind applications. This level of new generation wishing to connect will require significant investment into new infrastructure to facilitate it. In prudently discharging our role as a licensed Transmission Owner, we must ensure we balance this necessary reinforcement of the network to connect our customers to meet Net Zero and government targets at the same time as minimising the impact to local communities, the environment and costs to consumers. This year we've been engaging with offshore wind developers looking to connect on our network and wider industry participants to understand the barriers to connecting offshore wind. This included setting up a stakeholder group 'ScotWind roundtable'. Key stakeholders including ESO, SPEN, Scottish Government, Crown Estate Scotland and Marine Scotland<sup>10</sup>. From this engagement it became clear that uncertainty of connection dates and costs was a key barrier. To overcome this barrier we, alongside the other licensed GB TOs and the ESO, proposed a new 'Central Design Group' to undertake a holistic network design. This design includes onshore and offshore network requirements enabling a whole system approach to connecting offshore wind by 2030, ensuring connections are co-ordinated and developed in an efficient manner.

**Next:** We will continue to work with stakeholders including the ScotWind and offshore wind developers to deliver offshore wind targets. We will continue working with the Central Design Group to produce a holistic network design, to be published next year. And continue advocating for TNUoS reform. We will continue to engage with stakeholders, such as Marine Scotland and Crown Estate Scotland, as we explore biodiversity opportunities for marine projects, as outlined in our RIIO-T2 Business Plan.

## Network rail electrification feasibility study

**Introduction:** We've worked with Network Rail to consider the impact of rail electrification plans on our network.

### 2020/21 in focus

Following a large-scale feasibility study and initial workshops, Network Rail has commissioned us to carry out further studies investigating potential challenges involved in connecting Network Rail substations to our network. Early engagement with Network Rail throughout this process has resulted in viable connection points being proposed. Allowing feedback to be considered and incorporated at each stage.

**Next:** We will continue engagement with stakeholders including Network Rail in our network area to address common challenges.

<sup>9</sup>See NoS FES Green Society: <https://www.ssen-transmission.co.uk/media/5280/north-of-scotland-future-energy-scenarios-summary-report-2021.pdf>

<sup>10</sup>You can read more about our ScotWind stakeholder engagement at: [https://www.ssen-transmission.co.uk/stakeholder-annual-engagement-plan/ page 7](https://www.ssen-transmission.co.uk/stakeholder-annual-engagement-plan/page 7)



## Connecting Shetland to GB

**Introduction:** Growing a network to meet the scale of change needed for net zero will require ambitious infrastructure investment programmes. We have recently commenced work on our Shetland HVDC project, which will see the installation of a new 600MW HVDC sub-sea link, transporting electricity from our renewable customers<sup>11</sup> on Shetland and connecting into the existing Caithness-Moray onshore infrastructure<sup>12</sup> exporting the renewable power generated to GB consumers in the south. Construction has begun and the project remains on track for completion in 2024.

### 2020/21 in focus

Ofgem approved our proposed Shetland HVDC transmission link which could see over £650m spent to connect further renewable generation and secure Shetland's electricity supply.

As the 600MW capacity of the Shetland HVDC is lower than the capacity of generation looking to connect on the island. A queue-based Active Network Management (ANM) scheme will allow connection offers to be made to customers despite the limitations of the link capacity.

**Next:** By 2024, for the first time, Shetland will be connected to the GB electricity network, generating significant social value through access to a reliable and increasingly renewable supply of electricity including through a ANM scheme.

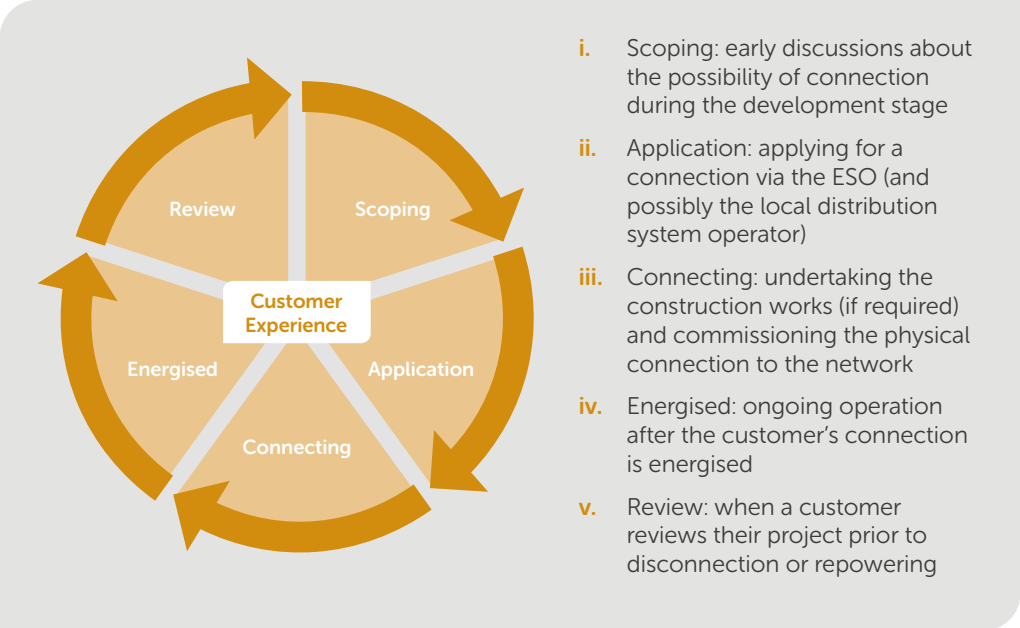


<sup>11</sup>Including Viking Energy Wind Farm (457MW), Peel Energy (122MW) and Energy Isles (120MW).

