Delivering a smart, sustainable energy future

The Scottish Hydro Electric Transmission Sustainability Strategy

May 2018

Scottish & Southern Electricity Networks

About us

We are Scottish Hydro Electric Transmission (SHE 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), who operate the lower voltage distribution networks in the north of Scotland and central southern England.

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 power our communities by providing a safe and reliable supply of electricity. We do this by taking the electricity from generators and transporting it at high voltages over long distances through our transmission network for distribution to homes and businesses in villages, towns and cities.

This publication

This Sustainability Strategy publication sets our sustainability ambitions and how these have been developed. It is split into two parts.

The first part sets out our strategic purpose, our five Sustainability Ambitions and our targets in development.

The second part provides the background to how these ambitions and targets have been developed, based on our own internal analysis, current climate change and renewable energy policy, consideration of global sustainable development goals, and stakeholder feedback.

At the end of the publication, we set out our next steps on sustainability and how to contact us if you would like to be involved in the design of our detailed action plan.

Our Sustainability Strategy

PURPOSE: Enabling the transition to a low carbon economy.

Our strategic purpose, to enable a low carbon energy system, has not changed, but as the system is progressively decarbonised we are recognising that to achieve the optimum outcome for customers the transition needs to be smart.

The renewable energy and decarbonisation targets and policies set out in the UK Government's Clean Growth Strategy and in the Scottish Government's Energy Strategy and Climate Change Plan show the continued importance of the transition to a low carbon economy. Infrastructure for the transportation of low carbon electricity will be essential to delivering the Scottish Government target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources*. This is why enabling the transition to a low carbon economy remains our strategic purpose.

Our experiences, and the insight provided by our stakeholders, highlight the need for us to expand our ambitions beyond standalone decarbonisation aims, and to ensure that our activities are mindful of other social, economic and environmental issues. Rather than complicating our strategic purpose, we have built these broader considerations into five ambitions through which we will deliver that overarching aim.

These ambitions are broad and bold. To provide the level of detail and clarity that stakeholders have asked for, they are supported by specific tailored targets, still in development, that pinpoint focussed actions.

In the following pages, we set out for each ambition:

- Why this ambition is included and what it means to us;
- The targets under development; and,
- Proposed methods for measuring our progress.

What being sustainable means to SHE Transmission

In line with the SSE Group approach SHE Transmission has adopted the Brundtland definition of sustainable development from Our Common Future[1]:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

This is captured in SSE's long-standing sustainability value:

Our actions and decisions are ethical, responsible and balanced, helping to achieve environmental, social and economic well-being for current and future generations.

[1] Our Common Future. A report of the World Commission on Environment and Development, 1987

*Scottish Energy Strategy: The Future of Energy in Scotland (December 2017)

Our sustainability ambitions

Connecting for society

Working collaboratively to deliver a whole system solution that promotes affordability.

Our main strategic driver over the past decade in transmission has been the timely delivery of large scale capital investment in new infrastructure to accommodate increasing levels of renewable electricity generation across the north of Scotland.

In 2016/17 our capital expenditure totalled £450 million, bringing our total investment since April 2013 to just under £1.9 billion[2]. Including that connected at a distribution level, our network now supports over 5GW of clean, renewable electricity generation, enough to power over four million homes.

As we enter the next phase of our programme with continued investment in connections and wider network developments, it is essential that we meet the wider societal expectations that accompany this investment, including affordability.

Affordability of connections is essential for renewable energy generators developing projects in markets with reduced subsidies and challenging economics. For end consumers, the impact of our investments may be small when calculated as a share of individual energy bills, but investment must be efficiently delivered to ensure best value for society.

Delivering best value for money for our connections customers and GB bill payers will require collaboration in:

1. Expanding network planning and development approaches to assess options across the whole energy system (transmission, distribution, supply and services) and to consider social, economic and environmental impacts.
2. Working efficiently with our supply chain partners to continue our strong track record of delivering on time, to budget and with the right quality – meeting the needs and expectations of our customers.
3. Continuing to develop innovative solutions – including technological innovations – such as our flagship Caithness Moray HVDC link – as well as techniques to extend and enhance the operational life and capability of existing assets.

To deliver this ambition we must be deeply interconnected to the society we serve and operate within. We will achieve this through regular and meaningful stakeholder engagement and collaborative working.

> **Over the eight year Business Plan, we forecast that we will have invested over £3 billion in the supporting infrastructure and connections required for the transition to a low carbon economy.**

[2] All figures are in 2016/17 prices and include Transmission Investment for Renewable Generation

Setting targets

Our primary target is to ensure all investment decisions are assessed against a Cost Benefit Analysis (CBA) framework which includes social, environmental and economic aspects, with sufficient engagement to inform decisions on trade-offs between different factors.

