



# Powering tomorrow the right way

SSE plc Sustainability Report 2023



SSE is a leading generator of renewable electricity in the UK and Ireland and one of the largest electricity network companies in the UK. It is driven by a purpose to provide energy needed today while building a better world of energy for tomorrow. It develops, builds, operates, and invests in low-carbon electricity infrastructure in support of the transition to net zero, including onshore and offshore wind, hydro power, flexible thermal generation, electricity transmission and distribution networks, alongside providing energy products and services to customers. SSE's ambitions for the development of renewable energy now extend beyond the British Isles to carefully selected international markets, including Asia-Pacific, Europe, and North America.

UK-listed and headquartered in Perth, SSE is a major contributor to the economies in the UK and Ireland. It employs around 12,000 people and is real Living Wage and Fair Tax Mark accredited.

The Sustainability Report for the period 1 April 2022 to 31 March 2023 aims to provide enhanced disclosure of SSE policies, practice, and performance against its key economic, social, and environmental impacts and goals. On occasion the report refers to activities of joint ventures and in those instances, it is made clear this is the case.



#### Stories in action

Throughout this report, SSE's sustainability policies, practice and performance are brought to life through stories in action identified with the following icons:



Engagement in action



Innovation in action



Partnering in action



Dilemma

#### Alternative Performance Measures

SSE assesses the performance of the Group using a variety of performance measures. These measures are not all defined under IFRS and are therefore termed 'non-GAAP' measures. A reconciliation from these non-GAAP measures to the nearest prepared measure in accordance with IFRS is presented and described on pages 194 to 201 of SSE's Annual Report 2023. The Alternative Performance Measures SSE uses might not be directly comparable with similarly titled measures used by other companies.



The SSE plc Sustainability Report 2023 is complemented by SSE's Annual Report 2023 which can be found online at [sse.com](https://www.sse.com).

#### Directors' Statement on SSE plc's Selected Sustainability Data

As the Directors of SSE plc "SSE" we confirm that we are solely responsible for the preparation of SSE's selected sustainability data including this Directors' Statement and for reporting the selected sustainability data in accordance with the reporting criteria set out on at [sse.com/sustainability/policies-and-assurances](https://www.sse.com/sustainability/policies-and-assurances).

We confirm, to the best of our knowledge and belief, that we have:

- designed, implemented and maintained internal controls and processes over information relevant to the measurement, evaluation and preparation of selected sustainability data that is free from material misstatement, whether due to fraud or error;
- established objective reporting criteria for preparing and presenting the selected sustainability data, including clear

definition of the entity's organisational boundaries, and applied them consistently;

- presented information, including the reporting criteria, in a manner that provides relevant, complete, reliable, unbiased/neutral, comparable and understandable information;
- reported the selected sustainability data in accordance with the reporting criteria.

*Rachel McEwen*

**Rachel McEwen**  
Chief Sustainability Officer

For and on behalf of the Board of Directors of SSE plc  
15 June 2023

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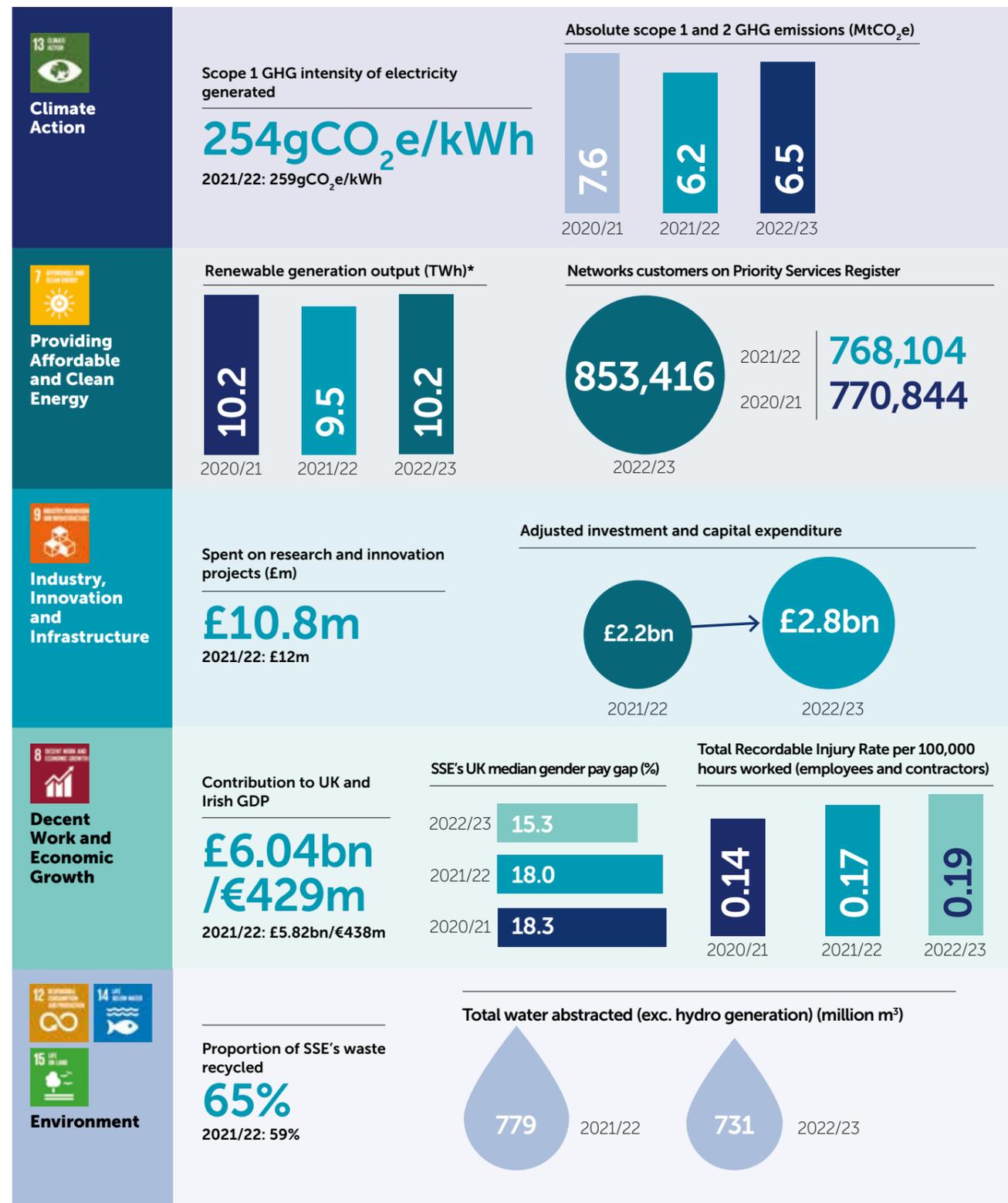
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## Strategic introduction

# Year in summary



## Strategic introduction

# Right action, taken in the right way

Providing energy is a purpose that SSE, and its predecessor organisations, has been fulfilling for 80 years. This year marks the anniversary of the 1943 Hydro Development Act, a pioneering piece of public policy that connected people in the north of Scotland to the electricity grid for the very first time. SSE's purpose today is to provide the energy needed in the UK, Ireland and, increasingly, elsewhere in the world but now with every tonne of damaging greenhouse emissions removed from the process.

Coupled with the urgent climate imperative, the energy security concerns raised by the Russian invasion of Ukraine makes an overwhelming case for the swiftest, most orderly, and just transition we can possibly achieve. With SSE's enhanced capital investment programme squarely focused on accelerating renewables, reinforcing networks and providing vital system flexibility, we are delivering the right action, right now.

Our strategy is tackling climate change, providing greater energy security and addressing concerns about affordability. But we are acutely aware that our actions need to be sustainable for nature and people. That is why, when taking the right action, right now, we strive to do it in the right way too.

### Focusing on what matters

Any credible sustainability plan must be founded on a regular assessment of the organisation's most material social and environmental impacts. This year, a comprehensive and independent assessment of a variety of sustainability issues was undertaken, concluding that SSE's focus on climate change, sustainable energy generation and reliable and affordable energy remain, as we would expect, our defining sustainability impacts. Interestingly, a further two highly material issues were identified, on skills availability and

supply chain capacity. The increasing significance of these two issues is reflected within this report.

### Ten years of enhanced social impact

SSE became a real Living Wage employer a decade ago, at a time when it was a fledgling movement. Now, one person in every nine working in the UK is covered by a commitment to the real Living Wage. I like to think SSE has played its part in normalising the notion that everyone who works deserves to earn an income that prevents them from being in poverty.

In recent years, we have focused on the principles of a just, or fair, transition to net zero. Experienced or perceived injustice as the economy undertakes its almighty transition to net zero, will be counterproductive. It will undermine the very case for climate action that so many are working towards. More simply, the case for a just transition supports our climate action.

The skills and expertise of those working in declining high-carbon industries are valuable. Delivering SSE's investment plan will require the capability and commitment of many more than the 12,000 highly capable people who currently work for SSE, so our just transition plan deliberately seeks to attract people from the high-carbon sector to work with us.

### Open and transparent disclosures

This Sustainability Report complements a dedicated section within the SSE Annual Report 2023 and material social and environmental impacts are integrated throughout the Directors' and Financial Reports that are part of that document too. A single-issue report on Inclusion and Diversity provides stakeholders with enhanced information about our I&D strategies and a Net Zero Transition Report digests all climate information for the benefit of climate-focused stakeholders, and is subject to an advisory vote at the Annual General Meeting in July.

SSE also provides regular, standalone disclosure reports through the year on biodiversity, the just transition, and many others. This comprehensive approach to disclosure is driven by a belief that openness and transparency builds trust with stakeholders, and the process of scrutiny and accountability is a powerful agent for performance improvement too.

As with all of SSE's sustainability disclosures, feedback and further engagement is warmly welcomed. Please get in touch with [sustainability@sse.com](mailto:sustainability@sse.com).

### Alistair Phillips-Davies

Chief Executive  
 16 June 2023



## Strategic introduction

# SSE's business model

### OUR PURPOSE

**To provide energy needed today while building a better world of energy for tomorrow.**

### OUR VISION

**To be a leading energy company in a net zero world.**

### OUR STRATEGY



**To create value for shareholders and society in a sustainable way by developing, building, operating and investing in the electricity infrastructure and businesses needed in the transition to net zero.**

### OUR GOALS

**SSE's 2030 Goals, aligned to the UN's SDGs, provide important milestones on the journey to net zero.**



**Cut carbon intensity by 80%**



**Increase Renewable energy output fivefold**



**Enable low-carbon generation and demand**



**Champion a fair and just energy transition**

### OUR VALUES

**All of this is underpinned by a set of core values designed to guide decisions and actions in SSE.**

#### Safety

If it's not safe we don't do it.

#### Service

We are a company that customers can rely on.

#### Efficiency

We focus on what matters.

#### Sustainability

We do things to add long-term value.

#### Excellence

We continually improve the way we do things.

#### Teamwork

We work together, respect each other and make a difference.

# An accelerated investment plan

SSE's enhanced investment plan, NZAP Plus, is a platform to maximise stakeholder value into the 2030s.

In May 2023, 18 months after its initial launch, SSE's Net Zero Acceleration Programme (NZAP) was revised to reflect the increased opportunities created as the world pursues net zero. The new 'NZAP Plus' includes investment of £18bn over the five years to 2027, compared to £12.5bn over the five years to 2026 through the original NZAP, and features revised growth targets to 2027 for SSE Renewables, SSEN Transmission and SSEN Distribution.

## Balanced capital investment in upgraded, fully-funded plan...



Renewables  
**~40%**

Energy Networks  
**~50%**

Renewables 40%  
Thermal and other 10%  
Transmission 30%  
Distribution 20%

### Sharper focus on climate solutions

Supporting SSE's 2030 Goals with around 90% expected to be invested in renewables and networks, the substantial majority of the NZAP Plus is focused on climate solutions that are aligned to a 1.5°C pathway and also aligned to the Technical Screening Criteria of the EU Taxonomy.

## Medium-term targets

**... delivering accelerated growth at attractive returns out to 2027...**

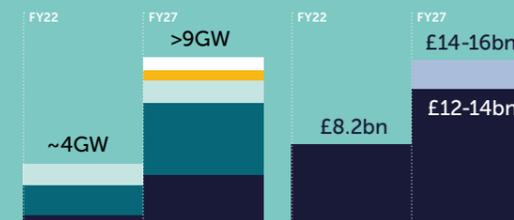
### Renewables

Net capacity  
**>9GW**

Pipeline  
**>15GW**

### Electricity networks

Total increase in Regulated Asset Value of SSEN Transmission and Distribution  
**~14%**



Offshore wind  
Onshore wind  
Hydro  
Solar  
Battery  
SSE ownership  
Minority interest

## Long-term targets

**... with 2030 Goals aligned to four UN SDGs ...**

See page 22 for SSE's progress against these

**... enhanced 2032 growth targets in the NZAP Plus ...**

Net installed renewables capacity

**>16GW**

Net low-carbon flexible thermal

**>2GW**

Net networks RAV

**>£20bn**

Science-based carbon targets aligned to

**1.5°C**

**... and a Net Zero Transition Plan for net zero emissions on scopes 1 and 2 by 2040, and scope 3 by 2050 at the latest.**

## Strategic introduction

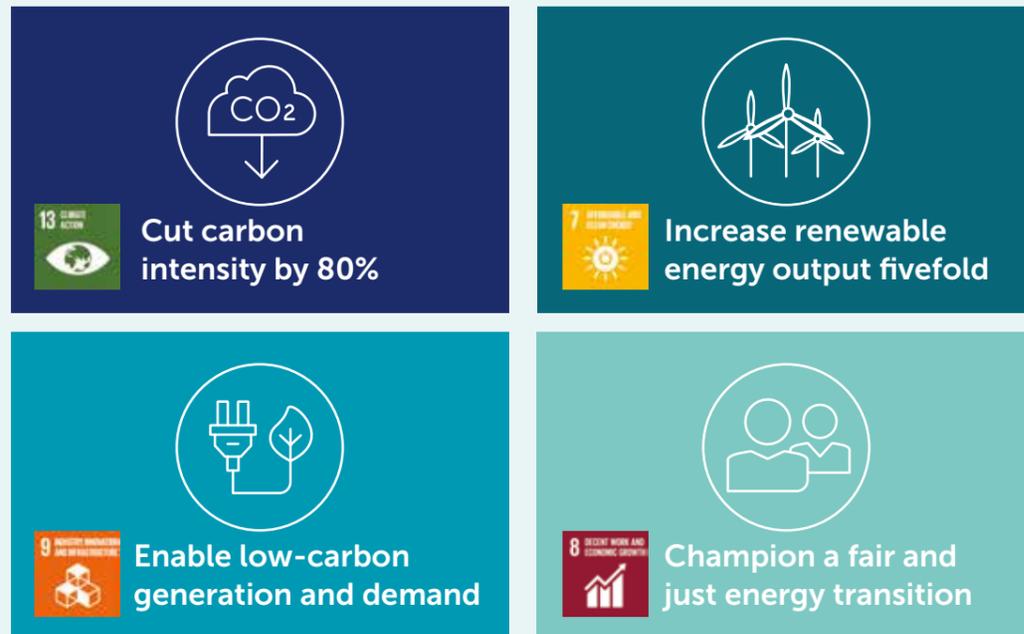
# The strategic hierarchy of sustainability within SSE

SSE's purpose is to provide the energy that people need today whilst ensuring a better world of energy is built for tomorrow. The essential nature of its business activities mean it has a multitude of sustainability impacts. While the breadth and depth of SSE's economic, social and environmental impact is extensive and complex, a strategic hierarchy of sustainability provides simplicity and clarity.

Strategy driver '...creating value for shareholders and society...'

Framework to share value: aligned to UN's Sustainable Development Goals (SDGs)

SSE's 2030 Goals  
Four core business goals linked to highly material SDGs



SSE's Environment Strategy  
Linked to three further material SDGs

Resource used



Environmental management



## Ambition for 2030

SSE's 2030 Goals are four core business goals focused on addressing the challenge of climate change in a just and fair way.

### Business goals with societal benefit

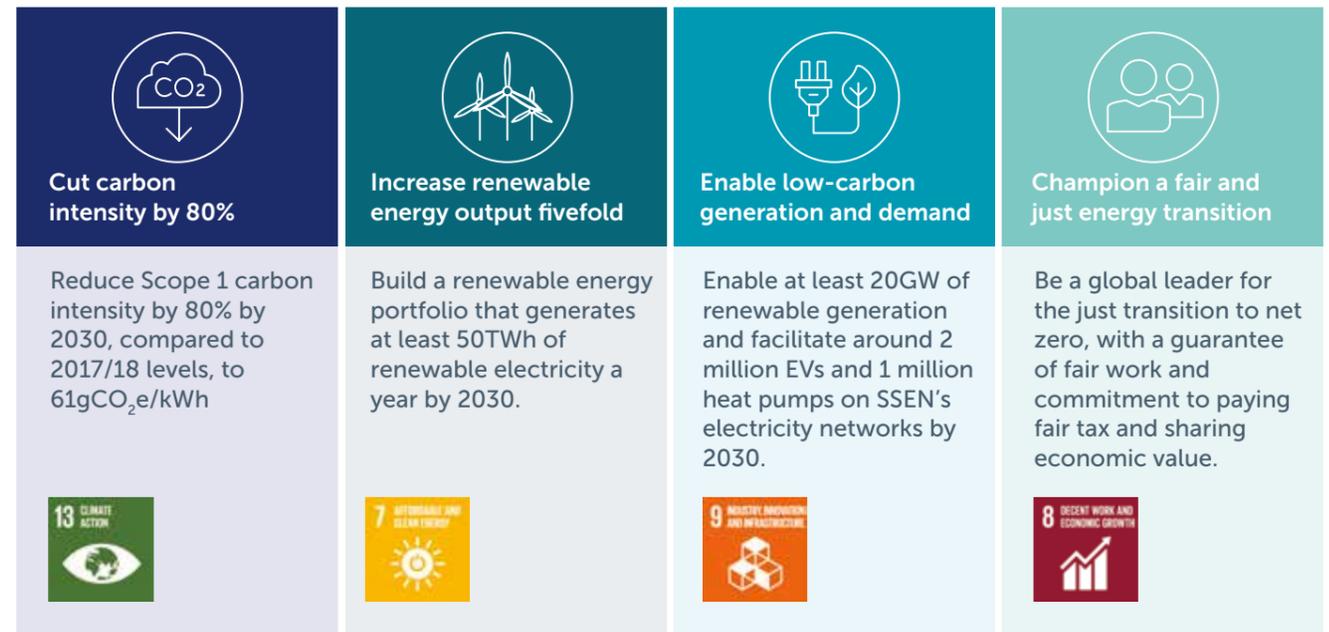
Aligned to the UN Sustainable Development Goals (SDGs) most material to SSE's business activities, the 2030 Goals place sustainability firmly at the heart of SSE's business strategy. They provide a framework for the Company as it works towards its net zero ambitions, ensuring that as it does, it creates and shares value with its stakeholders along the way.

In 2022, SSE undertook a sustainability materiality assessment, supported by a third-party professional services firm, the results which reinforced the highly material nature of the 2030 Goals and the core issues they are focused on. For more information on the results of the materiality assessment, see pages 8 and 9.



Since 2019, SSE has aligned its business strategy to the UN's Sustainable Development Goals (SDGs), which provide the framework to guide the creation of shared value. Within this framework SSE has identified four SDGs which are highly material to the business, and to which it has linked its four core 2030 Goals.

## SSE's 2030 Goals



### Tracking progress against SSE's 2030 Goals

With updated 2030 Goals in early 2022 reflecting an accelerated decarbonisation pathway, financial year 2022/23 was marked as a year of delivery. Progress against each of its four 2030 Goals is set out in detail at the start of the corresponding chapters of this report.

### Accountability for progress

Reinforcing SSE's commitment to the achievement of its 2030 Goals, they have been used as a framework since 2019 to assess performance, which was linked to the performance based Annual Incentive Plan for Executive Directors until 2021/22. The updated Directors' Remuneration Policy, approved by shareholders at the

2022 AGM, has seen performance against these Goals now linked to the longer-term Performance Share Plan, which will vest for the first time in 2025. This is in recognition of the longer-term nature of SSE's sustainability ambitions. More information on sustainability incentives linked to Executive remuneration can be found on page 92 of this report.

## Strategic introduction

# Materiality review 2022/23: defining the issues that matter

The process of defining and confirming the most material social, environmental, and economic matters, is the foundation of any business strategy for sustainability.

**The importance of 'double materiality'**  
SSE has consistently sought to understand its sustainability impacts, however, in 2022, it established an independent and thorough review of its most material environmental, social and governance (ESG) issues.

For the first time, SSE has adopted the 'double materiality' approach, a concept which acknowledges that a company should report simultaneously on sustainability matters that are material in influencing business value and material to the environment and society.

This approach is important because it considers SSE's sustainability impacts from both the perspective of its impacts on the outside world, and the outside world's impact on SSE, meaning risks and opportunities are viewed as a two-way impact. This is a comprehensive and rich consideration of social and environmental issues.

SSE is mindful that emerging ESG disclosure standards from the ISSB and elsewhere are likely to require evidence of a company's most material ESG issues – from both the company and stakeholder perspective. Being able to provide evidence of the status of those issues will support stakeholder confidence in SSE's non-financial disclosures.

**The process to confirm materiality**  
SSE undertook its double materiality assessment with support from an independent professional services firm, with the objective of confirming the ESG issues most material to SSE, both in terms of their impact on the business and the impact of the business on each issue.

The assessment involved a desk-based study and peer review, alongside a series of interviews with internal and external stakeholders, in order to identify the most material ESG issues. In the final stage, a workshop was held with internal stakeholders to validate the prioritisation of the ESG topics and a matrix was produced as a visual aid (see page 9).



**"Materiality is the starting point of any credible sustainability plan. For a power company, sometimes the most material social and environmental issues may seem obvious. But it's important to stay fresh and alive to emerging issues as they arise. And the only way you can learn that, is if you listen deep and hard to your stakeholders."**

**Rachel McEwen**  
Chief Sustainability Officer

**What is double materiality?**  
Traditional materiality assessments often consider how important a particular ESG issue is through one lens. Single lens materiality tends to consider whether an issue is sufficiently important to impact on a company's enterprise value.  
The concept of double materiality goes beyond this financial lens and considers how the company impacts on the issue itself. The combination of both considerations gives a more holistic view of which social, environmental and governance issues should be prioritised.

**The results of the 2022 materiality exercise**  
The double materiality assessment identified 21 ESG issues material to SSE and highlighted five highly material issues for SSE, alongside three areas of opportunity.

**SSE's five most material sustainability topics**

- 1 Carbon emissions
- 2 Sustainable energy generation
- 3 Affordable and reliable energy
- 4 Supply chain management
- 5 Skilled workforce

These five defined sustainability topics map across to the four UN SDG's long identified as being most material to SSE's business activities. Carbon emissions align to SDG 13; sustainable energy generation and affordable and reliable energy both align to SDG 7 and SDG 9 and, finally, supply chains and skills align to SDG8.

It is worth noting, in the context of SDG 8, the increasing salience of supply chain management and a skilled workforce.

The impact of this work is partly, to provide confidence to the organisation that it is prioritising the correct issues. It also is impactful, in that it provides the evidence from which SSE's non-financial disclosures (within SSE's suite of reporting documents) are prioritised.

**Opportunities for enhanced sustainable impact**

The final output from the dedicated materiality review was to identify, through the stakeholders interviewed, areas where stakeholders believed there was opportunity for SSE to make greater impact.

**1. Just transition:** Stakeholders recognised the efforts that SSE has made in relation to the just transition but believed SSE could provide continued leadership, potentially creating a cross industry standard to drive progress and further secure long-term legitimacy.

See pages 58 to 77 – the just transition now frames SSE's efforts under SDG 8 and it has structured its disclosures accordingly.