<sup>12</sup>Further information on our Caithness-Moray link project can be found at: <https://www.ssen-transmission.co.uk/news-views/articles/2019/1/completion-of-caithness-moray-transmission-link/>



# Improving the connections customer experience



## Quality of connections survey

**Introduction:** We've been working towards implementing a new Quality of Connections survey that allows us to measure and track our performance throughout the customer experience. This is a new financial incentive under RIIO-T2, where we are either rewarded or penalised, based on our performance.

Our performance is based on feedback from our customers. This will help us to identify areas requiring improvement and where we're performing well. The GB TOs have common milestones and trigger points to issue customer surveys. These common milestones relate to key stages during a connection customer's project(s). Working collaboratively with Ofgem, National Grid ESO and other TOs, this project, which is a first for our business, will allow us to drive process improvement and a better connections experience for our customers.

## Customer Experience Dashboards

**2020/21 in focus**

Our Customer Experience Team has created dashboards helping us to monitor the number and type of connections we're receiving and allowing us to proactively identify areas for improvement.

**Next:** We're continuing to monitor customer feedback across the services we provide. With monthly review sessions with teams responsible for key customer activities aligned to the Quality of Connections milestones, ensuring we identify and address key challenges early to facilitate increasingly efficient connections to our network.

## Customer Connections Process Improvements

**2020/21 in focus**

This year we've introduced improvements to our internal processes for connection requests 'the Customer Connections Process'. The Connections Process has been broken down into three interdependent parts that focus on developing the most technically and financially efficient method of connection for each of customer: accurate technical reporting; financially accurate commercial reporting and; on time delivery connection proposals meeting customer expectations. By creating dedicated processes to Technical Solution and Commercial viability, we can gather inputs from subject matter across our business, mitigating concerns as early. This new customer process represents a step change to manage customer applications more efficiently, ensuring the best possible solutions for each customer.

**Next:** Following the introduction of this new process we're now able to measure performance across all three processes and use this performance data to continually improve, adapt, and enhance the process as necessary.



# Tackling Climate Change

**What's the ambition?** Managing Resources over the whole asset lifecycle to reduce our greenhouse gas emissions in line with climate science and become a climate resilient business.

## SSEN Transmission's role

As shown by events around the world in 2020/21, climate change is already affecting communities, ecosystems and livelihoods around the world. The international scientific community, including this year's IPCC report, presents consistent and compelling evidence of anthropogenic climate change and the consequential far-reaching changes for the global environment.

While decarbonisation has been rapid and profound in the electricity sector, more remains to be done. We have a key role to play in enabling the transition to net zero including reducing our own and supply chain's GHG emissions to tackle climate change.

### 2020/21 in focus

This year, we've continued to focus on reducing our own emissions. From having our carbon reductions accredited by the Science Based Target Initiative, publicly signing up to the Business Ambition for 1.5 degrees pledge and tackling one of our highest emissions areas by energising a world first installation of SF<sub>6</sub>-alternative gas in one of our substations.

### Section Summary

- Setting a Science Based Target and pathway to Net Zero
- Business Ambition for 1.5 degrees
- Innovating with our supply chain partners to find alternatives to SF<sub>6</sub>
- SSE shareholders back Climate Change Plans
- Assurance of our Greenhouse Gas (GHG) reporting

World's first electricity network to have  
**have accreditation of our Science Based Target**  
Target in alignment with a 1.5 °C warming pathway

Ambitious SBT targets  
**recognised by Ofgem**  
via CVP reward

5% reduction for Scope 1 and Scope 2 GHG emissions and  
**7% across all scopes**

**>61% of our suppliers**  
by spend have set or committed to set an SBT

**Over 68 sites**  
surveyed in 2020/21 for energy efficiency measures

**12.87tCO<sub>2</sub>e displaced**  
per year as a result of SF<sub>6</sub> free technology at Kintore substation

**World's largest installation to date of g3 SF<sub>6</sub> free gas**  
on our New Deer substation

**First GB SF<sub>6</sub>-free Siemens Clean Air Power Voltage Transformers in GB**  
at our Glen Kyllachy substation

We are the first GB network licensee to  
**achieve independent assurance**  
of our greenhouse gas emission reporting to international standards

Achieved a Total Business Carbon Footprint (BCF) reduction of  
**31% over RIIO-T1**





## Setting a Science Based Target and pathway to Net Zero

**Introduction:** A Science Based Target is recognised as a credible and ambitious target aligned with the 1.5 degrees scenario required to avoid the worst impacts of climate change. Our SBT comprises several targets covering GHG emissions across scopes 1,2 and 3.

### 2020/21 in focus

We received official verification of our targets by the Science Based Target Initiative (SBTi), making us the **world's first electricity networks company to receive external accreditation for a science-based target in line with a 1.5°C global warming pathway.** In the last reporting year, over 61% of our suppliers by spend have set, or committed to set an SBT.

## Business Ambition for 1.5 degrees

**Introduction:** The Business Ambition for 1.5 degrees encourages targets across all relevant scopes, putting us on a pathway that leads to net zero value chain emissions by 2050.

### 2020/21 in focus

In February 2021, we publicly signed up to the Business Ambition for 1.5 Degrees Campaign. Already having had our science-based target validated by the SBTi, we were able to sign up to the initiative under the strongest ambition in the short to medium term.

**"Our company commits to set science-based emissions reduction targets across all relevant scopes, in line with 1.5°C emissions scenarios. This option ensures the strongest ambition in the short to medium term and enables companies to align with trajectories that lead to net-zero value chain emissions by 2050".**

SBT Commitment	Actions	Target Date
<b>Reduce absolute Scope 1 and 2</b> GHG emissions 46% from a 2018 base year	Make substations more energy efficient, replace operational vehicle fleet with EVs and tackling SF6 (building on our commitment to reduce emissions by one third for RIIO-T2)	2030 (FY29/30)
<b>Reduce Scope 3</b> Transmission Losses GHG emissions 50% per gCO2e from losses/kWh from a 2018 base year,	Implementing a Transmission losses strategy and connecting more renewable electricity	2030 (FY29/30)
<b>Reduce indirect emissions</b> so that two thirds (67%) of our suppliers by spend will have a SBTs	Working closely with our supply chain to set SBTs.	2025

**Next:** We've committed to carrying out the above actions, reporting<sup>13</sup> on our annual progress. We continue to work closely with our supply chain to understand and reduce the impact of indirect emissions, making good progress to meet our target so that two thirds (67%) of our suppliers by spend will have a science-based target by 2025. We'll review the targets in 2025 according to the latest scientific evidence.