This will require development of new system planning and development approaches that quantify these factors against our usual economic considerations, and that can appropriately compare transmission asset based solutions with solutions on the distribution network, or alternative flexible and market based solutions.

Developing this new framework will allow us to measure in-depth across social, environmental, economic and stakeholder values. It will also allow us to communicate more effectively with our stakeholders about the trade-offs necessary in our decision making. This framework will also support the identification and adoption of alternative approaches to network development where these can deliver better value, whether that value is economic, social or environmental.

To move completely to these new approaches will likely necessitate changes in the standards and frameworks that we adhere to in system planning and operations. The complexity of these should not be understated and as such, significant further analysis and discussion with the System Operator and the regulator will be required before specific targets on adoption of new approaches can be set.

In addition, we recognise the importance of delivering low carbon energy connections as quickly as possible so that they can contribute to meeting renewable energy and decarbonisation targets. To this end, we are setting a target to accept and deliver on all reasonable requests for acceleration of connection dates.

Measuring progress

To help measure our progress towards this ambition we will begin reporting on how many projects were assessed through the new framework each year.

To provide insight into the changes in approach and decision making that this drives, we will also report on how many projects included an unconventional approach such as new system designs, new commercial arrangements, or new technologies. Factors such as efficiency of investment are already reported as part of our Annual Performance Report but these will be included within our sustainability reports to provide an update on progress in this context. Similarly, innovation developments will now also be reported in sustainability reporting, with a focus on connections activity and works that enable further renewable energy connections.

- To quantify the contribution that our connections activity is making to the transition to a low carbon economy, we will report annually on the estimated carbon offset by the low carbon generation that we have connected.
- We will also report on what proportion of requests for an accelerated connection have been accommodated.

Quantifying how we work collaboratively with our partners and stakeholders will require a two-stage approach:

1. The continual monitoring and adjustment of our engagement process throughout the year, which is clearly communicated and trackable.
2. Reporting of how the collaboration and engagement has resulted in changes to our standard approaches or options selection, and how this compares with stakeholder expectations.

Current performance

1792 MW of low carbon generation connected **2013 – 2018**

An estimated **3.6 Million tonnes of CO2** displaced by the generation we have connected to our network since **March 2013**

Scottish Green Energy Awards Judges Award for Beauty Denny for its contribution to decarbonising electricity-generation

Two-considerate construction scheme awards on Caithness Moray

Mitigating climate change

To manage resources over the whole asset lifecycle, working towards a science based greenhouse gas target.

While our most material contribution to action against climate change is our role in enabling the transition to lower carbon electricity generation, we are also determined to tackle our own carbon emissions (both direct and indirect), and to ensure that these actions are aligned with current climate science.

As such, our ambition is to achieve the level of decarbonisation in line with what is required to keep the global temperature increase below 2°C compared to pre-industrial temperatures[3]. This is what we mean by a science based target.

Due to the long lifetime of many of our assets, much of the infrastructure that we are installing today in order to increase low carbon electricity generation, will still be in operation in 2050.

Setting a science based target will provide us with a clearly defined pathway to future-proof our growth by specifying how much and how quickly we need to reduce our greenhouse gas emission.

This will require us to assess the full lifecycle of our assets when making investment decisions, considering their impacts during construction, in operation and when replaced.

The network expansion that we have delivered and continue to deliver to support the low carbon transition, could result in an increase in our operational emissions. To tackle this, we are focussing on our two most significant operational greenhouse gas emissions: transport emissions and SF6 leakage.

In 2016/2017 SSE reported transmission losses from the SHE Transmission network within its scope 3 emissions. While we do not control the electricity flows that determine network losses, there are actions we can take to reduce losses, such as the application of lower loss conductors and more HVDC networks.

Setting a science based target will provide us with a clearly defined pathway to future-proof our growth by specifying how much and how quickly we need to reduce our greenhouse gas emission.

[3] For more information, see the Fifth Assessment Report of the intergovernmental Panel on Climate Change (IPCC AR5).

Setting targets

Setting a science based greenhouse gas emissions target will require calculation of our carbon budget through one of three approaches:

- sector-based approach, where the carbon budget is determined by industry sector and then allocated to companies within each sector;
- absolute-based approach, where each company is assigned the same percentage of absolute emission reductions as is required globally; and
- economic-based approach, where the carbon budget is equated to global GDP and a company's share is determined by its gross profit.

In response to our consultation on our draft strategy, our stakeholders recommended that we take either a sector-based or an absolute-based approach.

One of the challenges with taking an absolute-based approach, is the expectation that our network may have to grow to facilitate the decarbonisation of the energy sector. In setting our science based target, it is essential that this does not inadvertently prohibit activities that would further climate change aims, by restricting the development of infrastructure required for the connection and transportation of low carbon electricity. As such, our carbon budget must account for the growth in our asset base.