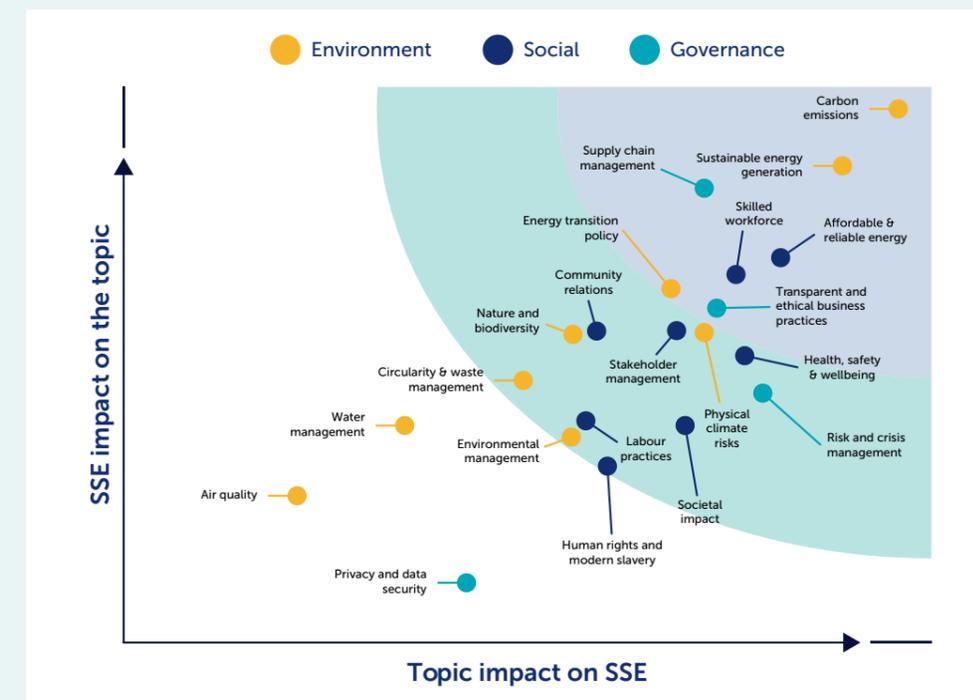
**2. Circularity:** SSE can further embed circularity principles into its operations and in its value chain through industry collaboration and innovation.

See pages 86 for information about the Coalition for Wind Industry Circularity, undertaken after the results of the materiality exercise.

**3. Nature and biodiversity:** SSE can take a leading position in this area and embed nature considerations across its value chain, and prepare for upcoming regulations (e.g., TNFD).

Whilst much more work is required before SSE will be 'TNFD-ready', this year's environmental disclosures have been structured following TNFD methodology and, importantly, the chapter is highlighting the most strategic business issues relating to nature. See pages 78 to 87.

**A matrix of materiality impacts**



The scale and complexity of SSE's business impacts means that there are many sustainability issues it must manage. The results of the entire materiality exercise are represented in the matrix.

The ESG topics are plotted on the matrix by SSE's impact on the topic against the topic's impact on SSE. The issues in the top right hand corner represent the topics with both the highest impact on SSE and on which SSE has the highest impact.

Disclosures relating to each issue are integrated throughout this report.

## Strategic introduction

# Emerging trends

The ability to identify and respond to emerging social, economic, and environmental change is an important feature of SSE's long-term sustainability. While there are 'mega' trends that determine SSE's strategic choices, such as the climate imperative, from year-to-year new features emerge. 2022/23 was no different, with global and national circumstances affecting the external environment SSE operates within.

### Return of the energy trilemma

In 2022/23, the triple challenge of simultaneously achieving security of supply, affordability and decarbonisation was brought into sharp focus. Since the term 'energy trilemma' was first coined by the World Energy Council in the early 2000s, the focus of political and public attention has swung from one challenge to the next. However, the Russian invasion of Ukraine and the gas supply shortages that resulted in Europe in 2022 raise new challenges relating to both security of energy supplies and affordability.

The recent affordability challenge is directly caused by the dependency of Western Europe on imported gas from Russia and the market volatility and energy price spikes that resulted when supplies were restricted. The British Energy Security Strategy in 2022 was the UK's long-term response to those challenges setting out, amongst other things, a target for 50GW of offshore wind by 2030. With electricity prices being set

by the marginal price of gas generation, a further government-initiated reform under REMA (the Review of Electricity Markets Arrangements) seeks to decouple the price of electricity generated by renewable energy from the price of gas. The EU RePower programme further reinforces the desire for governments to act in addressing both the short- and long-term impacts of the war in Ukraine.

In Ireland, shortages of electricity supply led the Irish Government to intervene in the market to ensure emergency generation is available in the short term with SSE being approached by government authorities to enable temporary generation at its Tarbert site in County Kerry.

SSE welcomed enhanced government action to support consumers with the exceptional costs of energy in the last 12 months but believes the long-term solutions associated with accelerated build out of renewable energy, a step change in

energy efficiency measures along with the flexible energy sources to back it up and the network infrastructure to connect and transport it will prevent such energy price extremes in the future.

**"Putin's abhorrent war in Ukraine and rising energy prices across the world are not a reason to go slow on climate change. They are a reason to act faster. Because diversifying our energy supplies by investing in renewables is precisely the way to insure ourselves against the risks of energy dependency."**

**UK Prime Minister Rishi Sunak, address to COP27, November 2022**

### Our warming world

The final instalment of the Intergovernmental Panel on Climate Change's (IPCC) sixth assessment report provides the most comprehensive scientific assessment of climate change. While the synthesis report was the culmination of eight-years of scientific assessment, it represents the most up-to-date consensus of the consequences of rising greenhouse gas emissions.

The report confirmed that concentrations of the warming gas CO<sub>2</sub> in the atmosphere are at their highest in two million years. While climate scientists recognise that global temperatures are getting close to exceeding 1.5°C temperature increase since preindustrial levels, deep and immediate cuts in greenhouse gas emissions will limit warming to a short and temporary overshoot.

With the significant scale of investment required in its network in the north of Scotland, SSEN Transmission engages closely with all communities and stakeholders with an interest in its infrastructure developments. Some stakeholders have raised whether some form of community benefit funding might be an appropriate way to share in the value of these developments in addition to the other economic and employment opportunities they bring. SSEN Transmission will continue to engage with Ofgem and its stakeholders to consider the potential for a legacy fund being created, particularly to support the next phase of its network expansion which is critical to powering change and meeting Scotland and the UK's renewable energy targets.

**"Even in the near term, global warming is more likely than not to reach 1.5°C even under the very low greenhouse gas scenario."**

**Intergovernmental Panel on Climate Change (IPCC), March 2023**

### Nature and people: the interdependencies of net zero

In the UK, the HM Treasury-led Transition Plan Taskforce (TPT) published its Disclosure Framework and Implementation Guidance for company net zero transition plans at COP27 in November 2022. SSE's early adopter status led to SSE being invited to join the TPT Delivery Group in February 2023.

Within the Disclosure Framework, the importance of interdependencies within transition plans is called out as an area for companies to consider in a holistic way. The importance of factoring the role of nature, both as a tool for building in resilience to a climate changed world, and to mitigate against greenhouse gas emissions is recognised. Equally, the notion of a just transition and managing the social consequences of the net zero transition on working people, consumers, and their communities is emerging as a critical consideration for any transition plan.

While the adoption of just transition

principles and nature within net zero transition plans, adds complexity to company plans, SSE believes this is an important trend and will represent the gold standard in the establishment of credible transition plans for companies.

out of renewable energy, a step change in energy efficiency measures along with the flexible energy sources to back it up and the network infrastructure to connect and transport it will prevent such energy price extremes in the future.

**"A [net zero transition plan] should examine all material interdependencies, including those that relate to the natural environment, workers, suppliers, communities, and consumers."**

**Transition Plan Taskforce Disclosure Framework, November 2022**



## Identifying material issues

### Achieving a decarbonised UK power system by 2035

The International Energy Agency (IEA) global decarbonisation pathway outlines the importance of power generation in developed countries achieving net zero greenhouse gas emissions by 2035. The UK Government has targeted 2035 as the goal for the UK power sector to achieve complete decarbonisation and, in March 2023, a long-awaited report from the UK's Climate Change Committee (CCC) set out to answer the question: "can we rely on an electricity system based on renewables?".

Using historical weather data and testing against an extreme wind drought of 30 days the CCC concluded that the system will be dependable with 70% renewable generation and point out the importance of low-carbon dispatchable (or flexible backup) plant. They also retain a small amount of unabated gas, calling it a 'strategic reserve' amounting to 2% of total generation. The CCC specifically highlighted that the greatest risk to achieving a decarbonised power sector in the UK is deployment and that processes including planning and consenting need urgent reform to enable infrastructure to be deployed at sufficient speed.

This CCC report confirms a growing understanding that, while national ambition and clear targets for renewables and network infrastructure are very welcome, there are challenges in delivery. SSE is working constructively with planning authorities and others, to work through these barriers, while remaining mindful of the critical need to consult effectively with communities and other stakeholders impacted by infrastructure delivery.

**"This is a national mission at scale – build rates for generation and network capacity exceed anything achieved before... [a decarbonised power system by 2035] is credible and achievable, with multiple benefits... but the present system of planning and consenting just isn't up to it."**

**Chris Stark, Chief Executive, Climate Change Committee, March 2023**

### The role of critical minerals in the clean energy transition

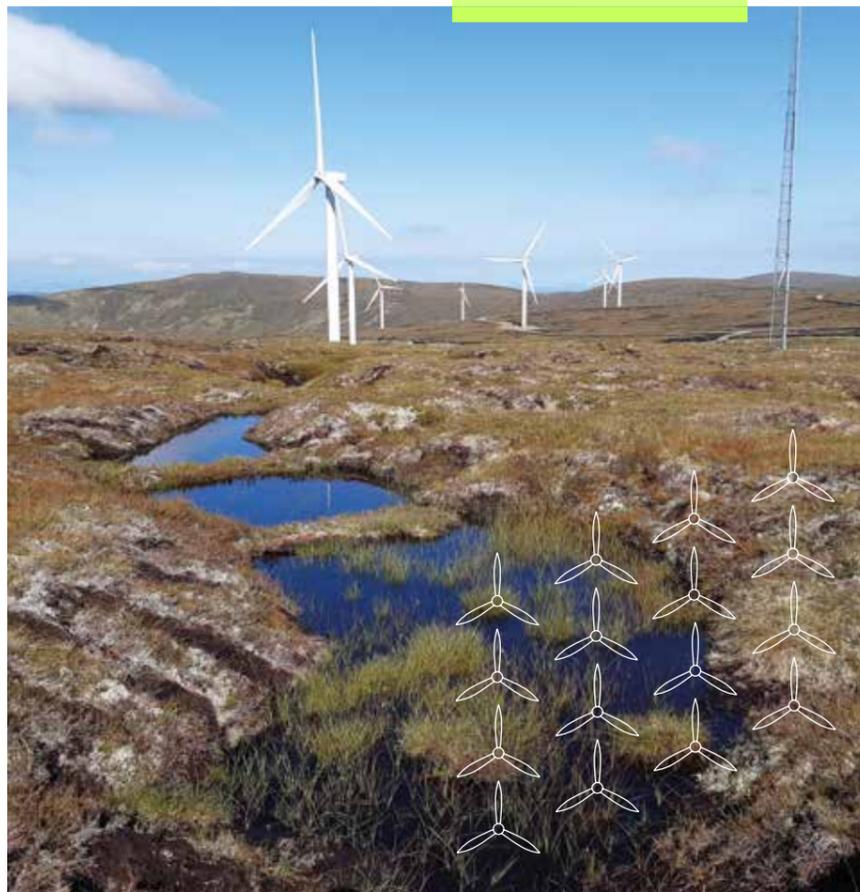
There is an increasing understanding of the criticality of key mineral resources to enable the clean energy transition, with an onshore wind farm typically requiring nine times more mineral resources than a gas-fired plant and an electric vehicle six times more than a conventional one.

While a flagship report in 2021 by the IEA identified the scale of resource required, more studies are being released showing the juxtaposition of global unmined resources and its collocation with the lands of indigenous peoples. Some reports suggest that 50% of the key minerals required for the energy transition, including lithium, cobalt, copper, and nickel, are located within indigenous peoples' land. The right to consultation and Free Prior and Informed Consent (FPIC) of indigenous and peasant peoples is embedded within United Nations declarations and the IEA is taking an important leadership position amongst nation states and international mining companies.

As an end user of those mined products, SSE is paying close attention to developments and is working with its own suppliers to consider how to ensure that the transition minerals that feature in SSE's manufactured components were mined using FPIC principles. SSE also recognises the contribution a fully functioning circular model can make, in reducing the scale of mining virgin materials.

**"... the IEA is taking the lead responsibility on secure and sustainable supplies of critical minerals. Managing these resources effectively is essential to ensure energy and climate goals translate into tangible action and clean energy projects on the ground."**

**Dr Fatih Birol, Executive Director, International Energy Agency, May 2023**



## Driving better outcomes together

Collaboration with the wide range of stakeholders who have a direct interest in SSE is essential to facilitate strategic decision-making and to support the achievement of shared sustainability-related objectives.

### SSE's approach to stakeholder engagement

SSE promotes an open and transparent approach to stakeholder engagement which is supported by governance and accountability at both Group and Business Unit level. Through the course of its daily interactions with a broad range of stakeholders, SSE seeks to ensure that their perspectives are built into its business plans and objectives at every stage.

SSE defines six key stakeholder groups: Employees; Shareholders and debt providers; Energy customers; Government and regulators; NGOs, communities and civil society; and, Suppliers, contractors and partners. Full detail on the range of engagement methods SSE adopts to build reciprocal relationships with these stakeholders, alongside the issues identified as material to them, can be found on pages 28 to 33 of SSE's Annual Report 2023.

### Partnering for good

SSE's partnerships form a core part of

SSE approach to business and ensuring it contributes positively to wider societal issues. They enable it to drive progress by collaborating with leaders and specialists to achieve more than it could alone. SSE works with several longstanding values-based partners which form a core part of SSE's sustainable culture and help set standards for the way SSE operates.

These include almost decade-long partnerships with the Living Wage Foundation and the Fair Tax Foundation, working to address two issues which SSE believes are at the heart of sharing value with society. SSE's commitment to these partnerships has only strengthened in recent years, with it becoming a Living Hours accredited employer in March 2021 and transitioning to the Fair Tax Foundation's new Global Multinational Business Standard in November 2022 (see page 62).

SSE is also signed-up to voluntary international frameworks, which ensures

that it operates to highest standards aimed at ensuring the common good. This includes being a signatory of the UN Global Compact since 2018, aligning to its ten principles for corporate sustainability, and being a subscriber to the Institute of Business Ethics since 2014, through which it shares best practice on embedding ethical business cultures.

### Collaborating for industry-wide progress

Strong partnerships are increasingly important as the change affecting the energy sector continues at pace. The transition to net zero presents many industry-wide challenges which often require a network of collaborators to solve together. SSE works with several partners that inform its thinking and enable SSE to be part of the discussions around emerging industry challenges and solutions.

For example, SSE is working with the turbine manufacturing companies, to develop joint plans in establishing a greater proportion of wind turbine components that have the ability to be refurbished and remanufactured (see page 86).

SSE's supply chain is an important area for collaboration and SSE has a number of supply chain partnerships, including: the Powering Net Zero Pact, created by SSE with 10 key founding partners, which is working to address five key topics to bring about a fair and just transition to net zero; and the Supply Chain Sustainability School, with which SSE has been a principal partner since 2021 and work with to engage with its employees, as well as collaborate closer with its suppliers.



For more detail on the many business partnerships that SSE holds across its Business Units, all of which provide valuable input and contribution, see [sse.com/sustainability](https://sse.com/sustainability).

## PARTNERING IN ACTION



### Forging new partnerships

In 2023, SSE formed a new relationship with the Institute for Human Rights and Business (IHRB), the global centre of excellence and expertise on the relationship between business and internationally recognised human rights standards.



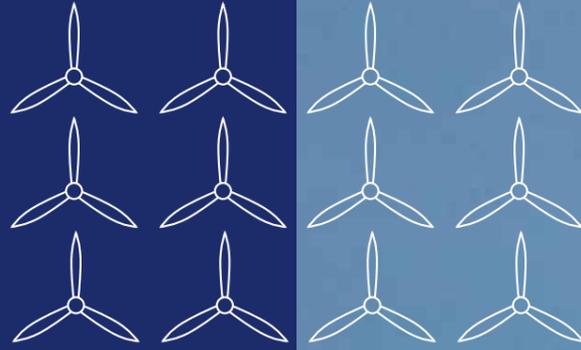
Hosting a 'Wilton Park Dialogue' in October 2022, with SSE in attendance, the IHRB has emerged as one of the most important voices on efforts to deliver a just transition for working people and their communities in both the developed and developing world. SSE's subscription to the IHRB first and foremost, supports its work, but also provides SSE with a platform to learn and benefit from, emerging thinking and best practice on areas which both SSE and the IHRB have identified as key priorities, such as the advancement of rights-based approaches to key sectoral net zero transformations through a just transition.

The IHRB has recognised SSE as one of the world's first companies to create a just transition strategy and action framework. In May 2023, the IHRB published a podcast in which SSE's Chief Sustainability Officer discussed SSE's approach to ensuring a just transition and some of the key lessons learned along the way. The podcast is available at [ihrb.org](https://ihrb.org).

# Enhanced climate action

National and international climate ambitions have established a power sector decarbonisation pathway. SSE's enhanced capital investment programme 'NZAP Plus' accelerates delivery of its net zero ambitions with a practical plan of action in the short and medium term.

In every credible national and international pathway to net zero, decarbonised electricity plays a critical role. Enabling the decarbonisation of key sectors, particularly heat and transport, the importance of swift and effective delivery of renewables, grid infrastructure, and low-carbon flexibility in the next decade is stark. SSE's integrated business model has an advantage in that it supports whole system thinking, and it is in the business of practical real-world delivery. Its intention is to position its growth ambition to meet the clear requirement from society: a decarbonised power system in the UK, Ireland and beyond, in 2035.



## Cut carbon intensity by 80%

Reduce scope 1 carbon intensity by 80% by 2030, compared to 2017/18 levels, to 61gCO<sub>2</sub>e/kWh

The scope 1 carbon intensity of electricity generated remained relatively stable, falling by 2% between 2021/22 and 2022/23.

Progress was made in renewables growth and in developing lower-carbon flexible thermal generation options. While Keadby 3 Carbon Capture Power Station project has not yet achieved the final stages of the UK Government's Cluster Sequencing Process, a similar project at Peterhead attracted 'Tier 2 Status'. Keadby 2, which began commercial operations in March 2023, is Europe's most efficient CCGT. 10-year contracts were secured – subject to planning permission and final investment decision – for two new low-carbon power stations in Ireland fueled by sustainable biofuel.



## Enhanced climate action

### Performance summary

Category	Description	Unit	2022/23	2021/22	2020/21
<b>Assured greenhouse gas inventory</b>	Scope 1 GHG emissions	Million tonnes CO <sub>2</sub> e	6.08 <sup>(A)</sup>	5.75 <sup>(B)</sup>	7.10 <sup>(C)</sup>
	Scope 2 GHG emissions	Million tonnes CO <sub>2</sub> e	0.44 <sup>(A)</sup>	0.49 <sup>(B)</sup>	0.54 <sup>(C)</sup>
	Scope 3 GHG emissions	Million tonnes CO <sub>2</sub> e	4.81 <sup>(A)</sup>	3.69 <sup>(B)</sup>	3.39 <sup>(C)</sup>
	Total GHG emissions	Million tonnes CO <sub>2</sub> e	11.33 <sup>(A)</sup>	9.93 <sup>(B)</sup>	11.03 <sup>(C)</sup>
<b>Science-based carbon targets</b>	Scope 1 and 2 emissions	Million tonnes CO <sub>2</sub> e	6.52 <sup>(A)</sup>	6.24 <sup>(B)</sup>	7.64 <sup>(C)</sup>
	Scope 1 GHG emissions intensity of electricity generated	gCO <sub>2</sub> e per kWh	254 <sup>(A)</sup>	259 <sup>(B)</sup>	256
	GHG emissions from gas sold (scope 3 carbon emissions)	Million tonnes CO <sub>2</sub> e	2.16 <sup>(A)</sup>	2.29	2.35
	Proportion of SSE's suppliers by spend that have set or committed to set science-based targets through the SBTi <sup>1</sup>	%	52	48	29
<b>CDP</b>	SSE's CDP Climate Change Programme	Rating	A	A	A-
<b>Climate Adaptation</b>	<b>Weather-related resilience expenditure by SSEN Distribution <sup>2</sup></b>				
	Overhead line replacement and refurbishment	£m	32.7	23.5	27.8
	Tree cutting	£m	23.0	23.7	27.7
	Flood protection	£m	1.1	1.6	3.4

Detailed disclosure on the breakdown of SSE's scope 1, 2, and 3 emissions is available in SSE's sustainability data tables which can be accessed at [sse.com/sustainability](https://www.sse.com/sustainability).

<sup>1</sup> SSE's supplier target is calculated from a 2019/20 baseline. At 31 March 2023, 34% of SSE's suppliers (by value) had set their own science-based targets through the SBTi with a further 17% committed to setting one.

<sup>2</sup> 2022/23 data may be subject to minor adjustment before final inclusion in the regulatory reporting pack published to Ofgem in July 2023. Some 2021/22 data has been slightly revised after finalisation of data for the July 2022 Ofgem regulatory reporting pack.

(A) This data is subject to external independent limited assurance by PricewaterhouseCoopers LLP (PwC). For the results of that assurance, see PwC's assurance report and SSE's GHG and Water Reporting Criteria 2023 on [sse.com/sustainability](https://www.sse.com/sustainability).

(B) This data was subject to external independent limited assurance by PricewaterhouseCoopers LLP (PwC). For the results of that assurance, see PwC's assurance report in SSE's Sustainability Report 2022 and SSE's GHG and Water Reporting Criteria 2022, both available on [sse.com/sustainability](https://www.sse.com/sustainability).

(C) This data was subject to external independent limited assurance by PricewaterhouseCoopers LLP (PwC). For the results of that assurance, see PwC's assurance report and SSE's GHG and Water Reporting Criteria 2021 on [sse.com/sustainability](https://www.sse.com/sustainability).



# A strategy to mitigate and adapt to climate change

SSE is providing the practical solutions to deliver a decarbonised energy system whilst also reducing carbon emissions arising from its own business activities. SSE's strategy is aligned to the ambitions set out in the Paris Agreement and an accelerated power sector pathway to net zero consistent with global warming of no more than 1.5°C. SSE also aims to increase the resilience of its business by adapting to the impact of a changed climate.

### Targeting net zero

SSE aims to achieve net zero across scope 1 and 2 emissions by 2040 at the latest (subject to security of supply requirements) and for remaining scope 3 emissions by 2050 at the latest. SSE has a series of interim science-based targets that align to a 1.5°C pathway.

### Actions to achieve net zero

SSE will, first and foremost, take action to reduce emissions as low as possible and its Net Zero Transition Plan sets out the key actions it is taking to achieve its targets to drive progress towards its net zero ambitions. More information on SSE's action plan can be found in the Net Zero Transition Report summary table on pages 28 and 29. Only when abatement is maximised will SSE deploy technologies or nature-based solutions that will neutralise any residual emissions.

SSE's Net Zero Transition Plan was first published in March 2022 and updated in October 2022 in response to shareholder and wider stakeholder feedback. The updated Net Zero Transition Plan outlines SSE's net zero aligned targets and describes 17 actions to reduce material GHG emissions across scopes 1, 2 and 3.

### Developing and promoting transition planning

SSE believes Net Zero Transition Plans play a critical role in outlining company pathways to net zero, supporting both delivery and accountability. SSE believes plans must have integrity and in developing its own plan, it sought to be transparent on the challenges and interdependencies of delivering the actions set out. With this principle in mind, SSE has:

- Updated its plan to address additional material issues identified by its stakeholders including:
  - scope 3 'investments' to recognise SSE's joint acquisition of Triton Power;
  - providing further explanations on the role of neutralisation technologies in achieving net zero; and

## ENGAGEMENT IN ACTION



### An early adopter of net zero transition planning

In advance of any mandatory requirements and prior to the publication of transition plan recommendations and guidance, SSE developed its own transition plan to set out its route to net zero. The transition plan was built on three key principles: **targets** to set direction; **actions** to deliver the targets; and **integrity** with the aim of being open and honest about the pathways to achieve net zero. This has led SSE to gain invaluable experience in the development and publication of transition plans and reports making it an early example in relation to its arrangements for scrutiny and accountability through the annual shareholder vote.