SCIENCE  
BASED  
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



<sup>13</sup>In line with SBTi requirements



## Innovating with our supply chain partners to find alternatives to SF<sub>6</sub>

### What is SF<sub>6</sub>?

SF<sub>6</sub> is a greenhouse gas and has been used extensively across the electrical industry as an insulating gas for switchgear in substations. If leaked the gas is extremely harmful to the environment. It's one of our Scope 1 emission areas. Using alternative technology to SF<sub>6</sub> supports our ambitions to meet our 1.5 degrees science-based target and the transition to net zero emissions.

### 2020/21 in focus

We've continued to work with suppliers to use innovative, and less harmful gas insulated equipment by installing SF<sub>6</sub> alternatives across our network. Since the installing the first SF<sub>6</sub> gas free circuit breakers at Dunbeath 132 kV substation in 2019, we've energised two further substations with SF<sub>6</sub> alternatives.

**Next:** We've established a partnership with GE Renewable Energy's Grid Solutions Business (with backing from the EU's LIFE Programme) to install Green Gas for Grid (g3) switchgear at Kintore 400kV substation, which will be the first time globally that SF<sub>6</sub>-free gas insulated switchgear will be used at this voltage level, displacing 12,868.7kg of CO<sub>2</sub>e per year. We have been working with the Energy Networks Association to encourage adoption of alternatives to SF<sub>6</sub> in the wider industry.

**GB and world first innovations:** Working with GE and Amey on the New Deer project in Aberdeenshire, we energised our first g3 gas-insulated substation. This is the world's largest installation to date of g3 SF<sub>6</sub> free gas. Also, the new Glen Kyllachy substation near Tomatin in the Scottish Highlands is home to the first SF<sub>6</sub>-free Siemens Clean Air Power Voltage Transformers in GB.

## SSE shareholders back Climate Change Plans

**Introduction:** The principle of shareholder accountability on low carbon transition plans is becoming increasingly important.

### 2020/21 in focus

A growing number of institutional investors are also making the case for annual votes on company climate strategies and SSE has worked with the Institutional Investors Group on Climate Change (IIGCC) on wording for the resolution that would be supported by them and their members.

**Next:** This represents a significant step in the SSE Group's Just Transition strategy which will involve SSE's shareholders (including SSEN Transmission as an SSE Business Unit) in its climate change plans.



## Assurance of our Greenhouse Gas (GHG) reporting

In 2020/21 for the first time<sup>14</sup>, we've had our Scope 1, 2 and Scope 3 transmission losses emissions, using the market-based methodology, independently assured by Price Waterhouse Coopers LLP (PwC). This year we've decreased by 5% against our 2018/19 baseline year for Scope 1 and Scope 2 GHG emissions. Overall, we are making good progress in decarbonizing our business, **with an overall reduction of 7% across all scopes:**

- **Scope 1:** To support network growth, Scope 1 emissions have increased, through the addition of SF<sub>6</sub> assets (see page 18 on using SF<sub>6</sub> alternatives).
- **Scope 2:** We have made good progress in reducing our Scope 2 emissions, through the purchase of renewable electricity and the overall decarbonisation of the GB grid.
- **Scope 3:** a 7% reduction in our Scope 3 emissions, due to reductions in transmission losses, contractors' emissions and business travel (a reduction we aim to continue post pandemic through our flexible first approach).

**The carbon intensity of transmission losses** is dependent on the amount of renewable electricity generated on our network. This year, we've achieved a 6% reduction compared to our baseline. With the expected growth of renewables connected to our network, we expect to achieve a significant reduction in the intensity of transmission losses through RIIO T2 and beyond.

	2018/19	2019/20	2020/21
<b>Scope 3 transmission losses intensity (gCO<sub>2</sub>e/kWh)</b>	2.473	1.899	2.324 <sup>(A) (15)</sup>

**Next:** We will continue to assure our GHG emissions every financial year going forward and are looking to assure our SBT baseline year in the future. Building on this process, we will enhance our understanding and management of our direct and indirect emissions.

<sup>14</sup>In previous years, this has been done as part of the SSE Group GHG assurance.

<sup>15</sup>This data was subject to external independent assurance by PwC in 2021. For the GHG criteria and limited assurance opinion see <https://www.ssen-transmission.co.uk/sustainability-and-environment/sustainability-strategy/>

Category	2018/19	2019/20	2020/21	tCO <sub>2</sub> e difference from 2018/2019	% difference from 2018/2019
<b>Scope 1 Emissions</b>	<b>tCO<sub>2</sub>e</b>	<b>tCO<sub>2</sub>e</b>	<b>tCO<sub>2</sub>e</b>		
Operational Vehicles & Plant (diesel)	568	520	402	-166	-29%
Mobile Plant - Gas Oil	100	69	20	-80	-80%
Fugitive Emissions (SF <sub>6</sub> ) - Transmission	1,925	3,120	2,947	1,022	53%
Gas consumption - non-operational buildings	14	9	8	-6	-45%
<b>Total</b>	<b>2,607</b>	<b>3,717</b>	<b>3,376(A)</b>	<b>770</b>	<b>30%</b>
<b>Scope 2 market based Emissions</b>					
Office Buildings Electricity Use	190	157	0	190	-100%
Substations Electricity Use	5,961	5,321	4,904	-1,057	-18%
<b>Total</b>	<b>6,151</b>	<b>5,478</b>	<b>4,904(A)</b>	<b>-1,247</b>	<b>-20%</b>
<b>Scope 3 Emissions</b>					
Losses (transmission)	43,477	38,197	42,235(A)	-1,242	-3%
Contractors emissions	9,637	6,280	7,697	-2,566	-20%
Business Travel	671	756	220	-451	-67%
<b>Total</b>	<b>53,785</b>	<b>45,233</b>	<b>49,526</b>	<b>-3,663</b>	<b>-7%</b>
<b>Total BCF</b>	<b>62,542</b>	<b>54,428</b>	<b>58,432</b>	<b>-4,110</b>	<b>-7%</b>
<b>Total Scope 1 and 2 emissions</b>	<b>8,758</b>	<b>9,195</b>	<b>8,280(A)</b>	<b>-447</b>	<b>-5%</b>