Another challenge in setting a science based target is that we do not have control over network losses as these are a feature of how the system is balanced by the system operator.

Our initial action has been to formally commit to setting a Science Based Target with the Science Based Targets Initiative. We will now develop our science based target within the next 24 months. Over the next year, we will review our emissions data and the different approaches, and decide which approach is most appropriate for our business.

While our science based target is developed we will continue to work towards the business carbon footprint and SF6 targets set in our RIIO-T1 business plan, and to contribute to SSE Group targets on buildings and transport emissions.

Measuring progress

We have significantly improved the reporting of our greenhouse gas emissions over the last four years. In line with reporting guidelines[4], data is collected for:

- Building Energy Usage (Buildings electricity, Buildings other, Substation electricity)
- Business Transport (Road, Air & Rail)
- Operational Transport (Road, Air & Rail)
- Fugitive Emissions (Sulphur Hexafluoride - SF6)

This current reporting covers scope 1, scope 2 and scope 3 emissions[5].
We will continue to report these emissions while our science based target is developed and will begin reporting against the science based target once it is set.

Inclusion of carbon considerations in investment decisions will be essential to ensure that decisions made today do not compromise future delivery of these aims. A new methodology will be required for factoring carbon into investment decisions; the number of decisions informed by this will also be reported as a measure of progress.

[4] UK Government's environmental reporting guidelines (DEFRA, June 2013), the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (World Resources Institute and the World Business Council for Sustainable Development, 2004), and ISO 14064- 1:2006 Specification for Quantification and Reporting of Greenhouse Gas Emissions

[5] Scope 1: direct greenhouse gas emissions occurring from sources owned or controlled by the company e.g. our vehicles and on-site boilers. Scope 2: indirect greenhouse gas emissions from the generation of purchased electricity consumed by the company. Scope 3: indirect greenhouse gas emissions resulting from a company's activities but which occur from sources not owned or controlled by the company e.g. business travel, grid losses and contractor emissions.

Current performance

32.5% Reduction

in our Business Carbon Footprint from 2013/14 to 124,173.19 tCO2e

35% Reduction

in emissions from our electrical losses from 2013/14 to 110,004.30 tCO2e

24.5% Reduction

in SF6 leakage from our assets since targets were set in 2014, meeting our reduction target for the first time

33.1 tCO2e total scope 1 and 2

Emissions per FTE employee in transmission

All greenhouse gas emissions data up to 31 March 2017

Supporting thriving communities

To maximise the local (social and economic) benefit of our investments.

Without the continued support of the communities in which our assets are located, we wouldn't be the business we are today or become the business we want to be in the future. We want to ensure that these communities benefit from our investments.

In the last few years we have made significant progress in quantifying the contribution that our major projects make to the UK and Scottish economies, and this analysis has included measurement of the local socio-economic benefits of our projects, for example, our Caithness-Moray project.

Within these major projects, our local procurement programmes such as Open 4 Business (O4B), have brought benefits to local communities by increasing the involvement of local businesses in the works, either contracting directly with ourselves, or through our principle contractors.

The Scottish Government target to increase the amount of community and locally owned renewable energy generation is expected to increase the number of community energy projects seeking to connect to our network. These developers often have different needs and expectations, including limited resources and restricted development finances.

To support the development of local and community renewable energy, we will review the challenges that our current connections processes and rules pose for these organisations, and take steps to remove barriers and facilitate their connections applications.

Beyond energy projects, we provide additional support to communities across our network area through our Resilient Communities Fund. The fund is currently used to support projects that will help the community during extreme weather events or when electricity supply is lost, with a focus on vulnerable customers.

Our investments in our communities are not only financial, our employees also commit their time to supporting projects in our communities through Be the Difference, an initiative through which employees volunteer in the community for a day. Over 100 days have been used so far this year to undertake projects including beach tidies, dog rescues, giving Science Technology Engineering and Mathematics (STEM) talks in schools and universities, and renovating a hospital garden.

We want to ensure that our works continue to benefit our local communities and that we are maximising the benefit that they receive from our project investment, community support investment and local volunteering.

Setting targets

To ensure that we continue to maximise the local benefit of our investments we are looking to set a minimum threshold for the share of local content in our portfolio of projects, with the intention of increasing this threshold throughout the remainder of this price control and into the next.

We will also continue to support our wider communities through a Communities Fund, allocating a minimum of 33% of any Stakeholder Engagement Incentive income that we receive to the communities in which we work. The remit of the Fund is consulted upon each year to check that it still meets the needs of the communities in which we operate. Any changes to the Fund will be informed by the outcome of that consultation.