All this work on transition plans has led to SSE being involved in the UK Government's Transition Plan Taskforce which is tasked with the development of a 'gold' standard for private sector climate transition plans. SSE initially was involved in the UK Transition Plan Taskforce Implementation and Guidance Working Group; it then supported the sandbox exercise which tested the Disclosures Framework and Implementation Guidance; and, more recently, it became a member of the TPT Delivery Group, TPT Adaptation and Just Transition Working Groups and the Electric Utility and Power Generators Working Group all of which are developing topic and sector specific guidance on transition plans.

c. adding cross-cutting issues to recognise the key role that climate adaptation and just transition will play in the transition to net zero.

supporting the development of sector specific frameworks, and guidance on cross cutting issues of just transition and climate adaptation.

- Supported the UK Government's Transition Plan Taskforce (TPT) working group for preparers and users in the development of the TPT Disclosure Framework and Guidance and in its subsequent sandbox exercise. SSE continues to support the widespread adoption of transition planning and, as a member of the TPT's Delivery Group, it is

**Net Zero Transition Plan reporting**  
SSE's Net Zero Transition Plan can be found at [sse.com/sustainability](https://www.sse.com/sustainability) and additional climate-related disclosures are provided within SSE's Annual Report and CDP disclosures. SSE's annual Net Zero Transition Report provides a summary and navigation tool which shareholders receive for vote each year. All reports are available at [sse.com/sustainability](https://www.sse.com/sustainability).



Enhanced climate action

# Climate performance in 2022/23

SSE aims to reduce its GHG emissions in line with the power sector 1.5°C pathway and has set interim targets en route to net zero. To track these targets, SSE reviews performance and reports progress annually.

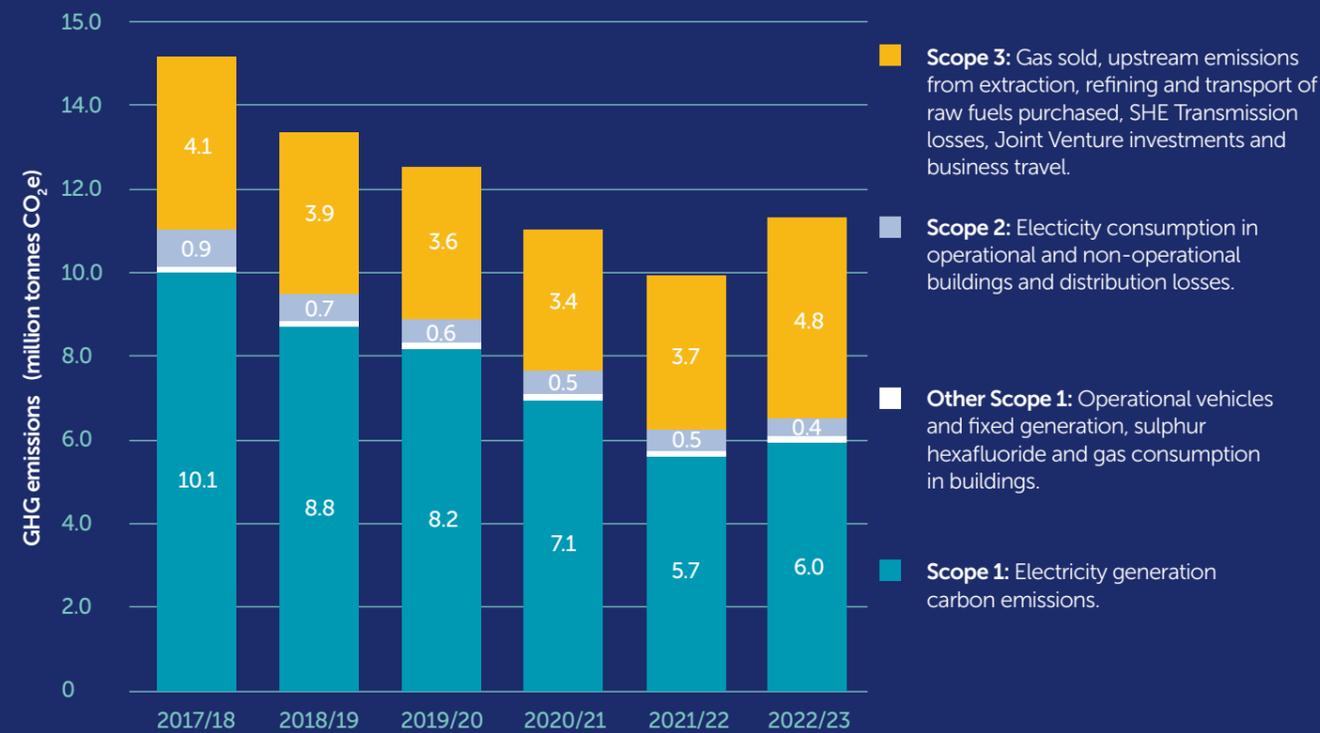
**Year on year GHG emissions performance**

In the 2022/23 reporting period total GHG emissions were higher in comparison to the previous reporting period (2021/22). SSE's total GHG emissions (scope 1, 2 and 3) increased by 14%, from 9.9MtCO<sub>2</sub>e to 11.3MtCO<sub>2</sub>e, between 2021/22 to

2022/23. This was predominantly a result of the acquisition of Triton Power in September 2022; and a rise in output from SSE's thermal generation plant due to market conditions and the reinstatement of operations following planned and unplanned outages the previous year. The impact of weather, demand and

availability of plant can mean that GHG emission trends vary between reporting periods. This means that over time emissions can go up as well as down but the overall trajectory of SSE's emissions pathway is in line with its net zero ambitions.

Figure 1 GHG emissions by scopes between 2017/18 and 2022/23



**Note on SSE's emissions arising from SSE Thermal Joint Ventures**

SSE's scope 3 inventory includes GHG emissions associated with Joint Venture holdings according to equity share if SSE does not have operational control. This reflects the fact that under SSE's 'operational control' method of reporting GHG emissions, Joint Ventures are classed in the scope 3 'investment' category. This is based on SSE's interpretation of the Greenhouse Gas Protocol. Joint Ventures included in the GHG inventory include:

- Seabank power station (50% ownership share) - reflecting the end of SSE's power purchase agreement on 30 September 2021. It should be noted that prior to September 2021, 100% of Seabank GHG emissions were accounted in SSE's scope 1 emissions.
- Triton Power (50% ownership share), including Saltend power station, Indian Queens gas-fired power station and the decommissioned Deeside power station. SSE acquired its equity share on 1 September 2022 and includes 50% of its emissions from that date in its scope 3 inventory. For Triton Power the GHG emissions are based on management information obtained from the Joint Venture. The acquisition does not breach the 10% significance test applied by SSE in relation to its recalculation policy as outlined in SSE's GHG and Water Criteria 2023 (see [sse.com/sustainability](https://www.sse.com/sustainability)).



"We need to move beyond the debates on climate ambition and simply get on with the job: delivering a net zero transition plan that removes greenhouse gas emissions from the production of electricity."

Martin Pibworth,  
Chief Commercial Officer

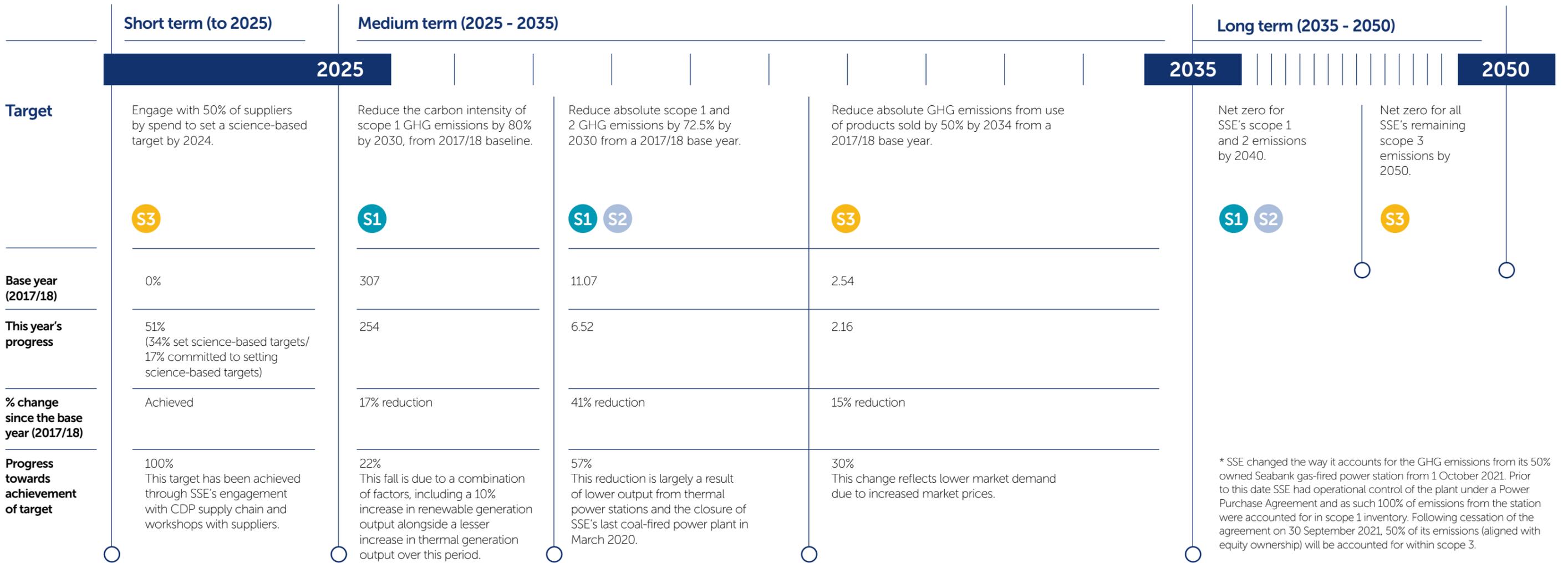
# SSE's performance against its Net Zero Transition Plan

## Progress in the context of the interim science-based targets

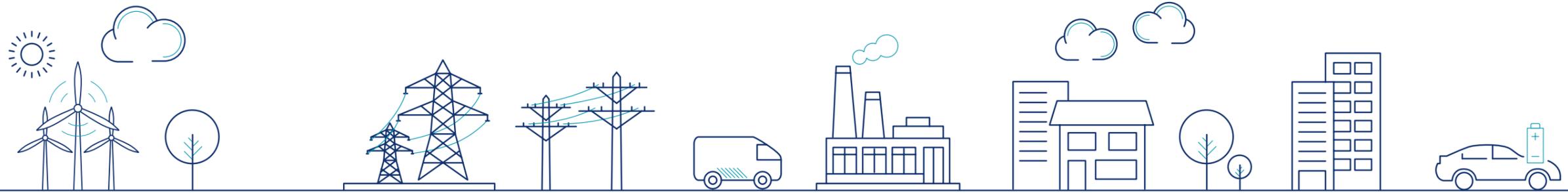
At the heart of SSE's Net Zero Transition Plan is a set of interim emissions targets that are aligned to a 1.5°C pathway. Providing energy, a lifeline service, means that it must also meet the social obligation of supporting the security of energy supply for homes

and businesses. That means that medium term targets are particularly important, given that, in the short term, the emissions are influenced by external factors outside of its control. In the medium term, however, targets can be aligned to investment cycles. It is within that context that an annual review of its

progress against its key science-based targets is important and is demonstrated in the graphic below. SSE is making reasonable progress against these key, science-based targets and, following the publication of its revised capital investment plan, the NZAP Plus, it continues to be confident that it will meet these targets on time.



\* SSE changed the way it accounts for the GHG emissions from its 50% owned Seabank gas-fired power station from 1 October 2021. Prior to this date SSE had operational control of the plant under a Power Purchase Agreement and as such 100% of emissions from the station were accounted for in scope 1 inventory. Following cessation of the agreement on 30 September 2021, 50% of its emissions (aligned with equity ownership) will be accounted for within scope 3.



## Enhanced climate action

# Directly impacting emission reductions

With electricity generation providing the vast majority of SSE's direct impact on climate change, SSE is focused on actions to remove GHG emissions from its thermal generation activities. SSE is also responsible for other GHG emissions in other areas of its business and is working hard to reduce the impact of these.

### Transitioning electricity generation

SSE's activities generate GHG emissions, the most significant source of GHG emissions arises from burning fossil fuels (mainly gas with some oil) in power stations to generate electricity. During 2022/23 the focus of SSE's GHG emission reduction activities was on the development of innovative low-carbon thermal electricity generation projects which can reduce GHG emissions while supporting secure electricity systems. Focus has been on carbon capture and low-carbon hydrogen technologies, as well as sustainable biofuel as a bridge into hydrogen, that will support the delivery of a net zero electricity system.

SSE's Tarbert site in Ireland is an example of work undertaken to develop lower carbon alternatives. The existing oil-fired power station at the site will close by the end of 2023, in line with environmental requirements. In the very short-term, and in response to a direct request from the Irish authorities, SSE will provide temporary and emergency generation to support system requirements however, the sustainable solution is to repurpose the site for enduring low-carbon thermal generation solutions. Plans are underway to build a new power station that will initially run on sustainable biofuel and in the future will have the potential to convert to low-carbon hydrogen when the fuel source is available. For further information on Tarbert see page 87.

Alongside the development of low-carbon thermal generation, SSE is also displacing higher carbon generation in the UK with its newly operational gas-fired CCGT at Keadby 2. Keadby 2 is the most efficient plant of its type in Europe, with an efficiency of around 63%, and work is already underway to decarbonise it further with the potential to blend hydrogen in the future. Keadby 2 provides important flexibility for the UK electricity system and complements the increased renewable

## PARTNERING IN ACTION



### Developing low-carbon technologies in thermal generation

SSE Thermal has progressed plans at its existing Aldbrough gas storage site in East Yorkshire to deliver a first-of-a-kind project, bringing together hydrogen production, hydrogen storage and 100% hydrogen-fired power generation on one site by the middle of the 2020s. This project will support the evidence base for wider deployment of flexible hydrogen power.

The concept would see the purchase of renewable sourced power from the national grid through renewable Power Purchase Agreements to produce hydrogen through electrolysis. The hydrogen would comply with the UK Government's Low Carbon Hydrogen Standard, which sets a threshold for GHG emissions in the production process. The hydrogen will be produced using a 35MW electrolyser then stored in a converted salt cavern before being used in a 100% hydrogen-fired turbine, exporting flexible green power back to grid at times of system need. The project's potential has also been recognised by the UK Government, which advanced it to the next stage of the Net Zero Hydrogen Fund in March 2023.

Additionally, in partnership with Equinor, SSE Thermal is developing cutting edge carbon capture power stations. In December 2022, Keadby 3 became the first power carbon capture and storage project in the UK to secure planning consent. With capacity of up to 910MW, Keadby 3 will use natural gas as a fuel and be fitted with carbon capture technology to remove the carbon dioxide from its emissions. In line with UK Government policy, the station would capture at least 90% of carbon dioxide emissions, with work underway to achieve consistent capture rates over 95%. The new plant would capture up to 1.5MtCO<sub>2</sub> each year (dependent upon the running regime of the power station).

generation available on the grid, as lower carbon alternatives continue to be developed.

### Networks for a low-carbon future

#### Reducing reliance on diesel generation

Alongside the development of low-carbon options for the generation of electricity, SSE is also investing in its networks to reduce associated GHG emissions. In particular, SSEN Distribution's strategy is to reduce reliance on diesel generation across both networks including the

Scottish Islands. SSEN uses generators to provide critical backup electricity generation during storms and planned maintenance outages. These use carbon intensive heavy fuel oil and are a significant source of SSEN Distribution's emissions. SSEN Distribution is exploring alternative technologies, reviewing operational methods and potential network configuration to reduce the need for emergency generation for the long term. In the meantime they are trialling biofuels as a transition fuel - to replace the more carbon intense fuel oil that is currently used. Generators using biofuels have been trialled in the northern networks and

funding has been received for replacing emergency backup generation plant at Battery Point in the Scottish Islands.

### Managing and replacing SF<sub>6</sub>

Sulphur hexafluoride (SF<sub>6</sub>) gas has been used extensively across the electrical industry due to its insulating and interruption properties, making it possible to reduce equipment size and improve reliability and safety. However, SF<sub>6</sub> is a greenhouse gas that is 23,500 times more harmful to the Earth's atmosphere than carbon dioxide which if released, stays in the atmosphere for over 3,000 years.

As a result, SSE's networks and thermal businesses have been adopting specific procedures to manage, monitor and report SF<sub>6</sub> to prevent and reduce SF<sub>6</sub> leakages. In 2022/23, SSE's SF<sub>6</sub> emissions increased to 424kg from 305kg the previous year in SSEN Transmission, SSEN Distribution and SSE Thermal due to equipment failures. These have all been assessed, repaired and actions put in place to mitigate these in the future.

For SSEN Distribution and Transmission businesses, SF<sub>6</sub> leakage has an impact on their operations and these businesses have several initiatives to prevent and reduce SF<sub>6</sub> leakages from their networks. SSEN Distribution's RIIO ED2 Business Plan outlines its SF<sub>6</sub> leakage reduction strategy and over the past year it continued to minimise switchgear SF<sub>6</sub> leakage as well as trialling alternatives. SSEN Transmission continues to work with suppliers to use alternative SF<sub>6</sub> gases in its network in the north of Scotland. To date, SSEN Transmission has energised five substations with a further six in construction and two in development using distinct SF<sub>6</sub>-free alternative technologies.

Externally, SSEN Transmission and Distribution are taking active roles in addressing the issue of SF<sub>6</sub> and are part of the Energy Networks Association SF<sub>6</sub> (IIG) Strategy group.

### Managing electricity losses on the distribution networks

Distribution losses refer to the electricity lost as it travels through SSEN's equipment, known as technical losses, or through measurement inaccuracies and theft, known as non-technical losses. Reducing emissions arising from electricity losses



## INNOVATION IN ACTION



### SF<sub>6</sub> alternatives research

As part of its Network for Net Zero business plan, SSEN Transmission continues to move to using alternative gases with a lower carbon footprint than sulphur hexafluoride (SF<sub>6</sub>) as an insulating gas. SF<sub>6</sub> is the industry norm for insulation gases within switchgear due to its exceptional insulating properties. That means there is less experience and knowledge associated with the use of new alternative gases which could lead to future challenges from their use on the network. As a result, SSEN Transmission is undertaking a key research project, called the Condition Assessment of SF<sub>6</sub> Alternatives (CASA), to understand the changes in operating conditions associated with the use of SF<sub>6</sub> alternatives and their potential impact on the network system when rolled out at scale.

The research looks at the condition monitoring requirements of the alternative gases with the aim of gaining key insights into the type and severity of defects associated with these systems. With this information it is hoped that network operators will be able to detect defects earlier and implement planned interventions to manage the network. In addition, the research will help the industry to develop and advance international measurement standards and diagnostic data tools to support the use of these innovative SF<sub>6</sub> alternative solutions.

across its networks is a key component of SSEN Distribution's RIIO ED2 Business Plan. SSEN Distribution is implementing its strategy to reduce electricity losses across its network by installing assets with known lower loss rates, trialling

innovative loss reduction techniques and tackling electricity theft. For further information see SSEN Distribution's RIIO-ED2 Environmental Action Plan document available at [www.ssen.co.uk/about-ssen/sustainability](http://www.ssen.co.uk/about-ssen/sustainability).

## Enhanced climate action

### Managing energy consumption

Between 2021/22 and 2022/23, the energy SSE purchased for use in its assets (offices, depots, thermal power stations, gas storage facilities, and data centres) increased by 5%, from 196GWh to 206GWh. A large contributor to this trend was a 60% increase in energy consumed in SSE's gas storage facilities compared to 2021/22. This was largely due to increased gas storage activities at SSE's Aldbrough facility to ensure security of supply.

Energy consumed in SSE's offices, depots and data centres reduced by 5% compared to 2021/22. This was due to the continued investment by SSE in 2022/23 in a range of energy efficiency measures including a programme of LED lighting upgrades to depot sites and it continued its 'Better Off' behaviour change campaign.

In 2022/23, SSE purchased 100% of its electricity for use in its directly managed offices from renewable sources, backed by renewable guarantees. In 2022/23, around 52% of the electricity that SSE purchased for its assets (offices, depots, thermal power stations, gas storage facilities, and data centres) was from renewable sources, up from around 39% the previous year.

SSE is a member of the Climate Group's EP100 initiative to encourage businesses to double energy productivity associated with office and depot buildings by 2030 from a 2011 baseline. From 1 April 2022

onwards, SSE set an annual reduction target of 7.19% against a 2020/21 baseline, to align with its ambition of achieving a net zero non-operational buildings (offices, depots, and data centres) estate by 2035.

### Electrifying SSE's vehicle fleet

In July 2019, SSE joined The Climate Group's EV100 initiative and committed that by 2030 it will switch 2,500 of its vehicles to electric and install charging points at its sites.

Since the launch of SSE's new low emission company car scheme in June 2020, the uptake of electric vehicles and low emission vehicles has increased significantly. By the end of 2022/23 over 57% of its car fleet was fully electric, this increases to 73% with the addition of Plug in Hybrids which are classed as low emission vehicles. In addition, SSE at the time of reporting had another 201 fully

electric vehicles and a further 176 Plug in Hybrids on order. The success of the car scheme has resulted in a reduction in the average CO<sub>2</sub> across SSE's car fleet from 106gCO<sub>2</sub>/km when the scheme launched, to just 36gCO<sub>2</sub>/km at the end of 2022/23.

SSE has also expanded its fully electric van fleet between 2021/22 and 2022/23, increasing it from 41 to 47 with one currently on order. SSE is trailing all low emission and fully electric vans that come to market and will increase volumes when suitable vans become available to match operational requirements.

SSE has also continued to grow its electric vehicle charging infrastructure, increasing installations to 758 in 2022/23, from 519 the previous year. This includes 158 rapid and two ultra-rapid charge points.



## CASE STUDY

### Trailing new electric vehicles and infrastructure across SSE's operations

To continue to increase the uptake of electric vehicles across SSE, plans are in place in 2023/24 to test, buy and install infrastructure to support the use of low-carbon vehicles across its operations.

In terms of electric vehicle charging infrastructure, SSE's property team are set to install 126 electric vehicle charge points across its offices; SSEN Transmission will install 32 electric vehicle chargers at its substation sites; SSEN Distribution will add a further 39 charging points at its depots

and SSE Renewables aims to install 14 charging points at its operational sites across GB and Ireland in 2023/24.

In addition, SSEN Distribution will trial a fully hydrogen 3.5 tonne vehicle as well as electric vans in its operations in the north of Scotland. Furthermore, SSE will trial the first ever 4x4 electric vehicle at its Clyde wind farm in 2023/24. This vehicle which will be manufactured in Scotland has been designed specifically for the utility industry.

## Influencing emissions reductions

An important element of SSE's climate action is to embed policies and processes that support the delivery of actions that are in line with the Paris Agreement and a 1.5°C pathway. SSE does this in several ways including advocating for policy that supports climate action as well as working in partnership with others such as customers and suppliers to implement climate-related solutions.

### Partnerships to deliver low-carbon thermal generation

SSE believes it is important to capture the GHG emissions associated with its Joint Venture holdings to be transparent about the investments it holds and the contribution of these activities to climate change. With Joint Ventures in gas-fired thermal electricity generation SSE's scope 3 GHG inventory now includes 1.5MtCO<sub>2</sub>e emissions from these operations in 2022/23. These GHG emissions contributed to 32% of SSE's 2022/23 scope 3 GHG inventory and included:

- Seabank gas-fired power station, 50% equity share; and
- Triton Power<sup>1</sup> (which includes Saltend gas-fired power station, Indian Queens gas-fired power station and the decommissioned Deeside power station), 50% equity share.

To help to address the impact of Joint Ventures on SSE's GHG inventory, SSE has set an action as part of its Net Zero Transition Plan to 'align unabated gas power generation owned through Joint Ventures with a net zero pathway'. To do this, SSE will work in partnership with its Joint Venture partners to ensure each put in place their own Net Zero Transition Plans. Work on Net Zero Transition Plans, at both executive and board level, have begun with Marchwood Power Station<sup>2</sup>, Seabank Power Station and Triton Power.