# Promoting the natural environment

**What's the ambition?** Delivering biodiversity net-gain and driving environmental stewardship best practice.

## SSEN Transmission's role

The risks associated with the decline of nature are now well understood. The annual World Economic Forum's Global Risk Report, published in January 2021, identified both biodiversity loss and human environmental damage as high risk to human society for both their likelihood and potential impact. We have a key role to play in ensuring the transition to net zero protects the natural environment and where possible, promotes and enhances our natural environment.

### 2020/21 in focus

Our stakeholders have been clear that biodiversity enhancement across our portfolio must be a core ambition of our future plans and that we should do more to consider visual amenity as we develop new projects. This continues to be our focus.



Total length of transmission electricity overhead line in protected areas

**c. 5000km**

(15% of total length)



**IEMA Sustainability Impact Award 2020**  
on Biodiversity and Environmental Net Gain

**Highly Commended**  
at the RSPB Nature of Scotland Awards

**Ambitious BNG targets recognised by Ofgem**  
via Consumer Value Proposition reward

**ISO 14001 certified**

**60% gain**  
in biodiversity at Rothienorman substation site

Implementing our BNG toolkit and enhancing Alyth site's biodiversity  
**by 92%**

### Section Summary

- Embedding and delivering on Biodiversity Net Gain
- Protecting visual amenity
- Accreditation of our Environmental Management System





# Embedding and delivering Biodiversity Net Gain

## What is Biodiversity?

“Biological diversity’ means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.”

The International Union for the Conservation of Nature (IUCN) and the Convention on Biological Diversity (CBD)

**Introduction:** Net gain is an approach to development that aims to leave the natural environment around a site in a measurably better state than before we started work. In doing this, we have built up our understanding of the complex ecological and environmental challenges when developing, delivering, and maintaining infrastructure.

## 2020/21 in focus

We’ve invested our own efforts to implement methodologies and practices that define and promote ‘Biodiversity Net Gain’ (BNG). Following our commitment to achieve a No-Net-Loss of biodiversity on new projects development from April 2020, we’ve developed a site options toolkit as part of our Biodiversity Net Gain approach. This allows a rapid assessment of the existing biodiversity of different site or route options. This year we assessed our first overhead lines with this toolkit which helps projects identify the areas of highest biodiversity value allowing us to avoid them where possible, thereby reducing the potential impacts of our developments. It also allows us to identify opportunities for habitat enhancements at an early stage.

The toolkit allows consideration of biodiversity at the earliest stages of development and was recognised by stakeholders in 2020:



### Winner

of the ‘Biodiversity and Environmental Net Gain’ category at the IEMA Sustainability Impact Awards;



### Highly commended

at the RSPB Nature of Scotland Awards in the ‘Business Award’ category;



### Highly commended

at the Utility Week Network Awards in the ‘The Gamechanger Award – Networks’ category; and



### Highly commended

at the RTPi Awards for Planning Excellence in the ‘Excellence in Planning for the Natural Environment’ category for work on the Caithness-Moray project.





### Delivering biodiversity at a new site:

Using our metric, the site of the new Alyth substation will have an increase of 92% in biodiversity units, exceeding our No Net Loss commitment, through enhancement of existing mixed plantation woodland, broadleaved native woodland planting, native and wetland scrub planting, species rich grassland seeding of unplanted areas and the creation of a pond system. Alongside providing biodiversity benefits for the local habitat and species, this landscaping work will also improve the visual amenity of the substation.

### Successful recreation of Great Yellow bumble bee habitat at an existing site:

Following further monitoring at our Thurso South substation, the site of our award-winning bumblebee habitat creation scheme, by the Bumble Bee Conservation Trust (BBCT) found the first recording of a Great Yellow bumble bee queen. According to the BBCT this is the first UK example of successful recreation of habitat for the Great Yellow bee. The species rich grassland is continuing to develop well with minimal maintenance expected and will be monitored to ensure continued success.

### BNG at Rothienorman:

Success of our BNG approach can be seen at Rothienorman substation in Aberdeenshire, where landscaping around the substation included 11ha of wildflower-rich grassland, 4ha of new broadleaved planting and 3ha of scrub and ponds. This has resulted in a designed gain of 60% of biodiversity. In addition, 680m of new native species rich hedgerow will be planted where none existed before the development.

**Next:** Deliver BNG commitments on terrestrial projects and engage stakeholders to explore biodiversity opportunities for marine projects.

**Getting ready for RIIO-T2:** We've started incorporating biodiversity considerations into decision making, implementing our commitment to achieve No Net Loss (NNL) on capital projects gaining consent from April 2020. **Five BNG assessments (with design ongoing) were completed on substations and one on an overhead line to deliver NNL.**

## Protecting visual amenity

In November 2020, work was completed on the £31.9m project to remove 12km of overhead line and 46 towers from the Cairngorms National Park. This project was funded as part of Ofgem's £500M VISTA scheme, (Visual Impact of Scottish Transmission Assets). The scheme allows transmission owners to apply for funding to mitigate the impact of historic electricity infrastructure in National Parks and National Scenic Areas.