Measuring progress

To meaningfully measure whether we are making progress on our ambition, we believe that we will need to quantify and publish:

- the local socio-economic impact of each £ we spend;
- the local content ratio of our major project investments;
- the delivery of community and locally owned renewable energy connections;
- the award of funds through our Resilient Communities Fund; and,
- the number of volunteering days used in local communities.

Current performance

217 local people

employed on the Caithness Moray Project

91,156 bed nights

in local accommodation to date for the Caithness Moray Project, worth an estimated £4.55m

Over £100m

of contracts awarded through O4B initiative

Over £200,000

projected award for 2018 to the Resilient Communities Fund

21%

possible volunteer days through Be the Difference taken in 2017

Growing careers

Committing to a safe and inclusive culture for our employees; adding value through good jobs, training and development.

The past decade has been a period of rapid change in the energy sector and, for transmission, huge growth; our workforce has grown significantly to support this. Our expanded network requires an increasing number of skilled employees to keep it running effectively and to manage the transition to an increasingly decarbonised and decentralised system.

Our ambition is to attract, develop and retain a sustainable pipeline of highly engaged employees, and in doing so, help to address the lack of diversity and skills shortage in our industry. Like many engineering focused businesses, many of our roles are in vocations traditionally dominated by men. This has resulted in a higher proportion of men compared to women in our workforce. Because of the lower number of women in senior roles, our pay gap is over 30%. By driving inclusion in line with the SSE group vision in all aspects, not just gender, we aim to overcome this disparity.

We have a responsibility to invest in our employees and add value through the creation of good jobs, training and development. By doing this, it's not just SHE Transmission or the wider company that benefits – society and the individuals do too.

With an aging workforce, we are also faced with a looming skills shortage. We must ensure that we have a strong pipeline to recruit and develop talent. By attracting, developing and retaining a skilled and diverse pipeline of employees, we believe we will maximise productivity and help ensure the long-term success of our business.

In addition to the over 400 people directly employed, the number of people employed by our contractors to work on our projects is significant. We are using our role as a buyer to improve standards via our procurement contracts. We ask our contractors to at least meet our minimum standards, paying employees working on our projects the Living wage, and meeting Modern Slavery Act legislation.

Setting targets

In line with the SSE Group ambitions on human capital and diversity and inclusion, we aim to set targets that challenge us to focus on our most important factors, using an evidence-based approach that drives real change and will allow us to meet the challenges of the future. This will include setting targets to:

1. Ensure our workforce has the required skills and opportunities to meet our future business requirements; committing ourselves to providing structured, time allocated training for them.
2. Promote a work culture based on fairness, respect and dignity, resulting in an inclusive and diverse workforce.
3. Ensure standards are met both in SHE transmission and our contractors.

We will also contribute to the delivery of SSE Group targets in this area:

4. Return on investment from diversity and inclusion initiatives of £15 per £1 in 2020.
5. Executive Committee and Direct Reports to the Executive Committee: from 20% women at present to 30% women by March 2021;
6. Membership of the Executive Committee and its sub Committees: from 16% women at present to 25% women by March 2021; and
7. Roles at £70,000 (indexed from 31 December 2017) or above, commonly found in Organisational Level (OL) 19: from 14% women at present to 20% women by March 2021.

Measuring progress

To meaningfully measure progress in these areas we will track and report on leading and lagging indicators. This will include:

For target 1

A) Tracking the number of internal job moves of SHE Transmission employees each year, additionally reporting on the proportion of employees moving to promoted posts
B) Reporting on the investment in new trainees, apprentices and graduates joining SHE Transmission each year
C) Reporting investment in training and development
D) Undertaking a resilience report annually to make sure training and development addresses risks to the business (i.e. large number of staff retiring)

For target 2

A) Report on diversity and inclusion metrics, including SHE Transmission's gender pay gap for ourselves and our primary lead contractors
B) Track the number of incidents reported through SSE's 'Speak up' externally-hosted whistleblowing phone line.

For target 3

A) Reporting any breaches of our commitment that employees and contractors are paid at least the real Living Wage, as set by the Living Wage Foundation each year
B) Reporting any breaches of the Modern Slavery Act throughout our supply chain, having this embedded as a requirement in all procurement contracts awarded.

Current performance

36.1 %
Pay gap m/f in transmission

APRIL 2017
435

Male **358** (82%)

Female **77** (18%)

44%
of our staff are under 45 years old.

Inclusion Strategy

Our Inclusion Strategy for 2017-2020 focuses on five key areas:

IN Candidate attraction and recruitment

ON Retention of talent and managing leavers to maintain positive brand exposure

ON Embedding inclusive values throughout the organisation

ON Mentoring, networks and partnerships

UP Progression, promotion and creating opportunities

Promoting natural environment

Delivering a biodiversity net gain for our projects

As a responsible developer, we have a responsibility to protect and promote the natural environment.