In addition, SSE is also committed to reviewing how it reports its GHG emissions associated with its Joint Ventures and to understand the emissions history associated with these investments. As part of this SSE will review its recalculation policy, in particular the significance test applied, with best practice as well as the accounting methods used for Joint Ventures. It is important to understand that whilst SSE does report these emissions, both Seabank and Triton Power also report GHG emissions in line with trade and corporate reporting requirements (such as UK ETS).

<sup>1</sup> SSE acquired its equity share of Triton Power on 1 September 2022 and includes 50% of its emissions from that date in its scope 3 inventory.

<sup>2</sup> While Marchwood Power Station is a 50% Joint Venture, 100% of the GHG emissions from this power station are captured in the scope 1 inventory as a result of the Power Purchase Agreement that has been in place since it was commissioned.

## PARTNERING IN ACTION



### Acquiring 50% of Triton Power

In September 2022, SSE Thermal expanded its low-carbon ambitions in the UK by acquiring a 50% stake in Triton Power with Equinor. The Triton Power portfolio consists of three strategically-located assets, with the largest being Saltend Power Station in the Humber.

The acquisition not only supports the long-term decarbonisation of the UK's power system but also contributes to security of supply and grid stability in the shorter term.

Since September, the joint venture comprising SSE Thermal and Equinor has focused on using the portfolio as a platform to develop more low-carbon projects to support the transition to net zero, building on the decarbonisation work already carried out by Triton. Initial steps to decarbonise Saltend Power Station are already underway, targeting partial abatement by 2027 through blending up to 30% low-carbon hydrogen into the plant, with a commitment to work towards 100% abatement.

In line with just transition principles, the joint venture is committed to transitioning the assets for the net zero world through responsible ownership and operation, and in consultation with the local workforce and representatives.

SSE introduced an additional action into its Net Zero Transition Plan to ensure that its gas-fired joint ventures are aligned with a net zero pathway. While the acquisition of Triton Power brought additional emissions onto SSE's greenhouse gas emissions inventory in the short term, SSE's 2030 Science-Based Targets remain unchanged. As a result, the acquisition is wholly aligned to SSE's Net Zero Transition Plan and reflects the Group's wider ambition to invest in projects with a low-carbon focus.

### Working with suppliers on climate solutions

SSE continues to work with CDP to improve its climate-related supply chain engagement. By requesting information and providing supplier support webinars 112 suppliers, accounting for over 65% of spend, provided information to SSE through the CDP Supply Chain module in 2020/21. This was the highest number of responses since SSE began its partnership with CDP in 2018. This engagement has been recognised by CDP as it awarded SSE an 'A' in its Supplier Engagement Rating assessment in 2023. Over 11,400 companies were assessed, and SSE featured in the top 8%.

SSE has set SBTi-approved targets to engage with 50% of its suppliers by spend to set science-based targets by March 2024. Given that the Copmany has met the original target it is now tracking closely, the proportion of suppliers that are translating their commitments to science-based targets into hard targets verified by SBTi. As of 31 March 2023, 34% of SSE's supply chain by spend has verified science-based targets, with a further 17% made the commitment to have verified targets in due course.

## Enhanced climate action

The next phase of SSE's engagement is to measure the impact of its suppliers and integrate solutions to mitigate and manage these emissions. To do this, SSEN Distribution worked with the Supply Chain Sustainability School and launched a Sustainable Supplier Code which aims to support suppliers to embed climate actions with the aim of reducing GHG emissions and supporting net zero ambition. In addition, SSEN Transmission is undertaking an innovation project with project partners to introduce better designs into its overhead line tower foundations, with the aim of reducing the concrete used and saving around 1,360MtCO<sub>2</sub>e.

SSE Renewables joined up with nine other energy companies to work with the Carbon Trust to develop methods and guidance to measure carbon emissions associated with offshore wind projects. The aim of the tool is to build a common life cycle analysis methodology that will support the industry to identify carbon intensive practices and reduce the carbon impact of offshore wind projects. It is also working with its power cable supplier, NKT, to source low-carbon power cables for its Dogger Bank C offshore wind farm.

### Advocating for climate action

During 2022/23 SSE continued to advocate for accelerated climate action with focus on increasing deployment of renewable generation and decarbonisation of thermal generation, heat and transport.

SSE Thermal engaged the UK Government on making the case for investment in carbon capture and storage, including in the Humber region and Scotland, and provided input into the design of the heads of terms for dispatchable power for carbon capture and storage technology. SSE also is a member of the UK Government's hydrogen expert groups on hydrogen transport and storage infrastructure and has been active in informing the needs case assessment for hydrogen policy interventions. SSE also responded to the Irish Government's hydrogen strategy, supporting the development of a hydrogen economy and outlining the need for coordinated and effective incentives for its production, use, transport and storage. In addition, SSE responded to the UK Government's consultations and discussions on negative emissions technologies.



SSE also engaged with the UK's Department for Environment and Rural Affairs on matters relating to climate adaptation and resilience planning as well as consultations on the Electricity Networks Strategic Framework and the review of Renewable Electricity Market Arrangements. In Ireland, climate advocacy continued with SSE contributing to Government considerations on the rollout of offshore wind, with SSE successfully calling for an increase in the 2030 offshore wind target from 5GW to 7GW.

### Climate advocacy through trade associations

SSE is a member of several diverse trade associations that align with its business objectives and enable it to work collaboratively across the energy sector on matters of shared interest. SSE works closely and engages with these trade associations on a continuous basis to ensure that their principles on climate change are consistent with those of its own.

SSE's annual review of the net zero ambitions of its trade association memberships can be found in SSE's Trade Association Climate Review available at [sse.com/sustainability](https://sse.com/sustainability). The report once again confirms that none of the trade associations assessed were identified to have opposing climate-related views. SSE will continue to engage with all trade associations and report its assessment annually.

### Taking account of the price of carbon

As a generator of electricity, SSE is subject to policies that impact carbon pricing, which means the price of carbon is an explicit consideration in many investment decisions. During 2022/23, SSE's generation activities in GB operated under the UK Emissions Trading Scheme

(UK ETS) carbon pricing system. SSE's generation assets in Ireland operate under the EU ETS. The UK ETS and EU ETS are cap- and- trade emissions schemes. This involves a 'cap' that is set on the total amount of GHGs that can be emitted by sectors and this is reduced over time so that overall total emissions must fall. Within the cap, participants receive free allowances and/ or buy emissions allowances at auction or on the secondary market, which they can trade with other participants as needed.

In addition to the UK ETS, in GB SSE's activities are subject to the Carbon Price Support (CPS) mechanism which sets a price per tonne of carbon emitted and combined with the UK ETS allowance price, makes up the Total Carbon Price paid by electricity generators. The combination of the UK ETS and the CPS sets the carbon price in electricity market in Great Britain, and the EU ETS in the Single Electricity Market (SEM) between Ireland and Northern Ireland.

SSE views that strong carbon pricing in the electricity system has a critical role in meeting the UK's net zero commitments and delivering a net zero electricity system in the 2030s. SSE continues to promote a robust carbon price with the UK and Irish Governments, along with the European Commission, and continues to support the strengthening of the UK ETS and EU ETS through determining the supply of greenhouse gas emission allowances. Ultimately, SSE believes the progressive tightening of the allowances available is a powerful tool to reduce greenhouse gas emissions in the most economic way possible. SSE will also continue to actively engage with both the UK and EU as they implement the changes to align their ETS with their net zero targets as soon as possible, both bilaterally and through its trade associations.

## Adapting to a climate changed world

The increasing severity and regularity of extreme weather events can pose significant disruption to SSE's operations and it must work to build resilience as it adapts to changing weather patterns and extreme events.

### Potential impacts of climate change to SSE's operations

The physical impacts of climate change have the potential to adversely impact SSE's operations and interrupt the supply of energy to its customers. Increased severity of extreme weather events, such as storms, floods and heat waves bring prolonged extreme temperatures, wind or rainfall, which can impact all aspects of SSE's activities, including renewable generation output, electricity networks infrastructure and customer demand. Physical impacts of climate change are highlighted as a climate-related risk in SSE's TCFD opportunity and risk assessment (pages 44 and 45 of SSE's Annual Report 2023) and the information in this section provides additional detail on the controls and mitigating actions it takes to manage these impacts.

For example, over the 2022/23 winter the SSEN Distribution network was affected by two extreme weather events, an ice storm in Shetland in December 2022 and Storm Otto in February 2023. SSEN Distribution has an investment programme for weather-related resilience expenditure covering overhead line replacement and refurbishment, tree cutting and flood protecting (see page 24). In 2022/23 SSEN Distribution attended the Energy Innovation Base Camp to discuss the use of Nature Based Solutions as part of flood prevention resilience responses.

SSE has mitigation methods in place, such as monitoring short- and long-term weather patterns, crisis management and business continuity plans and investment programmes to improve infrastructure resilience. It also assesses potential future risks of climate change and considers actions that can be taken to prepare for changes to weather.

### Assessing future risks of a changing climate

An important element in SSE's climate adaptation work is assessing future potential risks from a changing climate.



SSE does this in a couple of ways, including through its annual assessment of the potential financial impacts key climate-related opportunities and risks facing the business. Through this process SSE has identified that storm damage and heat are a significant potential risk to its networks businesses. Full details of the assessment can be found in SSE's Annual Report 2023, pages 42 to 45.

In addition to this, SSE continues to review climate projections using the Met Office UK Climate Projection (UKCP18) tool for the next decade, to understand the potential impact on its key assets and infrastructure from higher temperatures, changing rainfall patterns, and more extreme weather events such as floods,

droughts and heat waves. This process supports the UK Government's assessment of critical infrastructure which takes place every five years. SSE's electricity networks and generation businesses have published progress reports against the previous assessments which were completed in 2015 and further work is ongoing to reassess the risks and to update mitigation measures where required. SSEN Transmission and SSEN Distribution have set out resilience strategies with climate adaptation actions in their respective price control frameworks. In 2023, SSE also responded to the UK Government's consultation on national adaptation planning framework through its businesses and associated trade associations.

# The Net Zero Transition Report in summary

SSE understands that net zero targets are only credible when backed up by a clear plan of action. SSE's Net Zero Transition Plan was designed to provide this clarity for its stakeholders. It outlines 17 key actions to ensure its net zero ambitions are met.

The key actions focus primarily on addressing SSE's largest source of GHG emissions from electricity generation, alongside a plan to address remaining GHG emissions, at the same time as recognising the cross cutting issues of social impact and climate resilience. This following summary provides updates on the actions taken, in financial year 2022/23.

Scope 1	
Actions	Key progress in 2022/23
1. Reduce emissions from unabated gas generation	SSE Thermal continues to manage its existing unabated generation fleet carefully, ensuring plant availability at times of system need and maximum efficiency. Tarbert, an oil-fired generator in Ireland, will close by the end 2023, in line with environmental requirements. Annual Report – pages 49 to 50 Sustainability Report – page 22
2. Develop new low-carbon flexible generation	SSE advanced various measures to decarbonise its thermal portfolio, including the development of carbon capture and storage technologies, with projects at Peterhead and Keadby as well as hydrogen options at its Aldbrough site and elsewhere. Its large scale pumped hydro project at Coire Glas is progressing with £100m committed to advanced site investigation works. Annual Report – pages 103 to 105 Sustainability Report – pages 54 to 55 and page 48
3. Transparent advocacy in favour of enhanced policy	SSE continued to advocate for more ambitious – and practical – climate change policy to achieve net zero focussing on the acceleration of renewables deployment, and the decarbonisation of thermal generation. Annual Report – pages 39 to 40 Sustainability Report – page 26
4. Build a renewable energy portfolio of 13GW of capacity by 2031	With the NZAP Plus, SSE's ambition has now increased to build a renewable energy portfolio, including battery storage, of over 16GW of capacity by 2032. Annual Report – pages 100 to 102 Sustainability Report – pages 49 to 50
5. Reduce SSEN's leakage and reliance on SF <sub>6</sub>	SSEN Transmission continued to migrate to SF <sub>6</sub> alternatives in substations, where appropriate, as well as manage SF <sub>6</sub> leakage in the networks. Annual Report – page 54 Sustainability Report – page 23
6. Switch vehicle fleet to EV in line with EV100 commitment	SSE made good progress towards its EV100 commitment with over 57% of its light vehicle fleet now fully electric, with 35% of the total committed fleet already transitioned to EVs. Sustainability Report – page 24
7. Reduce reliance on SSEN's Scottish Island backup diesel generation	SSEN Distribution continued to work towards reduced reliance on backup diesel generation. 2022/23 saw a 4% decrease in the volume of fuel combustion from standby stations compared to the previous reporting period mostly due to fewer subsea cable faults. Sustainability Report – page 22
8. Explore options for neutralising residual emissions	SSE Thermal engaged on emerging policy to deliver a market for greenhouse gas removals by responding to UK Government consultations on negative emissions. SSEN Distribution secured funding from Ofgem to develop nature-based solutions to help tackle residual emissions and helping to set a precedent for others. Sustainability Report – page 27

Scope 2	
Actions	Key progress in 2022/23
9. Reduce electrical losses from SSEN Distribution	SSEN Distribution continues to focus on reducing losses on its network and it remains committed to investing in measuring and managing actual losses through its RIIO-ED2 business plan which sets out its losses strategy for 2023 to 2028. Sustainability Report – page 23
10. Deliver a net zero property estate	Energy consumed in SSE's offices, depots and data centres fell by 5% compared to the previous year, driven by continued investments in energy efficiency measures. SSE purchased 100% of its electricity for use in its facility managed offices from renewable sources, backed by renewable guarantees. Annual Report – page 54 Sustainability Report – page 24

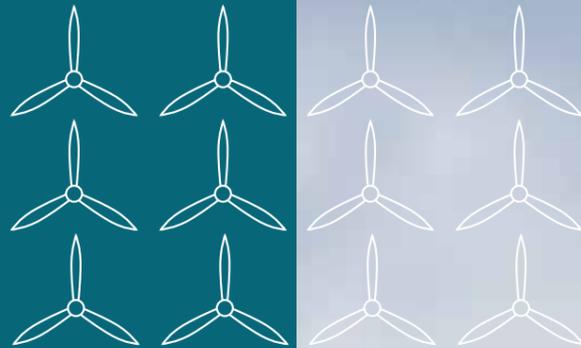
Scope 3	
Actions	Key progress in 2022/23
11. Support customers to fuel switch and consume less gas	SSE Airicity implemented energy efficiency projects that delivered 8.9GWh of energy savings with its domestic customers in 2022/23. Sustainability Report – pages 36 to 38
12. Align unabated gas power generation owned through joint ventures with a net zero pathway	SSE is working closely with its Joint Venture partners to put in place Net Zero Transition Plans for each power station. Sustainability Report – page 25
13. Advocate for a pathway for decarbonised heat	SSE advocated for solutions to decarbonise heat networks and low carbon heat incentives through responses to government consultations and activity through its trade associations. Annual Report – page 40
14. Establish a framework for supplier collaboration on net zero action	SSE continued to engage with its supply chain on climate matters through its partnership with the Supply Chain Sustainability School and its involvement with a carbon working group as part of its Powering Net Zero Pact. Annual Report – page 51 Sustainability Report – pages 46 to 48
15. Partner with the CDP supply chain engagement programme	SSE continued to collaborate with CDP Supply Chain expanding the number of suppliers requested to respond to CDP to 237 and a supplier response rate of 56%. SSE was awarded an 'A' in the CDP Supplier Engagement Rating assessment in 2023. Annual Report – page 51 Sustainability Report – page 25

Cross cutting actions	
Actions	Key progress in 2022/23
16. Continuous review of adaptation plans at business unit level, whilst participating fully in national adaptation frameworks	SSE published progress reports against previous risk assessments of a changed climate on critical infrastructure and further work was completed to reassess the impact of physical risks of climate change and update mitigation measures where required. SSE also responded to the UK Government's consultation on national adaptation planning framework through its businesses and associated trade associations. Sustainability Report – page 27
17. Publish annually, progress against the 20 Principles for a Just Transition, outlined in SSE's Just Transition Strategy	In April 2023, SSE published a just transition report detailing its progress against its 20 Principles for a Just Transition. Sustainability Report – page 61

# Providing affordable and clean energy

As SSE supports the transition from a traditional fossil fuel-based energy system towards one that is renewables-led, it must not compromise on system reliability or the affordability of energy for the end consumer.

The extreme volatility experienced in international gas markets over the last 12 months, has reinforced the importance of SSE's continued investment in homegrown sources of energy. Homes and businesses have been faced with challenging circumstances and SSE has put in place immediate measures of support for its household customers, while also working with government in the medium-term for a secure, clean and affordable future energy system for all consumers.



## Increase renewable output fivefold

Build a renewable energy portfolio that generates at least 50TWh of renewable electricity a year by 2030.

**SSE's renewable generation output in 2022/23, while impacted by lower levels of wind resource, increased by 730GWh compared to 2021/22.**

Having experienced exceptionally still and dry conditions in the prior year, SSE's renewable generation volumes in 2022/23 rose by 7% but were 13% behind plan due to Seagreen Offshore Wind Farm project delays and another year of unfavourable weather. SSE Renewables made progress with its key flagship projects. First power was achieved at the 1,075MW Seagreen Offshore Wind Farm (49% SSE stake) and progress was made on Dogger Bank Offshore Wind Farm (3,600MW, 40% SSE stake). Onshore, the 443MW Viking Onshore Wind Farm was successful in securing a Contract for Difference (CfD) in July 2022 where construction has progressed well, with the first turbine successfully installed in April 2023.



## Providing affordable and clean energy

### Performance summary

Category	Key performance indicator	Unit	2022/23	2021/22	2020/21
<b>Renewable energy</b>	Total renewable generation output (inc. constrained off GB wind) <sup>1</sup>	GWh	10,227	9,496	10,242
	Total renewable generation output (exc. constrained off GB wind) <sup>1</sup>	GWh	9,665	8,799	9,649
	Total renewable generation capacity <sup>1</sup>	MW	3,930	3,935	3,897
	Renewable capacity in construction <sup>2</sup>	GW	2.6	2.4	2.0
<b>Supporting customers: universal access</b>	Networks customers on the Priority Services Register (PSR)	Number	853,416	768,104	770,844
	Customer minutes lost – SHEPD/SEPD	Average per customer	59/46	57/42	57/44
	Customer interruptions – SHEPD/SEPD	Per 100 customers	60/44	56/42	64/48
	Renewable generation output – proportion of SSE's total output	%	34.5	38.1	34.8
<b>Energy efficiency</b>	Business Energy smart meter operating volumes (gas and electricity) <sup>3</sup>	Number	212,046	195,058	160,970
	Meter Point Administration Numbers (MPANs) supplied with SSE Green 100% renewable electricity <sup>4</sup>	Number	251,635	173,292	62,742
	Energy saved as a result of energy efficiency measures targeted to fuel poor households in Ireland <sup>5</sup>	GWh	8.9	8.7	5.0

1 Figures include pumped storage and biomass.

2 Based on SSE equity stake at 31 March in each financial year.

3 At 31 March in each year. 2021/22 and 2022/23 data includes operated AMR, S1 and S2 type Smart Meters that are within the scope of the UK Government's Smart Mandate Programme (Profile Class 01-04 for Electric, and <732MWh/Annum consumption for Gas).

4 Individual companies may have more than one MPAN so figures are not representative of customer numbers.

5 Activity undertaken through the Energy Efficiency Obligation Scheme. Data covers calendar year, with the calendar year representing the greatest coverage of the financial year (1 April and 31 March) being used.

## Delivering clean, affordable energy

Delivering the clean energy needed for the transition to net zero requires increased and sustainable investment in renewable sources of energy, alongside the transmission network infrastructure which is essential in connecting it to the grid.

### Investing in a clean and secure homegrown energy system

With international gas prices rising substantially in 2022/23, the case for continued investment in clean and secure homegrown sources of energy has become even more urgent. Renewable sources of energy provide some of the most cost-effective solutions to address both the challenges of energy security and energy affordability currently facing the UK, Ireland and beyond.

SSE's capital and investment expenditure programme, NZAP Plus, enhances SSE's investment plans to 2027. It supports renewable sources of energy and low-carbon flexible generation, as well as

increased investment in transmission network infrastructure which has a crucial role in facilitating the connection of renewables to the electricity system.

### Targeting a fivefold increase in renewable generation output

Progress was made in 2022/23 towards SSE's target to grow renewable electricity generation output fivefold between 2017/18 and 2030/31, with output increasing from 9.5TWh in 2021/22 to 10.2TWh in 2022/23 (inc. pumped storage, biomass and constrained off wind in GB).

In addition to progress made over 2022/23, SSE Renewables reached important milestones in key pipeline projects,

including the submission of a consent application to the Scottish Government in December 2022 for the Berwick Bank offshore wind farm. Located in the outer Firth of Forth, Berwick Bank has potential to deliver 4.1GW of installed capacity, making it one of the largest offshore opportunities in the world, and it could be complete around the end of the decade.

In addition, the 3.6GW Ossian offshore wind farm (40% SSE Renewables stake), one of the largest floating offshore wind projects in development worldwide, continued to progress through the early stages of development with the Environmental Impact Assessment Scoping

Report for the Ossian Array submitted to the Scottish Government in March 2023.

SSE Renewables continues to focus on developing a strong pipeline of renewable energy projects to meet its own, as well as national, ambitions. SSE Renewables is targeting an installed capacity (net) of over 9GW of renewable generation, including battery storage by 2027 and has a current pipeline<sup>1</sup> of around 14GW of renewable energy projects, 2.6GW of which was in construction at 31 March 2023.

## Sustainable finance for the net zero transition

### A new Green Bond to finance renewables

To deliver key infrastructure to support the net zero transition, SSE has pursued a strategy of issuing Green Bonds, when appropriate, to fund its investments. To date, the proceeds of SSE's Green Bonds have been allocated to refinancing eligible projects of onshore wind farms in the UK and Ireland, as well as key transmission network projects which are primarily required to facilitate greater volumes of renewable generation in Scotland and transporting it to centres of demand. These projects are key in supporting SSE's focus on investing in a clean and secure, homegrown energy system.

In July 2022, SSE issued a €650m seven-year Green Bond, the proceeds of which were allocated to help fund SSE Renewables' flagship onshore and offshore wind projects which are currently under construction or recently completed. This marks SSE's fifth Green Bond in six years and reaffirms its status as one of the largest issuers of Green Bonds from the UK corporate sector. It remains the only UK corporate to offer multiple Green Bonds and this latest issuance brings SSE's total outstanding Green Bonds to over £2.5bn.

SSE has made a commitment to update investors each year on the allocation of the proceeds and the environmental impact of its Green Bonds. SSE's Green Bond Reports can be found at [sse.com/greenbond](https://sse.com/greenbond).

### Funding increased capacity on the transmission network

SSEN Transmission (75% SSE stake) is expected to invest over £10bn in the decade to 2030 and in doing so will considerably increase its portfolio of major capital projects. This scale of investment requires finance which seeks to promote and enable sustainability, and private financial products can support this endeavor. SSEN Transmission has developed its first sustainability-linked revolving credit facility of £750m. The facility, which was signed in November 2022, provides credit to support investment in the north of Scotland's electricity transmission network, connecting low-carbon power and helping deliver net zero.

In aligning sustainability performance with its financing strategy, SSEN Transmission has established four key performance indicators (KPIs) which are material to its

sustainability commitment. The basket of KPIs is compliant with the Sustainability-Linked Loan Principles (SLLPs) which state that KPIs should be core and material to a business and of high strategic significance to current and future operations.

The KPIs relate to the following areas:

- reduction in scope 1 and 2 emissions;
- suppliers setting science-based emission reduction targets;
- capex spend on connecting renewables; and,
- biodiversity net gain delivery commitments across major terrestrial projects.

Progress against the KPIs will be disclosed annually in SSEN Transmission's Sustainability Report, which will be published later in 2023 and will be available at [sse-transmission.co.uk](https://sse-transmission.co.uk).



Providing affordable and clean energy

# Serving electricity distribution customers

SSEN Distribution works to ensure that customers have secure and reliable energy today, while also laying the groundwork for a future energy system in which everyone can access the benefits.