**Next:** Construction has commenced on three VISTA projects in the Loch Lomond and Trossachs National Park, looking at removing 7.5 km of overhead line collectively, contributing to significant landscape and visual enhancements in the wider area.

## Accreditation of our Environmental Management System (EMS)

Promoting our natural environment encompasses many areas including but not limited to: biodiversity, woodland and forestry, visual amenity, oil and noise management. This broad definition is consistent with the international standard for environmental management, ISO 14001, an accreditation we achieved in 2020/21.

**Next:** We are developing methodologies to assess our impacts on Natural Capital and exploring how communities can benefit from biodiversity enhancements.



# Optimising Resources

**What's the ambition?** Managing resources for a circular economy; achieving zero waste to landfill, increasing resource efficiency and using sustainable materials.

## SSEN Transmission's role

Many of the materials we use require primary resources, such as steel, aluminium and copper. The environmental impact of manufacturing these materials are intensive due to emissions and environmental degradation from extraction and transport. The inconsistency in end-of-life solutions also means that there is no standard for what to do with these materials when they're no longer needed meaning often they are sent to waste facilities. In transitioning to net zero we have a key role to play in rethinking on how we and our suppliers use, manage and dispose of materials in a responsible and sustainable way.

## 2020/21 in focus

This year we have been continuing to work with our stakeholders and suppliers to optimise resources. Our focus remains on understanding, quantifying and managing the impacts of our material use in our operations.

**Waste reporting**  
system established

**Six projects surveyed**  
at the RSPB Nature of Scotland Awards

Circular economy principles included in tender process for  
**Seven framework contracts**

## Section Summary

- Working with our supply chain on embodied carbon
- Waste and Circular Economy





## Working with our supply chain on embodied carbon

**Introduction:** Calculating and tracking carbon emissions within our supply chain (also known as 'embodied carbon') is complex in comparison to the carbon emitted during our own business. We have an ambition to improve our understanding and reporting of embodied carbon. A key challenge is understanding, quantifying and managing the emissions associated with purchased goods and services and capital goods. This requires collecting reliable and consistent data from third parties, whilst methodologies in this area are still being developed.

### What is embodied carbon?

"Embodied carbon is the total GHG emissions (often simplified to "carbon") generated to produce a built asset. This includes emissions caused by extraction, manufacture/processing, transportation and assembly of every product and element in an asset. In some cases, (depending on the boundary of an assessment), it may also include the maintenance, replacement, deconstruction, disposal and end-of-life aspects of the materials and systems that make up the asset. It excludes operational emissions of the asset."

### 2020/21 in focus

Throughout 2020/21, we've reviewed the use of 'embodied carbon' in our construction projects to better understand the carbon emissions of these activities.

### Understanding

- Embodied Carbon Study – in February 2021, we commissioned a study with environmental consultancy Ramboll, to provide an assessment of the embodied carbon in a representative sample of recently completed projects. This assessment produced: estimates of the embodied carbon to, established baselines for reporting, identified hotspots for further analysis/intervention and assess the methodology we will use for embodied carbon quantification and reporting going forward.
- Internal Engagement–throughout 2020/21 we communicated our plans to understand and reduce embodied carbon with SSEN Transmission employees in which they were invited to provide feedback and ideas.

### Quantifying

- Development of Reporting & Analysis Tools – as part of our approach to sustainable procurement, we have begun implementation of a new supply chain sustainability reporting system. This system will include reporting requirements for supply chain on the embodied carbon in our projects, helping us understand and reduce the impacts of embodied carbon by collaborating with our supply chain partners.

### Managing

- Reforming our Tender Process – as part of the tender process for our RIIO-T2 frameworks we've included evaluation questions on embodied carbon to assess the reporting capability of potential suppliers.
- Collaboration with industry peers– tackling embodied carbon is an industry-wide challenge. Our key focus this year has been on developing a consistent methodology for quantifying and reporting on embodied carbon, implementing industry standards and developing a shared database of the embodied carbon within different network assets.

**Next:** Embodied carbon continues to be a significant contributor to our total carbon emissions and, could become the most significant source of emissions as we transition towards net zero. We're continuing to develop a clearer picture of activities associated with our scope 3 emissions in collaboration with suppliers to reduce emissions in line with a net zero pathway.



## Waste and Circular Economy

**Introduction:** Building a circular economy is an important step in the wider transition towards net zero. A circular economy is an economic system aimed at eliminating waste and the continual use of resources.

### 2020/21 in focus

As a member of the Scottish Infrastructure Circular Economy Forum (SICEF) we have engaged in several meetings with our peers in the sector which assisted in the publication of the forum's inaugural White Paper in June 2020. The SICEF White Paper<sup>16</sup> provides a clear signal to policymakers and supply chains on the areas in which SSEN Transmission and other Scottish infrastructure providers seek collaboration to advance the circular economy. Investment in new infrastructure will be a critical part of the net zero transition and in the post-COVID-19 economic recovery.

We have also set up a new waste reporting system to understand and reduce the waste generated by contractors working on our projects. This will support our RIIO-T2 target to achieve zero waste to landfill across all of our waste streams.

**Next:** We look forward to continuing to work with SICEF to address sustainable resource use in the construction of infrastructure.



<sup>16</sup>Full Paper available at: [https://www.sustainabilityexchange.ac.uk/files/sicef\\_white\\_paper\\_1\\_final.pdf](https://www.sustainabilityexchange.ac.uk/files/sicef_white_paper_1_final.pdf)





# Supporting communities

**What's the ambition?** Meeting the needs of vulnerable customers and maximising the local benefit of our investments.

## SSEN Transmission's role

In the areas in which we operate, one of the most significant impacts we have is the local economic benefits created through our development projects and the benefits to wider GB society and consumers. Transitioning to net zero will require more electricity infrastructure to be built and maintained. We have a key role to play in a just transition by ensuring projects that enable net zero are supported by and continue to benefit communities.