Our capital expenditure during this price control is expected to exceed £2bn. This represents a substantial project delivery programme. As our asset lives span multiple decades, it is essential that we ensure this development expenditure is undertaken in a sustainable manner to protect our natural environment now and for the benefit of future generations.

Promoting our natural environment encompasses many areas including (but not limited to) biodiversity, natural processes, landscape change and visual amenity. Through our development activities, we consider a wide range of natural environment aspects at each stage of our work. In relation to sensitive species and habitats, the linear nature of our new and existing networks provides real opportunities to actively improve the connectivity between important habitat types and ecosystems but it is equally important to ensure that such linear corridors do not act as ecological barriers.

This is important as abundance of habitats and species of conservation value are reducing year on year, so much so that the UN has set strategies that aim to halt and reverse this trend[6]. The Scottish Government has also set out its "Scottish Biodiversity Strategy" that sets out its vision, objectives and desired outcomes[7 8].

Whilst biodiversity is valuable in its own right, it is also crucial to the maintenance of natural systems on which we all depend (for example: pollination of crops, flood management and air quality regulation). Protecting and enhancing biodiversity is therefore an essential element of a truly sustainable society.

As such, our ambition is to ensure that our activities not only maintain the existing balance that exists, but help to enhance the biodiversity in our area, targeting a net gain.

Our projects also have a visual impact on the natural environment. To address this, we will ensure that the visual impact of new infrastructure is fully considered in our projects from conception, and is reduced as far as practical in line with our social, environmental and economic cost benefit analysis.

Heilo Ecology and Ramboll Environ

6 United Nations Convention on Biological Diversity. (2010). Strategic Plan for Biodiversity 2011-2020. United Nations, New York. http://www.cbd.int/sp/

7 Scottish Executive. (2004). Scotland's Biodiversity: It's in Your Hands. Scottish Executive, Edinburgh http://www.scotland.gov.uk/Publications/2004/05/19366/37239

8 Scottish Government, (2013). 2020 Challenge for Scotland's Biodiversity: A Strategy for the conservation and enhancement of biodiversity in Scotland. Scottish Government, Edinburgh http://www.gov.scot/Resource/0042/00425276.pdf

Setting targets

The building of new infrastructure projects and the operation and maintenance of existing assets provide different opportunities to enhance biodiversity. As such, our targets will be tailored to the range of activities we undertake.

For new infrastructure projects, we propose to:

- Ensure natural environment considerations are included in decision making at each stage of a project's development
- Utilise the mitigation hierarchy to avoid impacts by consideration of biodiversity in project design
- Positively contribute to the UN and Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving Net Gain on projects gaining consent in 2025 onwards.
- Work with our supply chain to gain the maximum benefit during asset replacement and upgrades

For upgrade, maintenance and operational activities, we propose to:

- Collaborate with partners to realise opportunities for improving the biodiversity on and around our existing sites
- Enhance biodiversity through a comprehensive review of management activities.

Measuring progress

To meaningfully measure our progress towards biodiversity net gain for construction projects we will:

- Develop criteria to assess the impact of our construction projects on biodiversity
- Define and develop a mechanism to report on our baseline biodiversity footprint and year on year improvements
- Collaborate with partners to develop our approach to measuring biodiversity net gain

Current performance

Zero

environmental prosecutions or major incidents in 2017/18

Over 400

staff participating in the CARE **(Commitment Awareness Rigour and Engagement)** programme to deliver the sustainability value in large capital investments

10

Hectares of substation sites seeded to support rare Great Yellow Bumblebees

100+

stakeholders consulted about plans to improve visual impact of transmission assets

Optimising resources

Managing resources to maximise sustainability

In the first four years of our current price control, we invested over £1.5bn in our network and we expect to invest roughly the same amount over the next four years. Much of this investment was in growth of the network to connect new renewable energy generation, and also to replace and refurbish existing infrastructure. Our network now consists of over 5,000km of high voltage overhead lines and underground cables.

Many of the resources that we use in building this infrastructure are non-renewable resources, such as steel, aluminium and copper.

Increasing material scarcity, the environmental impact of manufacturing these resources and inconsistency in local end-of-life material solutions, for example recycling facilities, mean that we need to work harder to ensure we are making best use of these resources.

In line with circular economy principles we will seek to keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.

To minimise the need for new resources, we will seek to upgrade rather than replace assets wherever this is viable, while ensuring the required quality and security of the network infrastructure. We are also adopting new products such as composite poles in place of wood poles or steel towers, to reduce our reliance on these resources.

The assets we install can have a life of up to 80 years. When assets are replaced, we will re-use as much as possible. Inclusion of components of decommissioned assets in warehouses and strategic stores will ensure that these resources are available for re-use.