### Unlocking a just transition for network customers

SSEN Distribution is at the forefront of enabling net zero at a local level, operating the electricity distribution network that will facilitate new forms of heating, battery storage and many more electric vehicles. In March 2023, it published a report which explores how net zero can be delivered fairly for consumers, ensuring people can participate in and benefit from the energy transition.

The report, titled A Fair Energy Future, details the partnerships and innovation projects SSEN Distribution has undertaken to explore and understand the new energy challenges that consumers will face in the next two decades with technology rapidly advancing and high-carbon heating and transport being phased out.

In addressing these critical issues, SSEN Distribution has created an action plan for delivering a just transition for energy consumers. To unlock the benefits of net zero for all consumers, the plan covers 10 commitments from SSEN, alongside further recommendations for the energy industry and policy makers, against four key themes:

-  Education and Collaborative Action
-  Equal Access to Infrastructure and Services
-  Supporting Remote and Rural Communities
-  Tackling Emerging Vulnerabilities

The full report can be found at [ssea.co.uk](https://ssea.co.uk).

### Achieving the gold standard in inclusive service

In January 2023, SSEN Distribution was announced as one of the first nine organisations to have achieved certification to the Inclusive Service Kitemark. The new Kitemark assured by BSI, the business standards and improvement company,

demonstrates the provision of an inclusive and flexible service that benefits all consumers, regardless of their personal circumstances. The standard covers topics including, the identification of customer vulnerability; inclusive design of products and services; and, the adoption of AI and data collection, protection and sharing.

SSEN Distribution aims for industry-leading service which is tailored, inclusive and accessible to customers, and the achievement of the standard is a result of its work to build on its range of existing inclusive service provision. The Inclusive Service Kitemark demonstrates both SSEN Distribution's ongoing commitment to offering an inclusive service for all and its desire to be held to account too. This is particularly important in supporting customers through the recent cost-of-living crisis which has seen an increasing

number of people entering vulnerable circumstances.

### Driving greater Priority Services Register awareness.

The Priority Services Register (PSR) is a free to join service that helps utility companies to provide adapted services and additional support to individuals in potentially vulnerable situations. Registering with a utility company's PSR provides customers with vital support during a supply interruption.

Recognising that the circumstances of its customers can change, SSEN Distribution consistently promotes the PSR to its customers, to ensure that its register is comprehensive, accurate and captures all those in need. In support of this objective, in March 2023, a new website [the-psr.co.uk](https://the-psr.co.uk) was created through a collaborative

initiative led by SSEN Distribution and including 10 Distribution Network Operators (DNOs) and Gas Distribution Network Operators. This website brings together individual registers across these service providers, making it easier to raise awareness of the additional support available nationwide.

This initiative was created based on feedback from partners and stakeholders and follows on from a partnership, PSR Scotland, which launched in Scotland in March 2021. The website supports external partners such as local and national charities and NHS Trusts to promote the PSR to their customer base through a clear process.

### Building trust in the domestic flexibility market

In August 2022, the Household or Microbusiness Energy flexibility (HOMEflex) project was launched, which seeks to develop the tools to build trust in the domestic flexibility market and support consumers' engagement. The HOMEflex project is being led by SSEN Distribution, alongside project partners Centre for Sustainable Energy and Flex Assure, and was established by the Association for Decentralised Energy.

Flexibility is the ability to shift the timing and location of the consumption and generation of electricity, to allow DNOs like SSEN to balance supply and demand and to manage constraints on the network cost effectively. Flexibility trading markets with commercial and industrial partners are already operational, but the scope for domestic consumers and microbusinesses to engage and trade is in its infancy. The HOMEflex project will work to build the trust that consumers need to engage with the market.

HOMEflex will ensure the domestic flexibility market is inclusive, fair and transparent, with clear lines of accountability to ensure participants abide by their commitments and to guarantee customers are protected and rewarded. The project will include developing a Code of Conduct for domestic flexibility services; a voluntary compliance scheme and a mechanism for customer complaints; and, a recommended trust mark for flexibility service providers signed up to the Code and redress schemes.

Projects, such as HOMEflex, are essential



in building trust in flexibility markets and ensuring the benefits of the transition to smart grids are shared widely with all consumers have equal opportunity to take part in future local energy markets.

### An electric heat pathway

In 2022, SSEN Distribution and Grid Edge Policy published 'An electric heat pathway: looking beyond heat pumps'. The report examines the opportunities presented by the use of storage heating as a viable alternative to heat pumps, and the changing role network operators may need to play to provide flexibility services to ensure value when adopting this type of technology.

The report determined that storage heating with smarter controls could offer a suitable solution for many properties where heat pumps are unsuitable due to space, higher upfront costs and home efficiency (heat pumps are less efficient in poorly insulated homes). It also noted that properties with storage heaters are overwhelmingly inhabited by more vulnerable households on lower incomes who can be pushed into fuel poverty by the higher running costs of existing legacy electric heating systems. The report therefore recommended a clear vision for these households and the housing stock should be a priority to ensure a fair transition to net zero.

The learnings from this project are being used to build future projects to understand

the specific impacts of flexible heating demand and build safeguards for vulnerable customers when alternative technologies are being considered.

### Expanding trials to aid low-carbon infrastructure planning

SSEN Distribution is expanding its trial of the innovative Regional Energy System Optimisation Planning (RESOP) tool, which seeks to help local councils to make better-informed decisions about the location of low-carbon infrastructure. Having partnered with Dundee City Council in July 2020 for the initial RESOP trial, SSEN Distribution announced in August 2022 that it was expanding the project by trialling RESOP with Oxford City Council and Oxfordshire County Council via the County Council's spatial mapping work in Project LEO (see page 55 for more information).

RESOP draws together data from multiple sources into a single database and incorporates social demographics and network data, ensuring that different challenges in differing geographies are accurately mapped, and provides council planners with whole system insights. This can then be used to rollout low-carbon technologies such as charging points. The aim is that RESOP will support local authorities to plan future heat projects and other clean technologies with a clearer understanding of specific smart energy capabilities in their communities.

## PARTNERING IN ACTION



### Establishing new standards for equal access to EVs

In October 2020 SSEN Distribution established 'Equal EV', a collaboration with Disabled Motoring UK (DMUK) to identify the unique enablers and barriers faced by drivers with vulnerabilities adopting electric vehicles (EVs) and the role of technologies and networks operators in removing barriers. The Equal EV project focused on two key vulnerable groups – those with mobility impairments and those with high levels of anxiety, to explore how networks operators can provide additional support, such as installing Vehicle to Grid (V2G) technology to offer at-home resilience for vulnerable customers.

The insights gained from the work have been instructive and have supported the inclusion of a commitment to improve accessibility at public charge points for

disabled users in the UK Government's Electric Vehicle Infrastructure Strategy.

In 2022, the Equal EV project fed into the creation of the British Standard Institution (BSI) PAS 1899, a new specification on accessible public charge points for EVs covering the design of charge points, including the location, spacing and surrounding environment, as well as the appropriate information, signals and indicators to be provided.

In addition, DMUK launched a parking standard called the Disabled Parking Accreditation which signposts off-street car parks that are accessible to disabled people and will soon include a dedicated section on EV charge point provision.

Providing affordable and clean energy

# Low-carbon solutions for energy customers

Focused on supporting customers on their journey to net zero, SSE's energy customer businesses provide energy efficiency services, modernised systems and are expanding their low-carbon energy solutions offerings.

## SSE's competitive customer businesses

### SSE Business Energy

Provides a shopfront and route to market for SSE's low-carbon energy solutions and green products to non-domestic customers across GB, and has around 430,000 customer accounts.

### SSE Airtricity

Ireland's leading supplier of renewable electricity and related energy services, supplying around 740,000 homes and businesses across the island of Ireland.

### SSE Distributed Energy

Provides integrated energy-related services to industrial and commercial customers, with a focus on distributed energy with around 11,400 heat network customer accounts.



**"2022 was the toughest year yet for energy consumers. In SSE we have sought to do everything we can to make life easier for our business and domestic customers – at the same time as supporting their efforts to become green."**

**Nikki Flanders**  
Managing Director,  
Energy Customer Solutions

## SSE Airtricity

### A challenging time for energy customers

SSE recognises the hugely challenging circumstances faced by energy consumers in 2022/23. In response to the cost-of-living crisis, SSE Airtricity supported its customers through a combination of keeping tariffs as low as possible, a price freeze targeted at financially vulnerable consumers and customer support funds. Details of the support offered is outlined in this section.

With the war in Ukraine playing a major part in the high energy prices in 2022/23, SSE Airtricity committed to its customers that it would make no profit from them in financial year 2022/23. That commitment was honoured with €8.6m of residual earnings distributed back to domestic customers in the Republic of Ireland, after the year end in April 2023, amounting to a credit of €35 per customer.

### Supporting customers through exceptional times

SSE Airtricity provided a holistic range of practical measures up to the value of €25m, including targeting families who are struggling financially. This has included:

- **Price promise:** SSE Airtricity held energy costs at June 2022 levels until the end of March 2023, for up to 60,000 financially vulnerable customers.
- **Discretionary fund:** a €1m discretionary fund was created to

Customers benefiting from Price promise

**60,000**

SSE Airtricity has committed to deliver home energy upgrades for up to

**600**

vulnerable households

SSE Airtricity's donation to EnergyCloud will divert surplus energy to up to

**10,000**

fuel poor homes

Donations to charitable partners to support households

**£2.8m**

provide direct support to customers in difficulty.

- **Energy efficiency measures:** to help tackle one of the root causes of fuel poverty, SSE Airtricity supported vulnerable households with energy efficiency. This has included a commitment to deliver home energy upgrades for up to 600 vulnerable households through its affordability fund, at no cost, and a €2.5m donation to not-for-profit organisation EnergyCloud, which will help divert surplus renewable energy to up to



## PARTNERING IN ACTION



### Diverting excess renewable energy to those in need

Fuel poverty impacts thousands of Irish families every day and in 2020, according to figures from Government, 1,448 GWh of zero carbon energy from wind generation alone was constrained. This means the transmission system operator has requested a renewable generator to produce less electricity than it could have otherwise, or even to stop generating completely.

EnergyCloud is an innovative not-for-profit organisation which helps divert surplus renewable energy, which would be otherwise wasted, to homes, with a focus on those in fuel poverty. In 2022/23, SSE Airtricity donated €2.5m to EnergyCloud which will enable up to 10,000 households

experiencing fuel poverty nationwide to have their homes fitted with smart technology that uses surplus renewable energy to heat tanks of water for free. By creating this 'new' electricity demand, it means there is now somewhere for this excess electricity supply to 'go', simultaneously supporting the decarbonisation of heat and helping people who are energy poor.

EnergyCloud works with Approved Housing Bodies and Local Authorities to enable the delivery of this support to their homes and the delivery of the supports will be managed by a project team from SSE Airtricity and EnergyCloud.

10,000 fuel poor homes (see case study on this page).

- **Working with partners to support households:** over 2022/23, SSE Airtricity made donations to trusted charity partners to support households in need of financial assistance across the island of Ireland, regardless of who their supplier is. This included a €1m donation to St Vincent de Paul (SVP) and donations totalling £2m to Bryson Charitable Group.
- **Energy Bill Relief Scheme:** SSE Airtricity also applied discounts to the value of £116m in the year to customers in Northern Ireland under the UK Government's Energy Bill Relief Scheme.

Alongside these measures SSE Airtricity is working with customers to find a solution for those impacted by the cost-of-living crisis, including those on the priority services register and special service register.

### External recognition of best practice customer support

In April 2023, SSE Airtricity was announced as the winner of The Social Responsibility Project Award, at the annual Business & Finance ESG Awards 2023. The award, sponsored by Unicef Ireland, was in recognition of SSE Airtricity's significant efforts over 2022/23 to tackle the energy crisis and support vulnerable customers, including its establishment of the most comprehensive customer support fund of any supplier in Ireland.

### Partnering to deliver cleaner energy

SSE Airtricity is proud to hold a 50% ownership share in Activ8 Solar Energies, Ireland's longest established solar installation provider. Over 2022/23, Activ8 carried out over 1,500 domestic solar installations, with growth ambitions to deliver up to 40,000 installations over the next 10 years. This activity is supporting

local employment, with the creation of 200 highly skilled green jobs over the next two years announced by Activ8 in 2022, supporting a just transition towards net zero.

### Helping business customers save energy

In 2022/23, SSE Airtricity continued to support businesses to implement energy conservation measures, delivering 30.4GWh of energy savings, bringing the cumulative total of business energy savings supported since 2014 to over 580GWh. SSE Airtricity also directly offers energy audits to business customers, delivered by a registered energy auditor they provide businesses with a clear understanding of their significant energy users and a register of opportunities for energy conservation measures, including indicative payback periods and information on relevant grant supports available to them to help implement the measures.

## Providing affordable and clean energy

### SSE Business Energy

#### Helping business customers go green

SSE Business Energy helps business customers of all sizes across Great Britain to reduce their carbon emissions through its green electricity offering. All SSE Business Energy green electricity is backed by Renewable Energy Guarantees of Origin (REGOs) and is independently verified. While in the past, SSE encouraged its business customers to choose a green tariff, in 2022/23, all of SSE's fixed power quotes are now provided as 100% green. That means a green power supply for business energy customers is, as standard, from renewable energy.

SSE Business Energy has continued to support businesses through the UK Government's Smart Programme, installing smart meters at a rate that exceeded its market share of the non-domestic market for 2022/23. Smart meters are crucial in the delivery of flexible products, like time-of-use tariff for EVs, to empower and support businesses toward net zero and it continues to work to encourage its customers to choose to install smart meters.

SSE Business Energy's focus remains on driving smart adoption throughout 2023/24, building on its engaging smart propositions and incentives to encourage adoption and helping customers to manage and reduce demand. In 2022/23, it launched a suite of new and enhanced digital offerings to improve the customer journey, including a small business sustainability content hub providing help to customers with net zero guidance, and a free and easy-to-use carbon footprint calculator.

### SSE Distributed Energy

#### A focus on heat networks

Heat networks are a core feature of the UK Government's Heat and Buildings Strategy, although they currently only meet around 2% of the UK's heat demand. It is estimated by the Climate Change Committee (CCC) that around 18% of UK heat will need to come from heat networks by 2050, if the UK is to meet its carbon targets in a cost-effective way.

SSE Heat Networks has over ten years of experience in heat and cooling, with 18 networks across the UK. SSE believes that heat networks have an important role to play in achieving net zero with

## ENGAGEMENT IN ACTION



### The challenge of transition planning for small businesses

While SSE's scale allows it to invest resource into the process of net zero planning, it relies on, and has important relationships with many small businesses in the wider economy. SMEs (small and medium sized enterprises) feature heavily in both its customer base and its supply chain. When listening to those customers and suppliers it is apparent that, while they are committed to the decarbonisation imperative, there are often limits to the resource that can be applied to their decarbonisation efforts. This, coupled with the exceptionally challenging prevailing economic conditions these companies face, has led SSE to understand that it must be proportionate in its demands from its suppliers, and supportive in its provision of energy and energy related services.

With all this in mind, and in 2022, SSE, alongside other organisations, supported Business in the Community in Scotland (BITC Scotland) to design and deliver a specialised mentoring and training initiative for SMEs.

Targeting its supply chain, 50 SMEs were invited in February 2023 to register, with 10 actively participating. Business owners and leaders were provided with mentoring support from both SSE's Business Energy Team and wider sustainability specialists from across SSE. A second cohort is planned for June 2023, with 300 business invited to take part. This has the double impact of supporting the understanding of carbon accounting amongst the small businesses SSE has a relationship with, and also supported the ongoing development and understanding from SSE's own employees.

important efficiencies and carbon savings in comparison to gas heating.

In support of a maturing heat network sector, SSE was a founding member of the Heat Trust (the independent heat customer protection scheme) and the Heat Networks Industry Council (HNIC). HNIC is a group of heat network operators who are working closely with the government to create a policy framework that will unlock heat networks potential to deliver about 20% of the UK's zero carbon heat by 2050. As part of this work, HNIC members have committed to decarbonise their existing networks by 2035.

#### Decarbonising home heat networks at scale

In April 2023, SSE Distributed Energy announced it had entered an agreement with Berkeley Homes that will help to decarbonise a heat network for up to 5,000 homes in London, thought to be one of the largest retrofits of its kind in the country. An Air Source Heat Pump system will connect directly to the existing district heating network pipes, reducing the carbon content of the heat provided by the network. The system will be installed

in nearby Wellington Park, where a new landscape will be created through a unique planting scheme that broadens the biodiversity of the area by responding to the microclimate.

The work, which will get underway in 2025, is a significant milestone in the evolution of SSE's heat networks portfolio and paves the way for decarbonisation work across the remainder of SSE's expanding UK heat networks.

#### Expanding district heating and electricity scheme

In 2022, SSE Distributed Energy announced the development of a new £25m low-carbon district heating and electricity scheme in Aire Valley, Leeds, which is home to around 400 businesses employing around 15,000 people, mainly in manufacturing, wholesale and distribution. The energy network is planned to be served by enfinium's new Skelton Grange energy-from-waste facility which is currently under construction and scheduled for completion in 2025. SSE Distributed Energy is exploring potential opportunities to capture waste heat from the enfinium facility and distribute it via insulated pipes under the



**"Decarbonising heat is mission critical to the UK's pathway to net zero. A whole system approach means SSE Distributed Energy can be the trusted partner and one-stop-shop for clients looking to decarbonise their portfolios."**

Neil Kirkby,  
Managing Director,  
SSE Enterprise

ground to local businesses. Some local businesses may also benefit by being supplied with lower-cost electricity directly from the energy-from-waste facility.

#### Scaling up solar and battery

Over 2022/23 SSE announced significant milestones in its solar and battery storage business which now has a 1.2GW solar and battery pipeline secured, and a further 1.3GW of other prospective sites under development.

**Battery:** SSE Distributed Energy broke ground in September 2022 at its first 50MW battery storage project at Salisbury, which it is expected will become operational in September 2023. In addition, construction of a new 150MW battery storage project at Ferrybridge in Yorkshire is also getting under way with the assets expected to be fully operational in late 2024.

**Solar:** construction began in summer 2023 at SSE's 30MW solar farm at Littleton in Worcestershire. In January 2023, SSE Distributed Energy announced the acquisition of the rights to three solar sites in Nottinghamshire from Gridmove Ltd.

In April 2023, the standalone Solar and Battery business, that had previously reported alongside SSE Distributed Energy, was integrated into SSE Renewables. Transferring the business to SSE Renewables allows it to scale up and develop opportunities both domestically and internationally, as well as maximising the potential of co-locating projects.

#### Ultra rapid charging for Glasgow

In October 2022, SSE Distributed Energy opened its first ultra-rapid EV charging hub as part of a major new initiative to deliver 300 such hubs across the UK and Ireland within the next five years. Located on Glasgow's Castlebank Street, the six-bay EV charging hub is powered by traceable, renewable energy.

It is estimated that at least 60,000 charges could take place at the hub each year, which aims to accommodate domestic vehicles, light commercial vehicles, mixed fleet drivers and taxis. The hub features ultra-rapid charging facilities from 150kW that can put drivers back on the road within 20 to 40 minutes of plugging in.

## PARTNERING IN ACTION



### Decarbonising the maritime sector starts on dry land

UK domestic maritime vessels contribute significant amounts of GHG emissions every year, and decarbonising the maritime sector will play an important role in supporting the UK meet its net zero targets.

In September 2022, Green Corridor Short Straits – a consortium of Port of Dover, University of Kent, SSE Distributed Energy and several others – won funding from the Department of Transport to create a zero-carbon trade route between Dover and Calais/Dunkirk. Port of Dover is the perfect candidate to lead the UK's efforts on port decarbonisation as it forms a crucial link in Britain's supply chain, with more than two million heavy goods vehicles passing through the port each year.

A green port does not simply mean swapping out vessels run on fossil fuels, for electric or hydrogen-powered ones – it involves low-carbon infrastructure across the entire port. This could be energy-optimised smart warehouses to process freight, private wire grids, supplying the port with energy from local renewable sources, and use of electric vehicles and cranes. Key partners in the consortium have begun the task of identifying the energy infrastructure that will be needed at the Port of Dover.



# Investing in industry, innovation and infrastructure

The scale of infrastructure development required for net zero will rely on innovation and new technologies, and brings with it a responsibility to manage social and environmental impacts carefully as large capital projects are planned, designed, constructed and operated.

The increasing demand for low-carbon infrastructure to support clean and secure national energy systems is accelerating the speed at which the transition is taking place, making it more important than ever that investment decisions are considered, ensuring they deliver value for society and other stakeholders. To meet the net zero challenge, innovative will be key and SSE's focus is to demonstrate real world applications and accelerated readiness of new technologies in support of the energy transition.

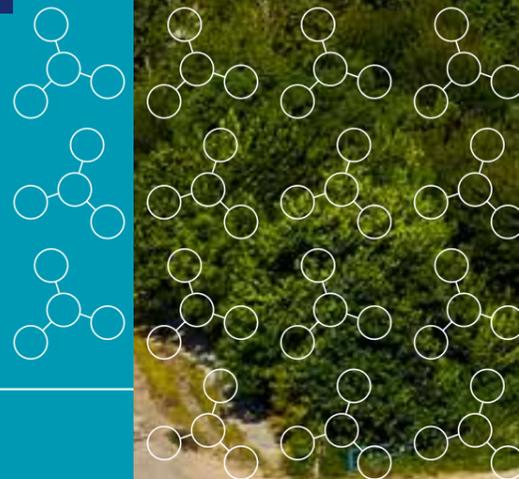


## Enable low-carbon generation and demand

Enable at least 20GW of renewable generation and facilitate around 2 million EVs and 1 million heat pumps on SSEN's electricity networks by 2030.

**SSEN Transmission connected around 1.4GW of additional renewable generation capacity to its network in 2022/23, while SSEN Distribution progressed with partnership trials to support a fair and inclusive transition to smart grids.**

At the end of 2022/23, there was just over 9.2GW of renewable capacity connected to SSEN Transmission's network, up from 7.8GW the previous year. In the same period, SSEN Distribution had around 208,500 pure electric vehicles or plug-in hybrid vehicles registered in its licence areas and had connected around 52,500 heat pumps to its networks. SSEN Distribution continued to progress several key innovation projects with partners to support flexible markets and future infrastructure provision for the mass adoption of electric vehicles (EVs).



## Investing in industry, innovation and infrastructure

### Performance summary

Category	Key performance indicator	Unit	2022/23	2021/22	2020/21
<b>Enabling the connection of low-carbon technologies</b>	Cumulative total of renewable generation capacity connected to SSEN Transmission's network	GW	9.2	7.8	6.8
	Pure electric or plug-in hybrid vehicles registered in SSEN Distribution's licence areas	Number	c. 208,500	c. 130,000	-
	Heat pumps connected to SSEN Distribution's network	Number	c. 52,500	c. 46,000	-
	SSEN Distribution's supply points with communicable and smart capability <sup>1</sup>	Number (% of reported customer numbers)	1,845,807 (50)	1,425,834 (38)	902,703 (23)
<b>Investing in critical low-carbon infrastructure</b>	<b>Investment and capital expenditure (adjusted):</b>				
	SSEN Transmission	£m	495.5*	614.4	435.2
	SSEN Distribution	£m	412.0	364.8	350.8
	SSE Renewables	£m	837.5	811.0	294.3
	Thermal generation and gas storage	£m	153.2	131.4	108.4
<b>Promote development</b>	Total procurement expenditure <sup>2</sup>	£bn	c. 3.7	c. 4.2	c. 2.4
	Average time taken to pay suppliers	Days	28	28	24
<b>Supporting research and innovation</b>	Spend on research and innovation	£m	10.8	12.0	12.0
	Employees working in research and development roles (full-time equivalent)	Headcount	81	57	46.5

1 Calculated using the number of smart meters connected to SSEN Distribution's network which are communicable by SSEN as a proportion of SSEN Distribution's reported customer numbers.

2 Includes procurement expenditure related to SSE's equity share in joint venture projects.

\*Excludes 25% minority interest from December 2022.

## Disciplined investment in the net zero transition

SSE's enhanced strategic plans must deliver a return on investment while addressing energy affordability and finding a balance between cost efficiency and a sustainable supply chain.