### 2020/21 in focus

This year, we've been supporting communities throughout the COVID-19 pandemic, through providing funding such as our Resilient Communities Fund and facilitating virtual opportunities for consultation and local supply chain. We also published an industry first Just Transition Strategy as SSE Group.



### Over 90 virtual consultation events

organised since June 2020 during the COVID-19 pandemic

### Established four

Community Liaison Groups

### Transitioned six Community Liaison Groups

to online platforms during COVID-19 pandemic

### £3,000 donated

donated to community councils across the north of Scotland

Within seven weeks of the start of lockdown, awards of

### over £148,000

were granted to 115 north of Scotland communities

### £651m contributed

to the UK economy

### £370m contributed

to the Scottish economy

(Total figures which have been independently assured include direct, indirect and induced contribution in 2020/21)

### Section Summary

- Fair for the Future
- Resilient Communities Fund
- Helping communities reach fundraising targets
- Facilitating virtual 'Meet the Buyer' events during a pandemic



## Fair for the Future

**Introduction:** Fair for the Future, a major three-year project led by think-tank Sustainability First, mapped the disruptive landscape of risks and opportunities behind the case for public purpose-orientated utilities and set out what companies need to do to move in this direction and measure progress. 2020/21 in focus: We participated in the final phase of the project. We have already applied learning from this project in our approach to adaptive regulation during the RII0-T2 price control by protecting consumers from uncertain costs. We proposed to only have upfront allowances on projects that are certain to go ahead alongside 'uncertainty mechanisms' which will allow us to bring projects forward for funding during the price control when they are certain.

**Next:** In 2021, Sustainability First will run learning sessions for our leadership team to embed this progressive thinking. We're also taking part in a follow-up project with Sustainability First to focus on future sustainability principles.



## Resilient Communities Fund

**Introduction:** The Fund is available for non-profit making organisations, community groups and charities working to protect and enhance the resilience of those most vulnerable in the north of Scotland.

### 2020/21 in focus

In collaboration with SSEN Distribution, we announced the launch of a £280,000 Resilient Communities Fund to build local resilience and protect vulnerable community members. In March 2020, following stakeholder consultation, the Fund was repurposed to support communities affected by the COVID-19 pandemic, providing grants of up to £3,000 to community councils across the north of Scotland. Within seven weeks of the start of lockdown, awards of over £148,000 were granted to 115 north of Scotland communities.

**Next:** While last year's grants continue to support the ongoing community COVID-19 pandemic response, the 2021 fund will support local projects that:

- Protect vulnerable community members through enhancing their resilience and improving community participation and effectiveness
- Enhance community facilities, services and communication – particularly to support local response to a significant emergency even
- Help vulnerable or isolated people living in the SSEN Transmission network area

Initially run as a pilot, SSEN pledged to extend the fund to 2023 using a proportion of the income it receives from the industry regulator, Ofgem, in relation to its stakeholder engagement performance.



## Helping communities reach fundraising targets

**Introduction:** We've been working near Kintore, Aberdeenshire on the development of a new substation (to facilitate new renewable connections). A project update letter to the local community prompted Action Kintore SCIO, a charity set up in 2009 to provide facilities for the young people in and around Kintore, to get in touch with us.

### 2020/21 in focus

Action Kintore SCIO set their sights on bringing the Town House in Kintore back into use for the local community. Close to meeting their £26,000 target for the initial phase of the Town House project Action Kintore sought help from SSEN Transmission. We were glad to donate the final funds to enable work to begin on the project.

**Brian Johnstone, Chairman of Action Kintore said:** *"We are so appreciative of this funding support from SSEN Transmission, it completes our local contribution obligation and allows us to proceed on to the planning design phase."*

**Next:** We continue to work with local communities through our Community Engagement team and our Be the Difference programme which grants colleagues volunteering days in projects of their choosing in the communities in which they live and work.

## Facilitating virtual 'Meet the Buyer' events during a pandemic

**Introduction:** We're committed to supporting local businesses and maximising opportunities to employ local staff and contractors where possible, the 'Meet the Buyer' events are an opportunity to connect with businesses who could potentially complement the project's specialist construction teams.

### 2020/21 in focus

Throughout the pandemic, we've worked to remain connected with our customers, communities and suppliers in a safe way as we continue to develop and deliver projects of national importance. One method of doing this has been through virtual events. Since June 2020, we have carried out over 90 Virtual Consultation Events, created 4 Community Liaison Groups (CLG's) and transitioned the 6 CLG's established pre-COVID-19 onto online platforms.

In March 2021, we held a virtual event ahead of the commencement of construction works on the new 275/400kV Alyth substation project in the Meigle area. The new substation will be built on the outskirts of Alyth and will form part of the reinforcement of the East Coast transmission network, helping to support the connection of new renewable generation. Local businesses were invited to join the free event where they were able to engage with SSEN Transmission to find out more about the project, the skills required and the tenders on offer.

**Next:** The COVID-19 pandemic dramatically altered how we were able to engage with our communities – changing from in-person meetings to virtual platforms. As we continue to monitor the situation in our regions of operations, we will update our methods of engagement as safe and appropriate, in accordance with government guidelines.





# Supporting a Just Transition to Net Zero

**Introduction:** We committed to publish a just transition strategy following engagement with investors. Supporting a Just Transition outlines how SSE will approach the social implications of delivering net zero; from jobs and training, to working with communities and ensuring no one is left behind.






**2020/21 in focus**

In November 2020, SSE Group became the first company to publish a “Just Transition” plan, which will help to protect workers and communities as the UK moves towards net zero.

‘Supporting a Just Transition’ sets out 20 principles which SSE will follow to ensure that the impacts from the decisions we take are fair and that we maximise the opportunities for communities to benefit from net zero. These principles will guide our strategic objective as a business, as we endeavour to ensure that the transition we enable to a low carbon economy will be a just one.