We also use consumables such as oil and chemicals in the operation of our network. In line with target four of UN Sustainable Development Goal 12, sustainable consumption and production, we aim to ensure the environmentally sound management of chemicals and all wastes throughout their life cycle, and to significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.

On our main sites and offices, we will seek to substantially reduce waste generation through prevention, reduction, reuse and recycling. This will include reduction of food waste.

> **We need to work harder to ensure we are making best use of resources.**

Setting targets

Waste and resource use is an increasing area of focus for SHE Transmission; making improvements in this area will require establishment of a baseline, and development of new targets that will minimise waste, use resources more efficiently, and increase reuse and recycling of waste.

In developing our new waste and resource use targets we will consider our use of finite and critical resources, as well as consumables such as oil and chemicals.

Waste from our construction activities is generally handled by our principle contractors who are required to provide site specific waste management plans for all projects. We will work with our contractors to ensure that they follow the principles of waste minimisation and resource re-use on our projects, making requirements on waste and resource use a feature of our contracts.

Measuring progress

To update stakeholder on our performance in this area, we will report annually on our waste and resource use for our main offices and all major capital projects.

This will include reporting of:

- Waste sent to landfill,
- Resource re-use,
- Recycling, and
- Recovery.

How our Sustainability Strategy was developed

Our strategy has been built on a solid foundation of analysis of government policy and industry trends, global sustainable development goals and stakeholder expectations.

As we entered the second half of our current price control (RIIO-T1), we recognised that significant changes had taken place since the establishment of our first sustainability strategy. Following consultation with our stakeholders and our employees, it was agreed that our old strategy was no longer fit for purpose.

In response to this, we committed to a thorough review of our sustainability drivers and to establishing a new sustainability strategy that would better reflect our role in enabling the transition to a low carbon economy, and broader sustainable development needs.

The results of this review, and how these have informed the new strategy, are explained in this section of the strategy publication.

In the following pages, we set out:

- The impact of emerging trends and how they influence our strategy
- Why we are going beyond carbon and climate change; and
- How the views of our stakeholders have helped focus our priorities and refine our targets and measurement approaches.

This section also includes the governance of our sustainability strategy between our parent company, Scottish and Southern Energy Power Distribution, and our Group parent, SSE plc.

Emerging trends

We are now in the second half of our price control, and there are new trends emerging that we must respond to if we are to continue delivering for our customers, and for society as a whole. We reviewed current energy and climate change policy, as well as technical developments in our industry, and used these to inform our strategic priorities and sustainability ambitions.

Decentralisation

The Scottish Government has set a target of 1GW of community and locally owned energy by 2020 and 2GW by 2030. Meeting this target will result in a significant increase in distribution connected energy generation.

Already, almost 50% of the generation connected to our network is connected at distribution level. We are currently reviewing connection processes to better accommodate the needs of these customers. System operations are also changing to accommodate this and to increase efficiency of investment.

With fewer large thermal plants to provide services to the system operator, distributed energy resources will need to be enabled to provide services to support system operation. System planning must also adapt to consider whole system implications of changes at the distribution level.

This will ensure the optimum solution is identified, whether this requires investment on the transmission system, distribution system, or the provision of services from flexibility markets.

Offshore

Increasing volumes of offshore wind farms are expected to connect to our network in the coming years, including Moray and Beatrice.

The Crown Estate is consulting on further offshore leasing rounds which could mean further developments in this area.

In addition, the UK Government published its Clean Growth Strategy on 12th October 2017, announcing the next CfD auction in Spring 2019 – £575m across all technologies.

The Clean Growth Strategy confirmed that "wind projects on the remote islands of Scotland that directly benefit local communities will be eligible for the next Pot 2 auction", and State Aid Approval has been received from the European Commission.

To enable this, we will be developing the Islands projects: Orkney, the Western Isles and Shetland.

Flexibility

With such high proportions of generation coming from variable renewable energy generation, there is an increasing need for flexibility services as the energy system is decarbonised.

As set out in the UK Government's Smart Systems and Flexibility Plan, distributed energy providers must be enabled to compete in this flexibility market to increase competition and ensure the best outcome for consumers.

We must work hard to remove barriers to this and ensure that transmission system issues do not unnecessarily restrict this transition.

For the transmission network, increased flexibility also means a potential increase in bulk flows to accommodate increased interconnection to allow the trading of renewable energy with our European neighbours, supporting generation decarbonisation and system balancing.

Demand

As the electricity system becomes increasingly decarbonised, the focus of the decarbonisation agenda is shifting to other sources of energy consumption, including heat and transport.

The Scottish Government has set a target to phase out the need for petrol and diesel vehicles by 2032, underpinned by a range of actions to expand the charging network. It also expects a big rise in heat pumps, as a result of actions to deliver its target for the equivalent of 50% of Scotland's heat, transport and electricity consumption to be supplied from renewable sources.