### Accelerating investment plans to deliver net zero

With countries around the world seeking to secure national energy supplies, the demand for low-carbon energy investment has increased significantly and SSE has responded with accelerated ambition. In May 2023, 18 months after its initial launch, SSE's Net Zero Acceleration Programme (NZAP) was revised to reflect the increased opportunities created as the world pursues net zero. The new 'NZAP Plus' includes investment of £18bn between now and 2026/27, compared to £12.5bn over the five years to 2025/26 through the original NZAP. The added investment means SSE's total capital expenditure equates to more than £10m a day spent on critical national infrastructure.

The Plan features revised growth targets to March 2027 for SSE Renewables of over 9GW of installed renewable generation capacity, including battery storage, alongside a considerable enhanced projection of the gross Regulated Asset Value of SSE's electricity transmission and distribution networks businesses of between £12bn and £14bn, up from £9bn in the original NZAP.

With around 90% of the NZAP Plus expected to be invested in either renewables or networks, the substantial majority of the investment plan is focused on climate solutions to achieve SSE's 2030 Goals which are aligned to a 1.5°C pathway and linked to the UN SDGs most material to the business, and is aligned to the Technical Screening Criteria of the EU Taxonomy.

In 2022/23, the first complete year of the NZAP Plus, SSE made record investment, with £2.8bn in adjusted investment and capital expenditure\*.

## £18bn

Investment and capex planned in the five years to March 2027

Which equates to around

## £10m a day

spent on critical national infrastructure

Record adjusted investment and capital expenditure\* in 2022/23 of

## £2.8bn

\* After refunds, including acquisitions.



**"From the hydroelectric power stations in the highlands of Scotland to offshore wind farms in the North Sea, SSE's assets are built to last. SSE is a long term business and our 'NZAP Plus' is a sustainable investment plan that will provide clean power for generations to come."**

**Gregor Alexander**  
Finance Director

### Embedding sustainability criteria into large capital projects

The investment ambitions set out in the NZAP Plus provide an opportunity to create enhanced value for both shareholders and society. To ensure this is the case, SSE must build sustainability considerations into large capital projects at all stages of development, so that social and environmental value is enhanced.

In April 2022, SSE implemented its Sustainability Assessment and Action Plan (SAAP) which must be undertaken for all large capital projects (defined as those with a value over £10m for SSEN Distribution and £20m for all other SSE businesses). The SAAP is a core element of SSE's Large Capital Projects governance framework, requiring every project development team to assess the impact of the projects across a range of core sustainability-related issues including

embodied carbon, human rights risk and local economic impact.

Over 2022/23, project teams have been supported to run sustainability workshops to identify the most material social and environmental impacts a development project may have. Feedback was received around resource usability, team capability, and project feasibility, and over 2022/23 the SAAP was updated to incorporate learnings. This led to the development of the SAAP 2.0 which will launch in Q1 2023/24 alongside an engagement and training plan for the project teams. Furthermore, to further elevate the strategic importance of sustainability in LCP decision making, core project documentation for key stages of a development project will be updated in 2023/24 to ensure the most material sustainability impacts are clearly identified prior to a project progressing to the next stage of development.



## A central role for innovation

Core to SSE's approach to innovation is to work in collaboration with external partners to share knowledge and accelerate the readiness of people and technologies to support the energy transition.

### SSE's approach to innovation

The transition to net zero will require the transformation across the energy system, and SSE's focus is on enabling, harnessing and deploying new technologies and innovations which can accelerate this journey.

SSE's approach to innovation does not rely solely on internal knowledge and resources but recognises that external partnerships and collaboration are essential to achieve its innovation objectives. This approach provides a framework for SSE businesses to achieve their innovation priorities. It identifies the four partnership groups key to innovation (academia, SMEs, energy industry peers and supply chain) and establishes four enabling pillars: Partnering for Innovation; Innovation by deployment; Digitalisation; and, Talent. More information on each of these pillars is available on page 45.

The approach supports SSE to achieve four core objectives:

- 1. Creating new markets and increasing revenue:** developing credible business cases to harness new technologies to meet net zero.
- 2. Increasing efficiency and performance:** accelerating readiness of technologies, harnessing external expertise and building capability to develop and leverage digitalisation.
- 3. Minimising risk:** sharing knowledge and best practice to deliver net zero solutions which are supported by government and regulators.
- 4. Building future capabilities:** creating an innovative culture with diverse perspectives, experiences and skills and align talent recruitment with future capability.

In 2022/23, SSE employed 81 full-time equivalent roles, up from 57 in 2021/22, and invested £10.8m in research and innovation projects, compared to £12.0m the year before. This investment can often be in multi-year, multi-stakeholder projects, with values that far exceed SSE's

funding contribution.

## £10.8m

Direct investment in research and innovation projects in 2022/23

### A Group approach to driving innovation

SSE's strategic approach to innovation is centred on its Academic Partnership and Partnership Funding teams which co-ordinate cross-cutting innovation and growth ideas.

SSE's Academic Partnerships team facilitates SSE's structured strategic relationship with two leading UK Universities, Imperial College London and the University of Strathclyde. SSE further partners in one of Ireland's leading all-island energy research programmes 'NexSys' hosted by University College Dublin. The objective is for knowledge transfer between academia and industry with teams in SSE gaining knowledge through collaborative and directly engaged research, conferences, webinars and roundtables. The reverse is also true: academic researchers, through the relationship have the ability to mine real world problems with access to our SSE, data and operational insights.



SSE's Partnership Funding team supports the Business Units to access incentive programmes, building effective consortia that compete for grant awards to trial and prove new technologies and market models. This enables SSE not only to be aligned with government policy by understanding government innovation direction, but also to maintain a leadership position in stimulating and facilitating innovation that can yield significant performance and sustainability gains.

### Empowering Business Unit innovation

Each of SSE's Business Units is empowered to set their own innovation priorities, supported by the framework of the Group approach to innovation. A culture of innovation is promoted through a dedicated innovation team within SSEN and two Engineering Centres of Excellence. The Networks Innovation team provide expertise to leverage regulatory funding for innovation and their focus is on accelerating a low-carbon transition and co-creation with partners to develop whole-system solutions. The Engineering Technology Centres of Excellence within SSE Renewables and SSE Thermal enable technology and digital solutions for cost-effective renewables and innovation in pumped hydro, Carbon Capture and Storage (CCS) and hydrogen.

## Partnering for innovation

SSE seeks to proactively engage with external partners including supply chain, local authorities, academia and wider industry, and has built experience in forming effective consortia. Co-creation with energy industry peers is crucial to facilitate whole system solutions and SSE is a member of several ongoing Collaborative Innovation Partnerships. SSE has an established partnership with the University of Strathclyde of almost 20 years; has been a member of the Imperial Business Partners programme for over four years; and, has been a partner in the NexSys programme hosted by University College Dublin since 2021.

### Innovation in action

[SSE Thermal's FOCUSS project to abate start up and shut down emissions \(page 57\)](#)

[SSE Renewables' partnership on the Coalition for Wind Industry Circularity \(page 86\)](#)

## Innovation by deployment

SSE's aim is to accelerate technologies to higher readiness levels for deployment, learn from other utilities and industries and mitigate the risks of implementation of new technologies. SSE is a founding member of two National Demonstration Research Centres and leading a number of transformational industry projects, through which its businesses are able to manage trials to test and scale new solutions.

### Innovation in action

[SSE Renewables' electron beam welding at Dogger Bank wind farm \(page 51\)](#)

[SSEN Transmission's use of SF<sub>6</sub> alternatives \(page 23\)](#)

## Talent

SSE promotes a culture of empowering employees to drive innovation and it does this through programmes such as Generation Innovation, Enterprising Ideas, Centres for Doctoral Training at various universities, and a knowledge transfer partnership with the University of Strathclyde. SSE's talent strategy focuses on inclusivity, fairness, and flexibility to attract a diverse range of talent into the business, as well as developing future leaders and the capability to respond to the future needs of the business.

### Innovation in action

[SSE Group Procurement's social value innovation project \(page 48\)](#)

## Digitalisation

Investment in and adoption of digital is fundamental to achieving successful development, efficient operation and responsible ownership of energy infrastructure. SSE invests in and adopts a range of digital solutions, including drones, AI and digital twins. SSE continues to strengthen and evolve its approach to cyber risks with control frameworks to identify threats and reduce exposures. SSE also supports using open data to manage the network better and improve the customer experience.

### Innovation in action

[SSEN Distribution's holistic smart grid trial, Project LEO \(page 55\)](#)

[SSEN Transmission's innovative Digital Supply Chain Hub project \(page 53\)](#)

## Embedding sustainable supply chain practices

With the potential for up to £40bn of investment over the next decade, high-quality collaboration with supply chain partners is essential to mitigate risks, enhance innovation, and create resilience to support the achievement of shared sustainability goals.



“At SSE our objective is to have a sustainable supply chain in every sense of the word. We need innovative and competitive suppliers, that are economically, socially and environmentally sustainable and as their customer, we seek to support them achieve that.”

**Ronnie Fleming**  
Chief Procurement Officer

### A strategic approach to sustainable procurement

SSE’s enhanced investment plan, NZAP Plus, will see the Company invest on average £10m a day in critical national infrastructure. In 2022/23, SSE’s procurement spend totalled around £3.8bn and it typically has around 9,000 suppliers. This scale of investment and activity requires careful management of the most significant sustainability impacts that may arise. In 2022/23, a materiality assessment undertaken of SSE identified supply chain management as one of the Company’s top five most material sustainability issues, and identified the positive impact SSE could have through continued efforts in this area.

While SSE’s suppliers can be large global organisations, it aims to work locally to share the economic benefit of low-carbon investments with sustainable domestic employment. This is a key component of sharing value: it means working people, particularly those currently in industries which are in decline, can access new skills and jobs.

SSE’s Sustainable Procurement Code and Supplier Guidance form the core of its approach to managing environmental and social impacts through its supply chain (see page 47 for more information). The Code sets out SSE’s expectations of its suppliers and, as well as setting out minimum standards, it outlines the role of suppliers in delivering common sustainability goals, from paying a real Living Wage to helping SSE achieve its net-zero emissions target.

Core to SSE’s strategic approach to sustainable procurement is high quality supplier engagement. One key route of engagement is SSE’s established Supplier Relationship Management programme, through which it manages relationships with 45 suppliers identified as critical to SSE achieving its strategic aims. Engaging with suppliers allows SSE to understand and address sustainability issues throughout the supply chain by collaborating to identify opportunities for improvement, implement

sustainable practices, and collectively improve sustainability performance.

### Aligning supply chain requirements with business objectives

Through its Sustainable Procurement Code, SSE seeks to create the conditions by which the Company and its supply chain can support the delivery of shared sustainability objectives. An example of this is driving increased climate action, with SSE having a target to engage with 50% of its supply chain by spend to set science-based carbon targets by 2024 (see page 25 for progress).

Complementing the Group approach, SSE’s individual Business Units are designing enhanced supplier requirements that more closely match the sustainability priorities of their business. For example, in 2022/23 SSE Renewables, developed an enhanced environment, social and governance (ESG) and Sustainability Clause. This contractual clause outlines expectations on suppliers to comply with SSE’s Sustainable Procurement Code and align with its sustainability policies, enhanced reporting, increased due diligence, and auditing rights.

With a more regional supply chain, over 2022/23, SSEN Distribution undertook a comprehensive assessment of the maturity of its supply chain in relation to the management of sustainability risks and opportunities. This process, along with supply chain collaboration during engagement sessions for its RIIO-ED2 business plan, led the business to produce a more tailored Sustainable Supplier Code as a framework for collaboration with its supply chain through the ED2 price control between 2023 and 2028. The new Sustainable Supplier Code was launched in May 2023 and outlines 11 targeted metrics for SSEN Distribution’s supply chain to follow.

### Capturing increased supply chain data

In April 2021 SSE adopted a supply chain data capture tool to identify the sustainability impact of projects. Over



2022/23, SSEN Transmission has been rolling the requirement to complete the tool to its suppliers. Tier 1 contractors are now contractually required to use the Sustainability Tool within the current RIIO T2 price control period, and so far 10 supply chain partners are using the tool across more than 20 projects. SSE Distributed Energy and SSE Renewables will be adopting the tool going forward.

## Strengthening supply chain standards

### Enhancing SSE’s Sustainable Procurement Code

In 2022/23, SSE strengthened its Sustainable Procurement Code in several priority areas with the inclusion of circular economy principles, requirements to adhere to Living Hours and expectations for suppliers to report additional safety performance metrics. SSE is tracking its suppliers’ engagement and approval of its Sustainable Procurement Code and Guidance through a source-to-contract platform, finding that they had a 97% acceptance rate at 31 March 2023. Over 2023/24, the Sustainable Procurement Code will be updated further to outline SSE’s sustainable procurement journey, future ambitions, supply chain goals and provide more specific material requirements.

### Supporting compliance with the Sustainable Procurement Code

A comprehensive survey of over 160

procurement professionals was undertaken in 2022/23 which identified skills and knowledge gaps relating to sustainability expertise. This analysis identified skills needs and training was developed to support and enable sustainable decision making within the procurement process.

In addition, as part of its System of Internal Control, an internal audit of SSE’s implementation of its Sustainable Procurement Code and Supplier Guidance was undertaken. This initial audit has produced high-level findings around potential areas of improvement, which will be used to create an action plan to implement any required changes over 2023/24.

### Enhanced supplier payment practices

SSE seeks to meet the requirements of the Prompt Payment Code, a voluntary code of practice for businesses, administered by the Office of the Small Business Commissioner on behalf of the UK Government. It was established in December 2008 and sets standards for payment practices between organisations of any size and their suppliers. To align with the code SSE commits to paying suppliers on time, within agreed terms, providing clear guidance to suppliers on terms, dispute resolution and prompt notification of late payment, and supporting good practice throughout its supply chain by encouraging adoption of the Code.

Over 2022/23, on average SSE paid invoices within 28 days (2021/22: 28 days).

87% of invoices were paid within 30 days (2021/22: 86%), 11% paid within 31-60 days (2021/22: 11%) and 3% paid in 61 days or more (2021/22: 3%). 25% of invoices were not paid within the agreed terms (2021/22: 26%).

In 2021, the Code was strengthened to include a requirement to pay 95% invoices within 60 days, and a requirement that 95% invoices from small businesses (with fewer than 50 employees) must be paid within 30 days (effective from 1 July 2021 for existing signatories). To align, SSE has been working to identify those suppliers who have fewer than 50 employees, analyse its payment performance for small suppliers, and create remediation plans for those that were not paid within the timeframe. Since 2021, SSE identified over 6,000 small suppliers and completed the analysis, and is working with local finance teams on the remediation plans where required. In April 2023, SSE completed its six-monthly submission of Payment Practices, which included Small Business Data. To ensure small suppliers are identifiable moving forward SSE aims to update all supplier records with business size and update new supplier forms to include mandatory field to capture

## Investing in industry, innovation and infrastructure

employee numbers.

### Collaborating to drive industry-wide progress

#### Driving meaningful supply chain collaboration

The Powering Net Zero Pact ('the Pact') is a flagship collaborative initiative created by SSE with 10 key founding partners. Over 2022/23, the Pact has grown to 20 member companies and brings together different companies across all tiers of the power sector, identifying five key topics for collaboration to a fair and just transition to net zero. The Pact members have operations across more than 120 countries, combined turnover of more than £75bn, over 350,000 employees, and more than 170,000 suppliers.

Over 2022/23, the focus of the Pact was establishing the working groups for the five topics of collaboration. In May 2023, the Pact released its first annual report of progress, which details the activity of the five working groups, their agreed priorities and what the joint deliverables are for the first two years. This report, alongside more information on the Pact, can be found at [sse.com/pnzp](https://sse.com/pnzp).

#### Providing supplier sustainability training

SSE has been a partner of the Supply Chain Sustainability School (SCSS) since 2020. Through this partnership, SSE provides its



supply chain with information, resources and access to training on key sustainability topics. Over 2022/23, SSE improved its engagement and measurement with the SCSS to enable it to develop a plan to increase supplier participation in the training programmes. As of 31 March 2023, 192 of SSE's suppliers (45% of SSE's supply chain spend) have accessed sustainability resources through the SCSS. SSE has set a target to increase this to 55% by 31 March 2024, using learning pathways and SSE's Strategic Relationship Management meetings to stimulate engagement on the platform.

#### Encouraging inclusion and diversity in SSE's supply chain

SSE is committed to promoting inclusion and diversity throughout its supply chain, supporting businesses and people in the areas it operates by ensuring inclusion and diversity are part of the supplier selection process. SSE's sustainable procurement strategy, underpinned by the Sustainable Procurement Code, includes expectations that suppliers will promote greater inclusion. Over 2022/23, the Code was updated to include further requirements of suppliers, including to: ensure their policies and processes are inclusive for all; provide evidence of policies and practices that result in improved inclusion and diversity of the workforce; and, provide information on the results of those practices, if requested by SSE. For more information see SSE's Inclusion and Diversity Report 2023.

## ENGAGEMENT IN ACTION



### Creating social value with key suppliers

As part of an initiative developed for SSE's Procurement and Commercial department's leadership development programme in 2020/21, employees were challenged to deliver a project that would add value to SSE. The group of developing leaders identified the potential for enhanced social value within SSE's supply chain. A pilot was run which saw SSE work closely with two successful framework suppliers, a tree cutting contractor and a retrofit of an existing framework contractor within IT, to identify where social value could be built into the contract and the framework could be utilized to monitor the delivery of these commitments. Examples of social value commitments include apprenticeship schemes, local school engagement, donations to community projects, and mandatory volunteering requirements for operatives.

These initial pilot projects confirmed the potential of the value that can be created through SSE's supply chain activity, and following this success SSE is rolling out this approach across its supply chain over 2023/24.

As part of SSE's social value approach over 2022/23, a Social Value Roadmap was created in collaboration with a third party, Action Sustainability. This comprised of conducting a gap analysis to determine how SSE performs on embedding social value and identify best practice. A list of key actions in a strategic timeline was produced, which SSE will begin to implement over 2023/24, collaborating with its supply chain to further create and measure social value.

## Increased renewables ambition and growth

SSE Renewables is driving the net zero transition through the development, financing, construction and operation of world-class clean energy assets..



**"It is one thing to be providing the world with the primary answer to power sector decarbonisation. But it is another thing altogether to build a renewables portfolio that creates social value and helps to restore our depleted natural world. SSE Renewables seeks to do all those things."**

**Stephen Wheeler**  
Managing Director,  
SSE Renewables

#### Accelerating the transition to net zero

SSE's new NZAP Plus capex plan will see £18bn of investment over the five years to 2027, with 40% of that investment being allocated to SSE Renewables. The NZAP Plus, combined with an enhanced growth target, seeks to deliver a fourfold increase in SSE's owned renewables capacity to over 16GW (net) by 2032.

SSE's plans for increasing installed renewable generation capacity (including battery storage):



#### Creating an optimal structure for growth

The SSE Renewables business comprises existing operational assets and those under development in onshore wind, offshore wind, flexible hydro electricity, run-of-river hydro electricity, pumped storage, as well as solar and battery technology co-located on existing UK and new international markets. In January 2023, SSE Renewables announced plans for its first

solar and battery installation, co-located at its existing operational wind farm in Co. Wexford, Ireland. The planning application for the project, a 21MW solar photovoltaic (PV) array and a 10MW/2hr battery energy storage system, will be submitted in the coming months.

In April 2023, the standalone Solar and Battery business, that had previously reported alongside SSE Distributed Energy, was integrated into SSE Renewables, further enhancing SSE Renewables' focus on these technologies. Future ambitions for the Solar and Battery business are therefore referenced in this section, while information about performance for the past year can be found in the Distributed Energy section of this report on pages 38 and 39.

#### A year of milestones for flagship projects

SSE Renewables made good progress with its key flagship projects in 2022. First power was achieved at the 1,075MW Seagreen Offshore Wind Farm and significant progress was made on Dogger Bank, the world's largest offshore wind farm, including the opening of the operations and maintenance base in South Tyneside. What will be the UK's most productive onshore wind farm by output when complete, Viking Onshore Wind Farm, remains on track for operation in 2024. More detail on progress made for key projects can be seen on pages 30 to 32.

#### Growth opportunities at home and abroad

SSE Renewables' core markets of the UK and Ireland continue to offer considerable growth opportunities and milestones were reached in key offshore projects with a consent application submitted to the Scottish Government for develop Berwick Bank wind farm in the outer Firth of Forth and the Environmental Impact Assessment Scoping Report for the Ossian Array, which includes the 3.6GW Ossian offshore



## Investing in industry, innovation and infrastructure

wind farm (SSE Renewables share 40%), submitted to the Scottish Government in March 2023.

Also in March 2023, SSE Renewables confirmed a £100m commitment to further develop plans for the c. 1.3GW Coire Glas pumped hydro storage project. The project, which received planning consent from the Scottish Government in 2020, would more than double Britain's total current electricity storage capacity and could play a significant role in supporting the UK Government's 2035 target for a decarbonised power system.

SSE Renewables continues to progress development opportunities across Europe, Asia-Pacific and North America. In Southern Europe, two projects in France and Spain are targeting construction commencing in Summer 2023, with at least one further project targeting a final investment decision later in the financial year. SSE Renewables is also continuing to explore development opportunities in Northern Europe, Asia Pacific and North America with several tenders currently in progress.

### GB and Ireland pipeline projects capacity

	Offshore wind	Onshore wind	Battery	Hydro	Solar
In construction	2GW	0.6GW	0.2GW	-	0.03GW
In development (early and late stage)	6.8GW	0.8GW	0.9GW	1.3GW	0.05GW
Other future projects	3.7GW	0.8GW	0.9GW	0.08GW	0.4GW

### Other international pipeline projects capacity

	Offshore wind	Onshore wind <sup>1</sup>
In development (early and late stage)	0.4GW	2GW
Other future projects	4.8GW	2.5GW

Note: All capacities are pro-rated to reflect SSE's ownership share in the project and are subject to change as projects are refined. Table reflects ownership and development status as at May 2023. Late-stage is consented in GB and grid or land security elsewhere, early-stage has land rights in GB and some security over planning or land elsewhere. Future prospects are named sites where non-exclusive development activity is under way. Additional solar and battery storage projects reflects Solar and Battery team now forming part of SSE Renewables.  
1 Includes solar hybridisation.



## INNOVATION IN ACTION



## Using innovative technology at all stages in wind farm projects

### CONSTRUCTION

#### Pioneering sustainable engineering for offshore wind

In January 2023, the first-ever electron beam welded section was incorporated into an offshore wind turbine monopile foundation, which will be installed in the second phase of Dogger Bank Wind Farm later in 2023.

The pioneering £2.5m project, co-funded by the UK's innovation agency, Innovate UK, was led by SSE Renewables in collaboration with Sif, Cambridge Vacuum Engineering and TWI, and created a new, more productive and more sustainable manufacturing process for the welding of large steel structures for offshore wind.

Electron beam welding is significantly quicker, cheaper, more energy efficient and produces high quality welds compared to conventional welding techniques. This specific type of electron beam welding technology (EBflow) is an innovative development within the electron beam welding industry; instead of welding inside a costly and size-limiting vacuum chamber, Ebflow uses a local vacuum system that creates and maintains a vacuum around only the seam that is being welded.

This technique opens up the potential to use electron beam welding on large structures, while reducing costs and enhancing productivity. The technology has been shown to weld monopiles at least 25 times faster than current methods, while using 90% less energy, costing 88% less, and producing 97% less CO<sub>2</sub> emissions.

### DEVELOPMENT

#### Using 3D visualisation to enhance community engagement

SSE has developed virtual reality (VR) technology to provide 3D visuals of wind turbines which can be used during in-person consultation events. The VR application allows members of the public to explore the inside of a wind turbine and find out more about how they work in an immerse and effective way. Users can view impressions of development sites from key vantage points on the coastline, the sea area and the onshore cable route. The technology will help to facilitate meaningful public engagement and increase the transparency of project plans.



SSE is also using VR technology to create immersive training applications which take employees through processes in realistic environments, helping to reduce the risk of injury. More information about SSE's immersive training programme for safety can be found on page 76.