**Next:** Delivering the ambitions relevant to SSEN Transmissions for each principle.



SSE'S 20 PRINCIPLES FOR A JUST TRANSITION				
TRANSITIONING INTO A NET-ZERO WORLD			TRANSITIONING OUT OF A HIGH-CARBON WORLD	
 SSE'S PRINCIPLES FOR GOOD, GREEN JOBS (page 9)	 SSE'S PRINCIPLES FOR CONSUMER FAIRNESS (page 12)	 SSE'S PRINCIPLES FOR BUILDING AND OPERATING NEW ASSETS (page 13)	 SSE'S PRINCIPLES FOR PEOPLE IN HIGH-CARBON JOBS (page 15)	 SSE'S PRINCIPLES FOR SUPPORTING COMMUNITIES (page 18)
Guarantee fair and decent work Attract and grow talent Value employee voice Boost inclusion and diversity	5. Co-create with stakeholders 6. Factor-in whole-system costs and benefits 7. Make transparent, evidence-based decisions 8. Advocate for fairness	9. Support competitive domestic supply chains 10. Set social safeguards 11. Share value with communities 12. Implement responsible developer standards	13. Re-purpose thermal generators for a net-zero world 14. Establish and maintain trust 15. Provide forward notice of change 16. Prioritise retraining and redeployment	17. Deliver robust stakeholder consultation 18. Form partnerships across sectors 19. Promote further industrial development 20. Respect and record cultural heritage





# Growing Careers

**What's the ambition?** Ensuring an inclusive culture for our employees; adding value through good jobs, training and development.

## SSEN Transmission's role

What we do every day is nationally vital work and it's all down to the hard work of our people. We're committed to ensuring our people have the skills, knowledge, motivation and behaviours to manage and develop a network for net zero, whilst also retaining the wealth of capabilities necessary to continue to operate our current safe and reliable system. To achieve this, recruiting, retaining and developing our people is paramount.

### 2020/21 in focus

This year, throughout the COVID-19 pandemic ensuring the safety and wellbeing of our colleagues has been our key focus. We've also been supporting a Green Recovery by the continued creation of new jobs to deliver our network for net zero. Whilst simultaneously adapting to new ways of working and continuing to provide training and development opportunities.



**+ 126 new employees despite COVID-19**  
an increase of 31%

**534 employees in 2020/21**  
compared with 408 employees in 2019/20 As of 5 April 2021 and 2020 respectively

**£170,463**  
Total spend on non-operational training

**Piloted three STEM Returners placements**  
Offering seven in 2021/22

**22 new Mental Health First Aiders trained**

**Over 100**  
development training courses organised in 2020/21

**Living Hours accredited in 2020/21**

**Living Wage accredited since 2013**

### 2020/21 in focus

- Supporting a Green Recovery during COVID-19
- Supporting our colleagues' health and well-being
- Improving diversity in our sector
- Developing a new Inclusion and Diversity strategy
- Living Hours: guaranteeing hours alongside the real Living Wage
- Supporting employee training and development





## Supporting a Green Recovery during COVID-19

**Introduction:** The government’s ten-point plan highlights the importance of tackling climate change whilst recovering economically from COVID-19. A Green Recovery from the COVID-19 pandemic relies on clear policies to drive society towards net zero by creating and supporting more green jobs. We’re growing our Transmission team and business to meet the challenge of delivering the critical infrastructure needed to get to net zero.

**2020/21 in focus**

- 31% increase in number of employees between 2019/20 and 2020/21
- 1,210 jobs supported in Scotland
- 4,300 jobs supported in the UK through our business operations including direct, indirect and induced

**Next:** We continue to build our SSEN Transmission team and supply chain to deliver out network for net zero and support a Green Recovery with recruitment and training ongoing in 2021/22.



## Supporting our colleagues’ health and well-being

Throughout the COVID-19 pandemic we have closely monitored employee feedback via numerous surveys and feedback sessions to inform our actions to help our colleagues’ health and well-being in a challenging time.

- Mental Health Café – weekly meetings focusing on different themes regarding mental health and well-being with both employee-led and external facilitator sessions. These informal sessions provide all colleagues an opportunity to access support materials, build connections with colleagues in a relaxed setting and discuss ways in which we can further support ourselves and each other.
- SSE day – In September 2020, all SSE Group employees were given an extra day’s special leave to take care of themselves and those closest to them.
- Flexible First at SSE – a new working policy which allows employees to agree with their manager how, where and when they work to enable them to perform at their best and be most productive.
- Call back initiative – confidential request for support for employees & managers
- Health and Wellbeing calendar - creating targeted initiatives throughout the year
- Mental Health First Aiders - 22 trained in 2020/21 with a total number of 30

First and foremost, the safety of our colleagues is paramount. Throughout the pandemic we have continually adapted and followed government guidelines, with employees who are able to do so working from home. Those in operational roles have followed guidance to keep themselves and others safe whilst working to maintain the integrity and reliability of key national infrastructure.

**Next:** We’re developing further initiatives for our mental health calendar and training packages on soft skills for colleagues across different roles.



## Improving diversity in our sector

**Introduction:** In 2021, we took part in SSE's STEM returners scheme. The scheme is set up to provide a boost to those looking to get back into work following a career break.

### 2020/21 in focus

As a leading TO in sustainability we have a firm commitment to improve diversity and inclusion. Every person that joined SSE's pilot scheme went on to be offered a permanent role.

**Next:** John Stewart, Director of HR at SSE: "We're delighted to roll out the STEM Returners scheme following a successful pilot. There is real momentum behind the drive to build a clean green recovery, but we need the people to help us do it, STEM Returners will become a vital tool in helping us reach skilled employees."



## Developing a new Inclusion and Diversity strategy

**Introduction:** We strive to create an inclusive workplace and value our employees for the wide range of knowledge and experience they bring. Our aim is to encourage different perspectives within our business, helping us provide a more inclusive workplace for all employees as well as offering a more inclusive service to the broad society that we serve.