With electrification providing an attractive lower carbon alternative to traditional transport and heating fuels, future energy scenarios show that an increase in electricity demand is highly feasible.

The likely mismatch between the timing and output of renewable energy generation and the scale and timing of new sources of demand increases the need for flexibility and could also require network investment.

In supporting the next phase of the low carbon transition, we need to start thinking beyond low carbon electricity generation and ensure that we also enable this decarbonisation of other energy uses.

High renewable operations

Decarbonisation has led to a reduction in the thermal generation plant on the system. These power stations provided essential services to the system operator to ensure system security.

Now, the vast majority of generation connected to our network is variable renewable generation.

With fewer large thermal plants to provide these services, distributed energy resources will need to be enabled to provide services to support system operation.

In a system accommodating high volumes of variable generation output, the standards and assumptions used to design and plan the network also need to change to reflect this and to ensure the best use of the infrastructure.

In addition, we must ensure that we take the actions required to enable the growth of renewable energy generation to continue, while protecting the resilience of the network.

Beyond carbon and climate change

While enabling decarbonisation in pursuit of climate change goals is the most material contribution that we can make to sustainability, our economic, social and environmental impacts are also significant. SHE Transmission's role as a buyer and as an employer, and our role in communities and society as whole, provide opportunities for us to take further action on sustainability.

The UN Sustainable Development Goals provide a common framework for targeting improvements in wider sustainability. As a responsible business, we are determined to play our part, alongside governments, civil society and individuals, to ensure that these goals are reached.

We undertook a materiality assessment of how SHE Transmission can contribute to the UN sustainable development goals to identify those that we should actively support.

The priorities of these goals were incorporated into our sustainability ambitions.

In addition to goal 13 Climate Action, SHE Transmission actively supports, in order of materiality for our business:

Engaging with stakeholders

In developing our strategy, we have sought to understand the views and needs of our stakeholders. We have used this to inform our decisions on materiality of different issues and to help determine our goals.

Having developed a new set of sustainability ambitions based on our internal analysis and the views of stakeholders gathered throughout 2017, in February 2018 we published our Draft Sustainability Strategy for Consultation.

The draft Sustainability Strategy consultation provided a first view of our sustainability ambitions and presented an opportunity for stakeholders to directly influence the refinement of these ambitions and the development of specific targets and methods of measuring progress.

There were questions throughout the document where we were asking for input on whether we had identified the right areas to target, whether the information and views we had received so far reflected stakeholder understanding of the issues and needs; and whether the targets and measurement approaches that we were proposing are suitably ambitious and rigorous.

Responses were received from organisations including: Government, NGOs and statutory consultees, our supply chain, and other network companies.

The responses to the consultation were used to refine our Sustainability Strategy and to help us with setting specific targets.

The overall tone of responses was positive, with stakeholders including Government, welcoming our approach and acknowledging the alignment of our sustainability ambitions with current climate change and energy policy ambitions.

The table below sets out some of the specific challenges raised by stakeholders and how we have revised our Strategy to address these.

Issue Raised	Incorporation in Strategy
Sustainable Development Goals 3 and 12 may also be material and suitable for inclusion in the strategy.	We reviewed our materiality assessment of all the Sustainable Development Goals and updated this accordingly. See page 19.
A need for increased content and targets on resource use in the strategy, not just climate change.	We have developed an additional ambition on resource use to address this gap and complement the five initial ambitions set out in the draft strategy.
Methodology for whole life costing must include full lifecycle costs and end of life costing, and environmental factors beyond emissions reduction contribution e.g. ecosystem services and visual impact.	We have included these elements in the design scope for our new whole life costing methodology.
Absolute based approach to science based targets was broadly supported but sector based or relative target approaches seen as justifiable for some elements.	As explained on page 8, adopting an absolute based approach may not be practical for our business in the short term but we will consider this as part of our review of the best method for delivering our Science Based Target.
Need to review targets on promoting the natural environment to consider inclusion of additional aspects: visual impact, air quality, flood alleviation, noise reduction, location considerations.	The natural environment ambition has been broadened to include additional natural environment factors including visual impact and noise in addition to biodiversity.
Inclusion of stakeholders and subject matter experts in the development of the detailed targets and action plan.	We will seek to include relevant stakeholders in the development of our detailed targets and action plan throughout 2018 by inviting them to contribute to, or review, our plans.
The ambitions provide clarity on areas where stakeholders will engage with SHE Transmission on sustainability.	By referencing our strategic sustainability ambitions in future stakeholder engagement events and in sustainability publications, we will maintain this clarity for stakeholders.

Our framework for sustainable business activity

SHE Transmission is owned by SSE plc. SSE plc produces, distributes and supplies electricity and gas, and operates in GB and Ireland. It is publically listed on the London Stock Exchange and its headquarters are in Perth, Scotland.