### OPERATION

#### Species monitoring using artificial intelligence

In December 2022, SSE Renewables, with partners Microsoft, Avande and NatureScot, won the Scottish Green Energy Award for Innovation for the use of Artificial Intelligence (AI) when monitoring species.

The AI technology consists of cameras that gathers footage and automatically detect and count the species being monitored which enables the collection of valuable and accurate data, ensuring the environment is protected.

It was initially tested to monitor puffin colonies as part of planning conditions for the Beatrice Offshore Wind Farm and since the successful trial, it has been used to monitor other species, including salmon, across SSE Renewables sites.

This project is part of an ongoing partnership between SSE, Microsoft and Avande on a series of digital innovation projects which are developing solutions to improve understanding of the impacts wind farms have on surrounding ecosystems.

# A transmission network critical to net zero

SSEN Transmission is enhancing investment plans to unlock the vast renewables potential in the north of Scotland, in response to accelerated national renewable energy targets.



“The abundance of renewable energy in the north of Scotland means every plausible pathway to net zero in the UK requires the transportation of very large quantities of green electricity from the north to the south. This urgent imperative motivates the whole of the team in transmission not only to provide electricity to our customers reliably, but to develop the new projects in an orderly, efficient and open way too.”

**Rob McDonald**  
Managing Director,  
SSEN Transmission

### Powering a pathway to 2030

In July 2022, the National Grid Electricity System Operator (ESO) published Pathway to 2030 Holistic Network Design (HND). The report sets out the blueprint for the electricity transmission network infrastructure required to enable the forecast growth in renewable electricity across Great Britain, including the UK and Scottish Governments 2030 offshore wind targets of 50GW and 11GW, and confirms the need for significant investment in electricity transmission infrastructure in north of Scotland.

In December 2022, Ofgem published its Accelerated Strategic Transmission Investment (ASTI) framework decision, which provided the regulatory framework under which those HND investments will be taken forward. Ofgem’s ASTI decision confirms that all SSEN Transmission projects identified by the Electricity System Operator are required to meet 2030 offshore wind targets will now be taken forward as part of the ASTI framework. The combination of inflight investments plus the eight ASTI projects are outlined in the map and represent estimated total project costs in excess of £11bn.

### Main north of Scotland electricity transmission network in 2030



- Key:**
- In-flight investments**
    - Argyll 275kV strategy
    - Fort Augustus to Skye 132kV upgrade
    - Orkney 220kV AC subsea link
  - Pathway to 2030 investments**
    - Beuly to Loch Buidhe to Spittal 400kV
    - Beuly to Blackhillock to New Deer to Peterhead 400kV
    - Beuly to Denny 400kV uprating (with SPT)
    - Kintore to Tealing (with connection to Alyth) to Westfield 400kV (with SPT)
    - Spittal to Peterhead 2GW HVDC subsea link
    - Peterhead to Drax 2GW HVDC subsea link – Eastern Green Link 2 (with NGET)
    - Peterhead to South Humber 2GW HVDC link – Eastern Green Link 4 (with NGET)
    - Western Isles 1.8GW HVDC link

Subject to timely and positive planning decisions and the outcome of competitive tenders for delivery of these projects, SSEN Transmission is committed to 2030 delivery of these projects. In light of these developments, SSEN Transmission has upgraded its long-term Regulated Asset Value target, which is now expected to exceed £15bn by 2032.

### Financing future growth

In November 2022, SSE announced it had reached an agreement to sell a 25% minority stake in SSEN Transmission to Ontario Teachers’ Pension Plan Board, for just under £1.5bn. The sale of a minority stake allows SSE as the majority shareholder to retain control in relation to operating and managing the business, with Ontario Teachers’ Pension Plan Board proportionately represented on SSEN Transmission’s Board of Directors. This partnering approach has been successful in other areas of the business, including SSE Renewables, and helps to unlock finance for significant growth in both SSEN Transmission and across the wider SSE Group.

To help cover the future long-term funding requirements SSEN Transmission, has developed its first sustainability-linked revolving credit facility of £750m, signed in November 2022. See page 33 for more information.



### Unlocking clean, secure energy for the Scottish islands

Scotland’s island groups are home to some of world’s greatest resources of renewable energy and SSEN Transmission has long supported the need to provide transmission connections to help unlock their abundant potential, whilst also importantly providing security of supply for island communities.

In March 2023, Ofgem announced that it provisionally approved much needed plans to provide a subsea electricity transmission link to Orkney.

SSEN Transmission’s proposed solution would enable the connection of up to 220MW of new renewable electricity and consists of a new substation at Finstown in Orkney, and around 57km of subsea cable, connecting to a new substation at Dounreay in Caithness.

Ofgem’s decision is the final piece in the jigsaw to connect all three of Scotland’s main island groups, following its approval of the Western Isles link in December 2022 as part of the ASTI framework decision and work to connect Shetland, which is already well underway.

## INNOVATION IN ACTION



### Progressing strategic innovation projects

In August, SSEN Transmission welcomed the decision to progress all three of its projects submitted to the Discovery Round 2 stage of Ofgem’s Strategic Innovation Fund (SIF).

The SIF is designed to drive the innovation needed to transform gas and electricity networks for a low-carbon future. The fund seeks to identify and fund ambitious, innovative projects which can help shape the future of the energy networks and accelerate the transition to net zero, at the lowest cost to consumers. SSEN Transmission has been successful in securing three projects which are aimed at tackling some of the energy industry’s biggest challenges.

#### Innovative Network Status Intelligence Gathered by Holistic use of Telemetry and Simulation (INSIGHT):

**Providing strategic insight to help inform network design**  
Delivery of a virtual, real-time alert and control system that can monitor and mitigate different types of oscillation events experienced on the networks. Combining learnings from past events with new modelling and simulation techniques, it will better understand the nature of new oscillations, how to predict

them and how to address them in network design and operation for future events.

#### Rapid Evaluation Area Connection Tool (REACT):

##### Early identification of grid connection alternatives

Creation of a geographical planning tool to provide a dynamic view of all future connection requests. The tool will enable users to identify alternative grid connections, by using modelling data that assesses grid impact of a connection, combined with a spatial planning tool which will incorporate the current and future power and gas infrastructure.

#### De-risking the HVDC cable supply chain (SECURE):

##### Ensuring greater supply chain resilience

Employment of cutting-edge digital solutions and develop an innovative Digital Supply Chain Hub (DSCH) to achieve greater visibility and knowledge of the High Voltage Direct Current (HVDC) cable supply chain, ensuring greater supply chain resilience and strategic insight.

## Powering communities to net zero

The need to tackle climate change, combined with increasing digitalisation of society, requires a transformation in the way that local electricity networks operate, with new forms of generation and demand already connecting to SSEN Distribution’s network.



“Networks will unlock the electrification of the economy with billions of pounds in investment to create modernised and flexible local electricity grids fit for a net-zero world. At SSEN, we are completely focused on building a smarter, more flexible and more resilient network during and beyond the next five years.”

**Chris Burchell**  
Managing Director,  
SSEN Distribution

### Accelerating investment in local networks for net zero

The RII0-ED2 price control period, which runs from 1 April 2023 to 31 March 2028, is a vital foundation supporting the UK and Scottish Governments meet their ambitious legally binding climate targets. Electricity networks will need to grow and adapt to accommodate the uptake of low-carbon demand, such as heat pumps and EVs, at the same time as connecting locally low-carbon generation, such as solar.

SSEN Distribution is already seeing a significant rise in the uptake of low-carbon technologies, particularly EV charge points, heat pumps, and battery storage. The business has seen a 75% increase in the number of registered electric vehicle charge points connected compared to last year.

The new price control period will see the acceleration of SSEN Distribution’s capital investment programme across both its network areas, delivering significant improvements for customers and supporting the delivery of future smart grids.

**Plans to power communities to net zero**  
SSEN Distribution’s Business Plan targets significant improvements to reliability,

resilience, and services for customers alongside acceleration of investment in local network infrastructure and flexible systems needed to power communities to net zero. It is a culmination of over two years’ of work, during which extensive engagement was undertaken with more than 25,000 stakeholders, to ensure that the plan was shaped by industry specialists and co-created with those who live in the communities SSEN Distribution serves. Framed around a sector-leading commitment to a 1.5°C science-based target pathway, the plan aims to deliver positive impact to society through supporting a just transition and driving local economic growth.

In November 2022, Ofgem published its Final Determination for the RII0-ED2 electricity distribution price control, which allows SSEN Distribution £3.6bn of baseline total expenditure for the five-year period against an initial business plan ask of £4bn. This reflects positive movement from the Draft Determination in June, with baseline allowances increasing by £300m. The Final Determination also includes potential additional investment opportunities for SSEN Distribution of up to £0.7bn over the period through uncertainty mechanisms and reopeners.

### Key milestone reached in heat pump trial

In December 2022, a key milestone was reached in the Re-HEAT project, with the first combined heat pump and home heat battery storage system installed in a home near Inverness.

The Re-HEAT project is testing the benefits of zero-carbon heating for households and how Distribution Network Operators (DNOs) can manage the impact that heat pumps may have on grids. It is the first DNO-led (SP Energy Networks and SSEN Distribution) large-scale heat trial and will see 150 heat pumps installed in domestic homes across three local authority areas. Those heat pumps will be connected to



## PARTNERING IN ACTION



### Delivering better outcomes for customers through innovation collaboration

In July 2022, SSEN Distribution and UK Power Networks (UKPN) announced their Collaboration Charter through which they have committed to sharing innovation solutions to deliver customer benefits, by ‘fast following’ each other’s innovative solutions. The network operators have agreed to: share learning and best practice; deliver a programme of innovation projects more efficiently; and, innovate in Business as Usual areas in the RII0-ED2 price control period.

The two DNOs have an established relationship that is already

delivering benefits for customers by increasing efficiencies. For example, UKPN was the first to adopt Light Detection And Ranging technology (LiDAR) to provide digital visualisation of future tree growth which was then swiftly adopted by SSEN Distribution, to inform its tree cutting programme.

There will be many challenges faced by network operators as they undergo a significant structural change, and collaboration between local authorities and network operators will be essential in delivering net zero in the best way for customers.

thermal storage units, enabling customers to be more flexible in the times they use electricity for heating.

The project will test whether participating households can reduce their energy bills

compared to LPG, oil or pure electric heating, for example by taking advantage of times when electricity prices are lower to charge their heat batteries. In the future, smart devices will allow households and businesses to benefit from flexing their

energy use in response to a request, which will give them greater control over their energy bills whilst helping to balance supply and demand on the local electricity network.

## INNOVATION IN ACTION



### Findings from Project Local Energy Oxfordshire (LEO)

In February 2022, the final report was published from Project Local Energy Oxford (LEO), one of the UK’s most ambitious, wide-ranging and innovative energy trials. The £40m collaboration, in which SSEN Distribution was the lead partner, sought to demonstrate how the growth in small scale renewables, EVs, battery storage and demand side response can be supported by a local, flexible and responsive electricity grid.

Over the four years since its launch, this collaborative project has conducted multiple trials, issued numerous reports and gained vital insight into what a smart and flexible energy system of the future could look like. The project has also studied the infrastructure, markets and regulations that should be put in place to make this flexibility commercially and technically viable.

The final report shares 13 key learnings from Project LEO with industry and policymakers, to help deliver the structures that will enable and support the transition to net zero. Key recommendations include:

- 1. Local Area Energy Plans should be mandatory:** convened by local authorities whose central role is supported by appropriate resourcing, and dedicated to a ‘whole systems’ approach that will adopt the best solutions for each area, informed by the priorities of the local community.
- 2. Aggregators, in the widest sense, are essential to develop flexibility markets:** offering the skills and expertise that can open up participation in flexibility markets to whoever wishes to engage – this will be core to delivering a fair transition.
- 3. The regulatory framework must support investment:** from network operators in electricity infrastructure, data and digital for the long term and in anticipation of new demand, to ensure net zero targets are reached.

While the final report signals the end of Project LEO, it is just the beginning of the development of a smarter and more flexible energy system, and each of key learnings from the final report will help shape the blueprint.



## A strategic role for flexible low-carbon thermal generation

The value of SSE's flexible thermal generation – to both shareholders and society – was demonstrated clearly in 2022/23. The energy market circumstances of the past 12 months make an even stronger case for accelerated policy and investment in its lower-carbon alternatives.



“Our team is wholly focused on our mission to deliver the flexible energy needed now while powering the transition to net zero. The strong performance of the business in the last year has simply reinforced our longer-term ambition to decarbonise our portfolio of unabated power stations.”

**Catherine Raw**  
Managing Director,  
SSE Thermal

Developing decarbonised alternatives to the existing CCGT fleet will be vital to deliver SSE's goal to cut carbon intensity by 80% by 2030 and achieve its science-based carbon reduction targets, aligned with a 1.5°C pathway.

### CCS key to the transition from unabated to abated gas generation

The critical nature of flexible, back up generation in the GB electricity system was reinforced by a key report from the UK's Climate Change Committee in March 2023. The report recommends to the UK government that new low-carbon back-up generation some continued use of fossil gas, made low-carbon through use of carbon capture and storage (CCS) is urgently required.

SSE recognises this requirement and is actively developing options to progressively decarbonise its portfolio, particularly at its sites at Keadby in the Humber and Peterhead in the north east of Scotland.

In December Keadby 3 Carbon Capture Power Station became the first power-CCS project to secure planning consent in the UK. Alongside the contract awarded in June for the completion of FEED (Front End Engineering Design), this demonstrates the project's advanced development. However, in March the UK Government announced the first carbon capture projects to be supported by government-backed contracts in Teesside and the northwest of England. As a Humber-based project, SSE's flagship CCS project Keadby 3 has not yet progressed to the final stage of negotiations for a Dispatchable Power Agreement, the key mechanism that will support the commercial application of CCS in the UK.

The UK Government has instead identified

the Humber as a region to be supported through subsequent phases of its cluster sequencing process by 2030 at the latest. At the same time, the UK Government set out detail for the next tranche of potential CCS projects in the UK. Projects in Scotland were identified as a “minded-to” next tranche of CO<sub>2</sub> transport and storage system for deployment by 2030. Acorn would provide CO<sub>2</sub> storage for Peterhead Carbon Capture Power Station. Peterhead Carbon Capture Power Station is continuing to develop with a planning application submitted in March 2022 and announcement of the award of a FEED contract in July. It remains well-placed to participate in future Dispatchable Power Agreement allocation processes.

SSE remains confident that CCS will, in time, be built at both Keadby and Peterhead, both of which are essential for the UK to meet its net zero targets.

### The essential role of hydrogen in a decarbonised power sector

The UK's Climate Change Committee further reinforced the essential role for hydrogen power generation in a future decarbonised power sector in 2035. While the hydrogen value chain must develop and mature quickly, SSE has established a pipeline of potential option which it is pursuing through government support frameworks and mechanisms.

Key to this is Aldbrough Hydrogen Pathfinder, SSE Thermal's hydrogen value chain proof-of-concept project, which was shortlisted to progress to a due diligence phase after submitting a bid for funding and Hydrogen Production Business Model support through the Net Zero Hydrogen Fund. Aldbrough Hydrogen Pathfinder seeks to unite hydrogen production, hydrogen storage and a 100% hydrogen-fired open-cycle gas turbine (OCGT) on

one site by the middle of the 2020s. This project will enable and inform the scaling up of SSE's, the wider Humber, and the UK's hydrogen ambitions and help de-risk further hydrogen investment.

SSE is continuing to develop options for hydrogen blending at its new unabated CCGT plant at Keadby 2, with pre-FEED activity under way. Option assessment and scoping activity for a further 100% hydrogen-fired CCGT at Keadby also continues.

### Securing supply and finding a low-carbon pathway in Ireland

In Ireland, SSE Thermal is advancing projects using sustainable biofuel as a lower carbon alternative to fossil fuels and as a bridge to hydrogen. In March it provisionally secured 10-year Capacity Market agreements for two new low-carbon power stations to commence in 2026/27 delivery year: 260MW at Tarbert and 140MW at Platin. The proposed low-carbon units at Tarbert in Co. Kerry and Platin in Co. Meath would help to protect security of supply and provide flexible backup to Ireland's growing renewables sector. The proposed units will initially run on Hydrotreated Vegetable Oil (HVO), which is produced by processing waste oils to create a fossil-free alternative to diesel in accordance with EU sustainability standards. This would provide a bridge to a hydrogen future with both units having the potential to convert to the fuel.

Low-carbon projects in Ireland are progressing alongside activity to deliver a Temporary Emergency Generation unit, at the request of the Irish authorities. Following legislation and a site selection process undertaken by EirGrid, approved by the Commission for the Regulation of Utilities, the Tarbert site was selected to host 150MW of generation capacity, to run on distillate oil. It will operate as an emergency plant with a maximum 49 running time of 500 hours per annum. Under the Irish Government's emergency generation legislation, this capacity is to cease operations as soon as the temporary electricity emergency has been addressed, and no later than March 2028. The unit would only be utilised when it is clear that market-sourced generation will not be sufficient to meet system needs.



## INNOVATION IN ACTION



### Increasing carbon capture efficiency

In June 2022, the Flexibly Operated Capture Using Solvent Storage (FOCUSS) project was awarded grant funding from the Department for Business, Energy & Industrial Strategy (BEIS). The project is being led by SSE Thermal and supported by AECOM and the University of Sheffield, with the US-based National Carbon Capture Center (NCCC) also involved in the collaboration.

The primary objective of FOCUSS is to reduce CO<sub>2</sub> emissions from carbon capture and allow consistent capture levels of between 95% and 99% to be achieved. Testing will take place at the University's Translational Energy

Research Centre, before scaled up testing at the NCCC, which involves advanced modelling techniques and pilot plant test campaigns. During its first year, the FOCUSS project has achieved significant milestones with numerous public engagement campaigns, solidifying its position as a frontrunner in the field of carbon capture and utilisation.

BEIS awarded the grant as part of its Carbon Capture Usage and Storage (CCUS) Innovation 2.0 competition, which aims to accelerate development of next-generation CCUS technology in the UK so that it can deploy at scale by 2030.

# Committed to decent work and economic growth

In the transition to net zero, SSE seeks to share the value created widely in a way that is fair and just, leaving no-one behind.

SSE's investment plans, while directed at low-carbon infrastructure, will deliver significant economic benefits to the places in which it operates. SSE recognises that the value it creates must be shared widely and in a way that creates lasting, positive impacts for employees, consumers, communities, suppliers, and wider society.

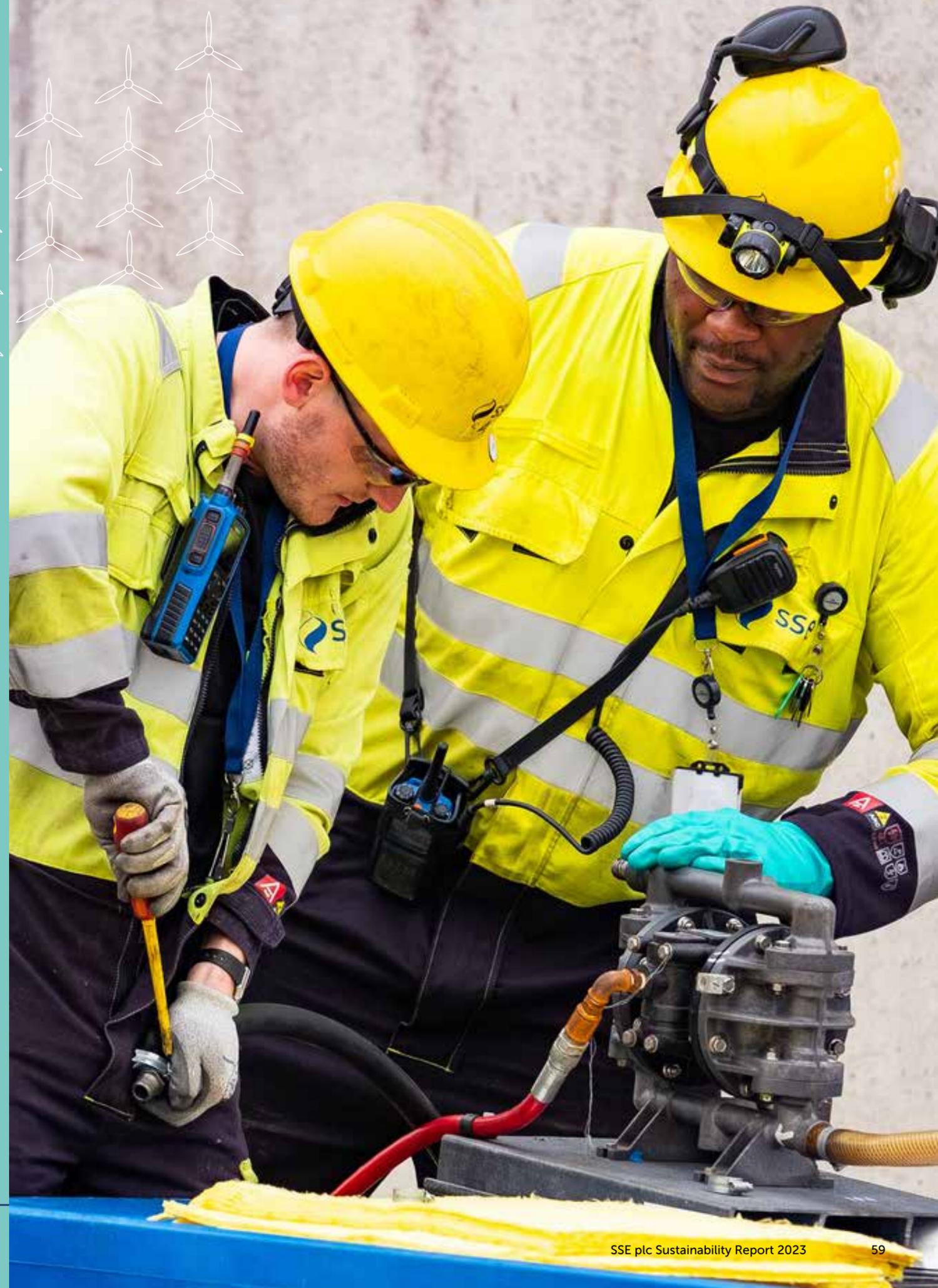
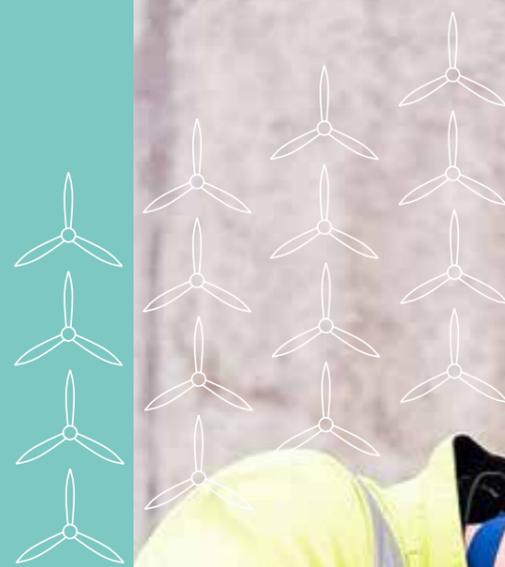


## Champion a fair and just energy transition

Be a global leader for the just transition to net zero, with a guarantee of fair work and commitment to paying fair tax and sharing economic value.

To ensure accountability to its stakeholders, SSE took steps to measure progress against the 20 principles of its Just Transition strategy and achieved the Fair Tax Foundation's new Global Multinational Business Standard accreditation.

Over 2022/23, SSE continued to drive both action and accountability towards a just transition, publishing two new reports detailing its progress and thought leadership around the topic. SSE's commitment to fair tax was reaffirmed as it became the first company to transition from the Fair Tax Foundation's UK HQ Multinational accreditation to the Foundation's new Global Multinational Business Standard. SSE implemented the annual increase in the real Living Wage, which was brought forward by two months in recognition of the cost-of-living crisis, and continued to work towards rolling out its Living Hours commitment across its supply chain.