### 2020/21 in focus

We have developed a new Inclusion and Diversity strategy. To inform this strategy we ran five focus groups with different employees to ensure diversity of thought. Following the focus groups we have launched our 'Leadership through a Lens' programme which is a reverse mentoring programme, pairing executive board members with colleagues who are of different background, gender or ethnicity to them.

**Next:** We will continue to communicate with our colleagues to assess how our current I&D initiatives are performing and explore further actions to create a fully inclusive workplace.

**Inclusion and Diversity: Encouraging leadership within our business:** 2020 saw us launch leadership development programmes for the first time aimed specifically at the executive and senior leadership team level to support their development. In 2021 a new iteration of the programme focused on high performance leadership, strategic leadership and self-aware leadership.

Throughout 2020 we began a series of regular leadership bulletins to better equip line managers with management capabilities, providing how-to guides on topics ranging from stay interviews to holding career conversations.



## Supporting employee training and development

**Introduction:** Employee training and development has continued throughout 2020/21, moving to virtual platforms.

**2020/21 in focus**

Those working remotely were offered support on how to best work from home via courses on managing virtual teams, using IT systems and sustaining motivation personally and in teams when working remotely. In total over 100 development training courses were organised throughout 2020/21.

**Next:** An increased training budget has been approved for 2021/22 which will further increase the training and development spending per employee.



## Living Hours: guaranteeing hours alongside the real Living Wage

**Introduction:** The Living Hours initiative requires employers to both pay the real Living Wage and commit to provide at least four weeks' notice for every shift, with guaranteed payment if shifts are cancelled within this notice period. Living Hours employers also provide a guaranteed minimum of 16 working hours every week (unless the worker requests otherwise), and a contract that accurately reflects hours worked.

**2020/21 in focus**

In March 2021, SSE Group became one of the first companies in the UK to become an accredited Living Hours employer, underlining its commitment to providing workers with secure, guaranteed working hours. As well as being Chair of the Living Wage Leadership Group in Scotland, SSE has been a member of the Living Hours Steering Group for more than two years, supporting the Living Wage Foundation to develop this new and important standard. In doing so, SSE held several joint consultation sessions with the Living Wage Foundation and its key security, cleaning and catering contract providers to look at the impact of Living Hours and how the requirements could be implemented.

**Next:** Progress on the roll-out of Living Hours across SSE's supply chain will be provided within the Sustainability Report 2022.

# Stakeholder feedback and consultation

We consulted on this statement before final publication to ensure that the statement was clear, easy to understand and met stakeholders' needs. Our stakeholders were satisfied that this report achieved these criteria. We considered the feedback provided by our consultees and implemented changes to our ELAS report as shown below:

Issue Raised	Incorporation in Strategy
One respondent noted that it is important to show our role in enabling the transition to net zero, highlighting what we can do in a wider perspective.	Included in the introduction is a piece on our operations and role in the net zero transition. At the beginning of each section we've included 'SSEN Transmission's role to make clear what our role is in net zero. We have also provided details of areas where we advocate on our stakeholders' behalf to ensure the removal of wider barriers to the net zero transition (i.e. TNUoS).
Some respondents noted that they liked less "wordy" and "tech-heavy" reports and find the inclusion of key graphics and figures useful throughout these kinds of reports.	We have listened to the feedback from our stakeholder consultation process and have strived to make this report as accessible as possible for a broad audience. Where further information can be found we have sign-posted this for our readers who would like further in-depth information.
Stakeholders asked for more detail on our efforts to reduce the intensity of emissions from transmission losses	Since the accreditation of our science-based target we have been able to provide more detail on our targeted approach to reducing the intensity of our emission related to transmission losses. This is included in the Tackling Climate Change section with links provided to our Transmission Losses strategy.
One respondent suggested that although the report, shared in Microsoft Word, was easy to read, often in their final draft they can be more difficult once they have been designed into a report format.	To address this, we have made a plain and a designed version of our report available.

We're always open to feedback and welcome this throughout the year to help further inform our work. Please contact us at [TransmissionSustainability@sse.com](mailto:TransmissionSustainability@sse.com)

For further information on SSEN Transmission please refer to our website: [www.ssen-transmission.co.uk](http://www.ssen-transmission.co.uk)



## SSEN Transmission supporting documents

[Our RIIO-T2 Business Plan](#)

[Our Biodiversity Net Gain Approach](#)

[Our Sustainability Strategy](#)

[Our Sustainability Action Plan](#)

[Our Stakeholder Engagement Plan](#)

[Our North of Scotland Future Scenarios](#)

[Our Transmission Charges Paper](#)

[Our Transmission Losses Strategy](#)

## Glossary of acronyms

ANM	Active Network Management
BCF	Business Carbon Footprint
CVP	Consumer Value Proposition
EDR	Environmental Discretionary Reward
EMS	Environmental Management System
ESO	Electricity System Operator
GHG	Greenhouse Gas
GW	Gigawatt
HVDC	High Voltage Direct Current
kV	Kilovolt
MW	Megawatt
NoS FES	North of Scotland Future Energy Scenarios
RIIO-T1	Revenue = Incentives + Innovation + Outputs (Transmission period 1)
RIIO-T2	Revenue = Incentives + Innovation + Outputs (Transmission period 2)
SBT	Science Based Target
SDGs	United Nations Sustainable Development Goals
SF6	Sulphur Hexafluoride
SHEPD	Scottish Hydro Electric Power Distribution
SSEN Transmission	Scottish and Southern Electricity Networks Transmission
STEM	Science, technology, engineering and mathematics
TO	Transmission Owner
TWh	Terawatt hour
VISTA	Visual Impact of Scottish Transmission Assets





**Scottish & Southern**  
Electricity Networks

TRANSMISSION



SSEN Community



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