As an SSE Group company, SHE Transmission is attentive to the Group approach to sustainability.

The strategic underpinning for SSE's sustainability strategy is the understanding that its core purpose is the provision of an essential service that people, organisations and businesses need and that this has in the past been provided by the public sector. This special status means there is an added responsibility for SSE Group businesses to conduct themselves in a way that enhances value to the society which they are part of, when meeting core business objectives.

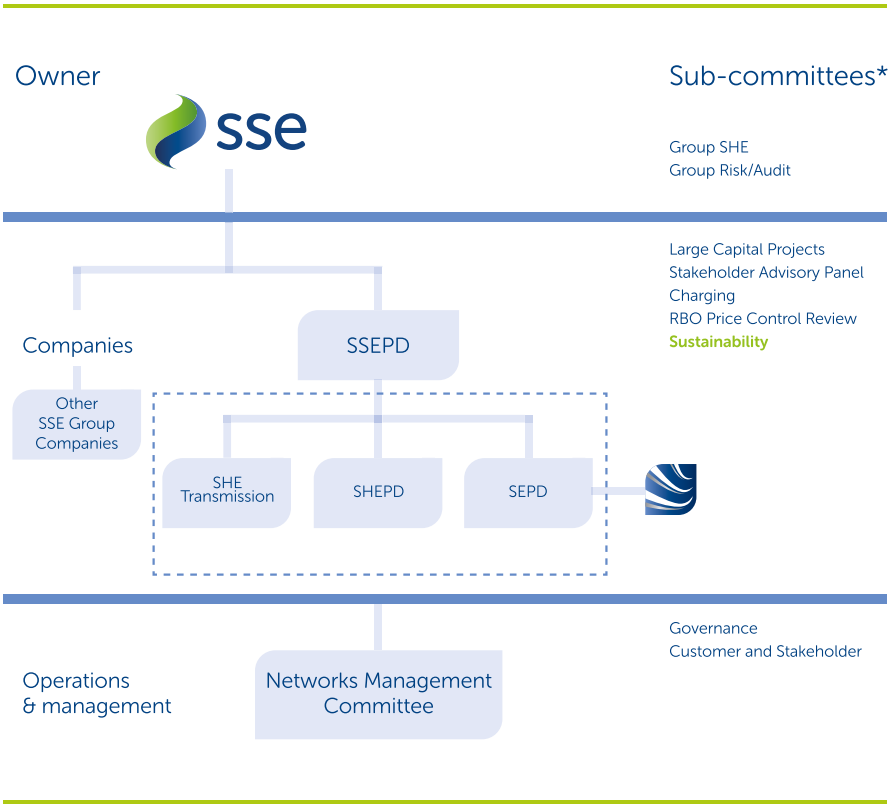
SSE's responsibility framework features its defined core purpose, its values and a core group of policies reflected in its Guide to ethical business conduct for SSE employees.

Sustainability governance

SSE's Chief Executive has overall lead responsibility for sustainability across the SSE Group, including at Board-level. The three electricity networks owned by SSE plc are managed separately from other SSE plc businesses under the ownership of Scottish and Southern Energy Power Distribution (SSEPD) which trades under the name Scottish and Southern Electricity Networks.

SSEPD has a separate Board, separate sub-committees and separate operations and management committees. Under this structure, the Managing Director of Networks has responsibility for sustainability across the networks businesses, including at SSEPD Board-level. The Director of Transmission has responsibility for implementing the strategy within SHE Transmission. The SSEPD Sustainability Sub-committee was established in September 2017 to oversee delivery of the sustainability strategy, the transition to low carbon energy systems and high standards of environmental management.

The remit of the subcommittee also includes ensuring consideration of sustainability in other Networks activities, including: strategy, network planning, connections, networks development, and innovation. It is chaired by Dave Gardner, Director of Transmission, and includes representation from other SSEPD Board members Rachel McEwen (SSE Director of Sustainability) and David Rutherford.



Next steps on Sustainability

With our sustainability ambitions established and ratified by stakeholders and our own employees, we are now working to develop and implement an action plan for the delivery of these ambitions.

We will be developing this action plan in collaboration with our employees and stakeholders to ensure that it is fit for purpose and meets the reasonable needs and expectations of our stakeholders.

Our 2017/18 sustainability performance report and plan for 2018 will be published in late summer.

If you would like to be involved in the development of our action plan, please contact: **lowcarbonteam@sse.com**

The development of this Sustainability Strategy also forms part of our preparatory work for the submission of our Business Plan for our next price control, RIIO-T2. For more information on the RIIO-2 process and our business plan development, please visit:

www.ssen-transmission.co.uk/information-centre/industry-and-regulation/riio-t2

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