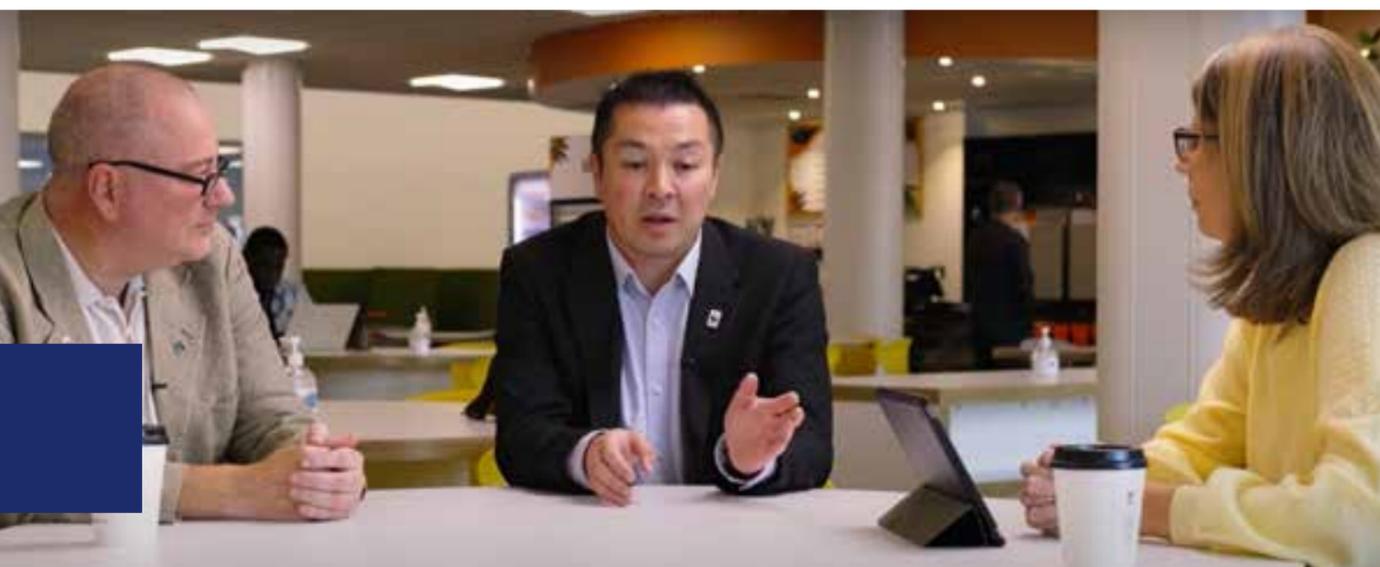
## Committed to decent work and economic growth

### Performance summary

Category	Key performance indicator	Unit	2022/23	2021/22	2020/21
<b>Sharing economic value</b>	Contribution to GDP (UK/Ireland) <sup>1</sup>	£bn/€m	6.04/429	5.98/417	5.36/415
	Jobs supported (UK/Ireland) <sup>1</sup>	Headcount	39,940/2,430	45,290/1,840	41,400/2,160
	Taxes paid (UK/Ireland)	£m/€m	502/53.8	335/46.4	379/20.4
	Investment in communities <sup>2</sup>	£m	16.5	11.2	10.6
<b>Increased productivity</b>	Employee productivity compared to national averages (UK/Ireland)	Number:1	4.7:1/2.3:1	4.1:1/2.9:1	3.2:1/1.5:1
	Investment in learning and development <sup>3</sup>	£m	23.2	17.3	15.8
	Average training hours per FTE	Hours	19.8	20.7	9.0 <sup>4</sup>
<b>Full, productive and inclusive employment</b>	Total SSE employees	Headcount	12,180	10,754	12,489
	Employees on permanent contracts	%	95.2	94.4	94.0
	Employee retention/turnover rate <sup>5</sup>	% retention/% turnover	89.5/10.5	90.5/9.5	92.1/7.9
	Voluntary turnover rate	% (% of total turnover)	7.0 (66.2)	7.8 (60.6)	3.6 (45.7)
	Lost days due to sickness	Number	83,650	68,270	66,962
	Average lost days per head	Number	6.9	6.3	5.9
	Employee engagement survey score	%	84	82	82
	Median UK gender pay gap <sup>6</sup>	%	15.3	18.0	18.3
<b>Reduce the risk of modern slavery</b>	Human rights grievances filed through formal mechanisms	Number	0	0	0
<b>Labour rights</b>	Total recordable injury rate – employees and contractors combined	Per 100,000 hours	0.19	0.17	0.14
	Employees covered by collective bargaining agreements (UK & Ireland) <sup>7</sup>	%	50.3	54.2	53.9
	Speak up (whistleblowing) contacts made	Number	50	49	66 <sup>8</sup>

<sup>1</sup> Total direct, indirect and induced Gross Value Added, from PwC analysis. 2020/21 and 2021/22 GVA data has been adjusted to current prices. Scotland data is included within, rather than in addition to, UK data  
<sup>2</sup> See page 64 for further details.  
<sup>3</sup> See page 68 for further details.  
<sup>4</sup> 2020/21 figures were unusually low due to the impacts of coronavirus. See page 86 of SSE's Sustainability Report 2021 for more information.

<sup>5</sup> Includes voluntary and involuntary turnover, excludes end of fixed term contracts and internal transfers.  
<sup>6</sup> Data correct as at 5 April in each year. See SSE's Inclusion and Diversity Report 2023 for SSE's full UK gender pay gap disclosure.  
<sup>7</sup> Includes only collective bargaining arrangements of which SSE is aware – employees may have personal arrangements in place too.  
<sup>8</sup> 2020/21 data covers the 2020 calendar year.



**Photo:** Scotland's Just Transition Commission members Richard Hardy from trade union Prospect, Lang Banks from WWF Scotland and Rachel McEwen from SSE.

## Powering a just transition

SSE is working to ensure the benefits and costs of climate action are distributed in the fairest way possible for working people, consumers and communities.

### A pioneering strategy for a just transition

In November 2020, SSE published its Just Transition Strategy which set out 20 principles to guide the company as it transitions into a net zero world, and out of a high-carbon world, ensuring that the decisions it takes are fair and that it maximises the opportunities for all. With the scale and scope of the transition impacting both economically and socially, SSE explicitly recognises there is a business case for fairness to be experienced and perceived by its employees, customers and the wider public. In 2022/23, a materiality review of SSE's sustainability impacts, identified the pursuit of a just transition as being one of three opportunities for enhanced impact, further reinforcing the priority given to managing the social consequences of the Company's transition to net zero.

The 20 principles sit under five key themes: good green jobs; consumer fairness; building and operating new assets; looking after people in high-carbon jobs; and, supporting communities. The 20 principles guide SSE in its decision making and approach to ensuring that the benefits arising from the transition to net zero are shared widely. Social impacts are considered an important interdependency within SSE's Net Zero Transition Plan with its just transition principles integrated into its actions for net zero.

### Making the case through practical action

Since the publication of its Just Transition Strategy in November 2020, SSE has sought to make the case for a just transition through practical action and transparency. It understands it has influence on the way the transition is implemented, however, there is a recognition that SSE cannot, on its own, deliver justice across the entire energy sector. It believes practical real-world action can be a powerful demonstrator of the benefits of pursuing just transition principles.

In 2022/23, SSE continued to engage extensively with stakeholders on the impacts of its activities to exit from high carbon activity; and its low-carbon developments. A short documentary was produced to engage stakeholders on just transition principles, and two reports were published to develop thought leadership and accountability.

### Measuring progress towards a just transition

SSE recognises the importance of being open and transparent around its efforts in progressing towards net zero and that, in order to assess performance, it is important that actions can be measured and the Company is held to account. In April 2023, following collaborative engagement with stakeholders, including its trade union partners, and key interested investors SSE published the fourth in its series of just transition reports, which focused on measuring the progress that SSE has made against the 20 principles of its Just Transition Strategy. The report seeks to demonstrate the impact that

the 20 principles have had across the business, and how they have influenced SSE's decision making and approach in the period since they were published in November 2020. The report can be accessed at [sse.com/sustainability/just-transition](https://sse.com/sustainability/just-transition).

### Normalising a just transition

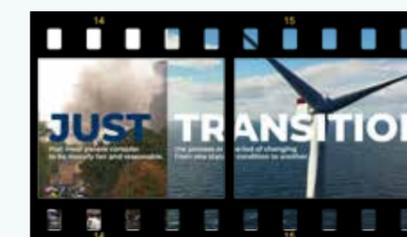
In April 2023, SSE held a multistakeholder event in London aimed at normalising the just transition within net zero transition plans and corporate climate discourse, seeking to enhance accountability and bring the just transition from concept to action. The event was attended by a range of stakeholders, including academia, investors and peers. The event aimed at establishing a sense of collaboration and openness around a just transition and demonstrating SSE's stewardship of its own transition to net zero and highlighting the business benefits that come from establishing the world's first business strategy for a just transition.

## ENGAGEMENT IN ACTION



### Just transition documentary

In March 2023, SSE launched a short documentary which aims to bring the notion of a just transition to life. It features voices of SSE employees with experience of transitioning from high-to low-carbon work, supplemented by the perspectives of the Prospect trade union and conservation organisation, WWF. The film explains that a just transition is about protecting workers and communities in the face of substantial industrial change and that people must be at the centre of efforts to tackle climate and nature crises.



This documentary has been shared widely with stakeholders including trade unions, investors, and NGOs, and was also shown to over 1,660 employees. While it has been produced by SSE, the aim of the documentary is to inspire and provide a source of reference for stakeholders and other companies when understanding the importance of a just transition and what it means in the context of their sectors. The short documentary can be accessed at [sse.com/sustainability/just-transition](https://sse.com/sustainability/just-transition).

## Sharing the benefits from net zero

SSE is creating and sharing value with society by generating economic value, contributing to the public purse, and investing in local communities.

### Contributing to GDP and supporting jobs

SSE is a major contributor to the UK and Irish economies and in 2022/23 it invested record amounts (£2.8bn in adjusted capital investment and expenditure) exceeding the profits it made over the same period. Under its revised Net Zero Acceleration Programme Plus, SSE has plans to invest £1.8bn in the five years to March 2027, equivalent to around £10m a day. This scale of investment carries with it a responsibility to ensure it is done in the right way, and the considerable value it generates is shared.

To understand its wider socio-economic contribution, SSE has commissioned professional services firm PwC to measure the value it adds to GDP and the jobs it supports across its home markets for the last 12 financial years. Over 2022/23, SSE contributed £6.04bn to UK GDP, including £2.23bn in Scotland, and €429m to Irish GDP. This represented a slight increase compared to 2021/22 figures, which were £5.98bn, £2.02bn and €417m respectively

(adjusted for current prices). This means that over the past 10 years, SSE has contributed around £94bn to UK and Irish economies (in current prices).

Jobs supported in these countries fell from 47,130 in 2021/22 to 42,370 in 2022/23, due to a reduction in supply chain spend in Scotland as SSE's Seagreen Offshore Wind Farm moved from construction to completion, with a corresponding decrease in procurement spend. SSE's activities over 2022/23 supported 2.5 jobs for every person it directly employed. All of SSE's economic contribution reports can be found at [sse.com/sustainability](https://www.sse.com/sustainability).

### Paying a fair share of tax

SSE considers the responsible payment of tax a core element of how it shares value with society. SSE is one of the UK's biggest taxpayers, and in the 2022 PwC Total Tax Contribution survey was ranked 16th out of the 100 Group of Companies in terms of the taxes it pays.

Over 2022/23, SSE's total tax contribution was £1.3bn, consisting of £549m taxes paid and £764m taxes collected. This compares to a total tax contribution of £0.9bn in 2021/22, consisting of £375m taxes paid and £569m taxes collected.

Of the taxes paid in 2022/23, £217m was in corporation tax, up from £70m the previous year as a result of the higher level of UK profits for the year.

Further increases in taxes paid in 2022/23 resulted due to higher levels of Climate Change Levy (CCL) being paid. The CCL is a tax charged on energy used by non-domestic customers to incentivise increased energy efficiency and carbon emissions reductions. This increase in CCL paid was due to fewer outages at SSE's gas-fired power stations compared with the previous year.

Further information on SSE's tax position over 2022/23 can be found on pages 93 and 237 to 239 of its Annual Report 2023.

## CASE STUDY

### Maintaining fair tax principles while expanding internationally

SSE was the first FTSE100 company to be Fair Tax accredited in 2014 and in 2022/23 it realised another milestone, becoming the first company to transition from the Fair Tax Foundation's UK HQ Multinational accreditation to its new Global Multinational Business Standard. SSE remains a firm supporter of the Fair Tax Foundation and has welcomed its international focus and expansion believing that multinational corporations must pay regard and respect to the jurisdictions where economic activity is undertaken, and profits arise.

SSE took this step to purposefully demonstrate its ongoing commitment to upholding the principles of fair tax as it expands internationally. SSE remains committed to the transparency of its tax affairs and publishes an annual Talking Tax report with enhanced country-by-country tax disclosures alongside detail of SSE's tax strategy. SSE's Talking Tax reports can be found on [sse.com/sustainability](https://www.sse.com/sustainability).



## SSE's economic contribution

### Scotland

Contribution to GDP  
**£2.23bn**  
(2021/22: £2.02bn)

Jobs supported  
**10,130**  
(2021/22: 11,020)

### Ireland

Contribution to GDP  
**€429**  
(2021/22: €438m)

Jobs supported  
**2,430**  
(2021/22: 1,840)

Taxes paid  
**€53.8m**  
(2021/22: €46.4m)

### UK

Contribution to GDP  
**£6.04bn**  
(2021/22: £5.82bn)

Jobs supported  
**39,940**  
(2021/22: 45,290)

Taxes paid  
**£502m**  
(2021/22: £335m)

## Creating lasting, local value

### Investing in local communities

An integral part of a just transition is sharing value with local communities. SSE is one of the largest corporate grant givers in the UK and Ireland and, over 2022/23, it invested around £16.5m in communities across the UK and Ireland.

The majority of SSE's community giving comes from its renewables business, which for over a decade has provided communities close to its assets with funding for local or regional projects. SSE Renewables currently operates 47 funds across the UK and Ireland, with an expected

lifetime value of over £310m.

Over 2022/23, £10m was awarded through SSE Renewables' community investment funds, up from £9.7m the previous year. This funding financed over 1,000 community projects which supported 136 local jobs, improvement to 286 community owned assets, 111 scholarships and 167 community projects which enhance local net zero ambitions. £2.7m of this total investment was from SSE Renewables' regional Sustainable Development Fund, which granted its largest single award ever of £1m in

November 2022 to the Highland Energy Efficiency Programme, to support households in extreme fuel poverty. Detailed disclosure on SSE Renewables' community funding can be found on [sserenewables.com/communities](https://www.sserenewables.com/communities).

Around £1.4m was also awarded through SSEN Distribution's Resilient Communities Fund, which prioritises projects which protect the welfare of vulnerable members of the community in SSEN's network areas during significant emergency events.

## Committed to decent work and economic growth

With the significant scale of investment required in its network in the north of Scotland, SSEN Transmission engages closely with all communities and stakeholders with an interest in its infrastructure developments. Some stakeholders have raised whether some

form of community benefit funding might be an appropriate way to share in the value of these developments in addition to the other economic and employment opportunities they bring. SSEN Transmission will continue to engage with Ofgem and its stakeholders to consider the potential

for a legacy fund being created, particularly to support the next phase of its network expansion which is critical to powering change and meeting Scotland and the UK's renewable energy targets.

### SSE's community investment programmes 2022/23

	Value awarded	Projects supported	Communities supported
<b>SSE Renewables community funds</b>	<b>£10m</b>	<b>1,050</b>	<b>165</b>
<b>SSE Resilient community funds</b>	<b>£1.4m</b>	<b>110</b>	<b>104</b>

## ENGAGEMENT IN ACTION



### Leaving a lasting legacy through the Beatrice Community Fund

The Beatrice Community Fund was the first offshore wind farm fund delivered by SSE Renewables and partners Red Rock Power Limited, the Renewables Infrastructure Group and Equitix. The £6m fund operated between 2017 and 2023 and has supported 361 local projects including helping create 73 rural jobs and enhancing 64 community assets. An evaluation of the fund highlighted that 91% of projects supported are still in operation in the local areas and 100% of respondents would recommend offshore funds to other communities. A key success of the fund has been the agility with which it responded to local priorities

and issues, including providing emergency funding during the coronavirus pandemic.

The fund has also safeguarded local assets such as the East Beach Bridge in Lossiemouth. In 2019 access to the local beach was closed for safety reasons and the Beatrice Community Fund provided emergency funding of £50,000 to Lossiemouth Community Development Trust to start a £1.8m infrastructure project to restore access. The beach is estimated to contribute £1.5m to the local economy each year.

### A custodian of cultural heritage

SSE has played an integral role in the history of energy in the UK, with its roots in the hydro-electric revolution of the 1940s and 1950s in Scotland. It recognises the high cultural value its heritage has and employs an in-house heritage team which maintains SSE's historical archives dating back to the early 1940s, ensuring important documents and artifacts are retained for historical record.

SSE's commitment to cultural heritage is embedded as one of the 20 principles of its Just Transition Strategy, and in April 2023 it promoted this principle through an art exhibition covering an important part of its cultural heritage at a multistakeholder just transition event (see page 61).

The art exhibition, titled "the Cloud Factory", was the culmination of work over a couple of years, in which SSE's Heritage team in conjunction with SSE Thermal supported the work of artists who had been documenting the decommissioning of SSE's former Fiddler's Ferry coal-fired power station in Warrington, England, which closed in 2020. Shaun Smyth and Lee Harrison were granted access to the site during the decommissioning process and, through Harrison's photography and Smyth's large-scale paintings, their aim was to convey the scale of the site and the significant impact Fiddler's Ferry has had to the region and the local communities and workers.



## Supporting good, green jobs

In a net zero world, all jobs will be green jobs. Through the transition, SSE seeks to develop its existing workforce simultaneously maintaining current skills whilst upskilling people for the future. Accessibility, inclusion, and diversity are key features of the modern workforce in a net zero world.

Creating quality jobs through investment in net zero			
Guaranteeing fair work	Investing in a net zero workforce	Building an inclusive workforce	Valuing employee voice
Ensuring fair wages and predictable hours (see page 66)	Growing existing skills and talent (see page 68)	Driving inclusion across all levels (see pages 71 to 73)	Listening to employees (see page 74)
Respecting fundamental human rights (see pages 75 to 76)	Building the future workforce (see page 69)	Measuring and understanding progress (see page 72)	Working with employee representatives (see page 74)
Providing a safe and secure workplace			
Health, safety and wellbeing (see pages 75 to 77)	Ethical business culture (see page 77)	Speak up (whistleblowing) (see page 77)	



"SSE's growth plan needs smart, talented people from all sorts of backgrounds and I am delighted we can offer attractive jobs, with good career prospects and a purpose that means employees are making a difference to the wider world."

**John Stewart**  
Director of Human Resources



## Guaranteeing fair work

SSE is firmly committed to creating a workplace that offers meaningful, long-term careers, with all employees treated with fairness and respect.

### A framework for fair and decent work

SSE has a well-established framework for guaranteeing fair and decent work, which is focused on developing its existing workforce as well as investing in the future skills needed to deliver net zero. It does this whilst ensuring it creates a workplace which is inclusive for all. This framework is underpinned by fundamental principles defined by the International Labour Organisation (ILO) and the 10 principles of the UN Global Compact.

### Paying a fair wage

Fair remuneration is a cornerstone of responsible employment and providing good jobs. SSE is actively involved in the living wage movement. Having been a real Living Wage accredited employer in the UK since 2013, it has also paid the Living Wage in Ireland since 2016 and continues to chair the Living Wage Scotland's Leadership Group.

In September 2022, in response to the cost-of-living crisis, the Living Wage Foundation announced the new real Living Wage for the UK two months earlier than usual. This saw a 10.1% increase from the 2021 UK rate. SSE welcomed the action taken by the Living Wage Foundation and implemented the increase from 1 October 2022, therefore implementing the pay rise six months earlier than normal.

## ENGAGEMENT IN ACTION



### Employee cost-of-living pay increase

In recognition of the cost-of-living pressures affecting its employees, on 1 October 2022 SSE brought forward part of its trade union negotiated cost of living increase for 2023, by awarding up to a 5% increase to all employees earning less than £100,000 annually.

Depending on their salary, employees received either a 5% or 3% increase. Those on lower salaries received a higher percentage increase, so that the structure of the pay award prioritised helping those who are most affected by the rise in living costs.

This decision allowed SSE to support colleagues managing cost-of-living challenges earlier than the planned cost-of-living pay reviews which are applied in April each year.

In recognition that the amount of pay employees take home can be affected by irregular and unpredictable hours, SSE became one of the first companies in the UK to become a Living Hours accredited employer in 2021. Living Hours employers must provide guarantees around working hours, including a minimum 16-hour a week contract and greater notice of shift patterns. Over 2022/23, SSE continued to roll the Living Hours out throughout its supply chain.

### Respecting fundamental human rights

SSE has no tolerance of human rights abuse or modern slavery in its operations or supply chain and its efforts to prevent such abuses are centered on its Modern Slavery Action Plan. 2022/23 represented the final year of its three-year Plan and progress was made identifying and mitigating key risks, educating employees, ensuring robust due diligence, and collaborating with partners. SSE completed its fourth on-site assessment with modern slavery experts, Stronger Together and drew from their expertise in two targeted supply chain deep-dive assessments for projects operating in higher risk areas. A revised three-year Human Rights Strategy and Action Plan for the period 2023-26 has been developed. The strategy incorporates learnings from recent years, including on-site assessments, deep-dive assessments, and gap analysis work carried out by external specialist. It also considers external benchmarks requirements, and the UN Guiding Principles on Business and Human Rights. For more detail on SSE's Human Rights Strategy and 2023-2026 Action Plan see its Human Rights and Modern Slavery Statement 2023, which will be published later in 2023.



## Investing in a workforce for net zero

With a decarbonised power sector by 2035 a stated ambition of governments, SSE's focus is on delivery. The availability of a skilled workforce is now a core feature of that challenge to deliver the magnitude of infrastructure investment needed.

### The right skills at the right time

The scale and speed of SSE's investment programme requires many skilled people to implement it. Without planning ahead of time, there is a potential risk of skills shortages. This is true for SSE and the energy industry as a whole. The 2022 materiality assessment of SSE's social and environmental impacts identified, for the first time, skills as a highly material sustainability issue to be managed.

While workforce planning is a permanent management feature at SSE, in 2022/23 a deliberate review was undertaken to identify the specific skills and job roles required in the medium and long term to deliver large capital projects and support the ongoing operations and digitalisation of business activity. As a result of this work a paper on key skills will be presented to the Group Executive Committee twice yearly. While there is need for significant employee growth in SSE, it is also recognised that career development opportunities arise for SSE's existing workforce too. To ensure this, SSE has developed a three-pronged approach which involves developing the existing workforce, building a pipeline of talent, and shaping the future workforce.

### Creating jobs for net zero

Within SSE, at least 1,000 new jobs are expected to be created every year to 2025 with the potential for many thousands more in the years to 2032. Opportunities will be created across a range of roles, which will mean developing existing skills at the same time as creating new skill sets as technology changes. To fill these roles, SSE's recruitment strategy seeks to bring new talent into the organisation immediately, at the same time as developing a longer-term pipeline to meet the skills needs of the future.

Total external recruitment in 2022/23

**3,226**  
(2021/22: 2,290)

### SSE's approach to long-term workforce planning



At 31 March 2023, SSE's headcount was 12,180, up from 10,754 at 31 March 2022. This includes 100 employees in locations outside the UK and Ireland. To fill both new roles and vacancies, the total number of people recruited rose from 2,290 in 2021/22, to 3,226 in 2022/23. Furthermore, and in support of developing careers, 1,175 internal candidates changed roles across SSE in 2022/23, an increase of 30% from 2021/22.

While SSE expects to make a direct impact by employing many more people in its businesses through its growth plans, the scale of each of its development projects is expected to make wider impacts on local

economies. For example, Dogger Bank Wind Farm, in construction, has already created or supported 1,250 UK jobs through its development. Many of these roles are in Yorkshire and associated with onshore construction works and around Port of Tyne from where the wind farm will be operated. Berwick Bank Wind Farm, at an earlier stage development, has the potential to create around 4,650 direct, indirect and induced jobs in Scotland, and 9,300 in the UK. Keadby 3, SSE's potential carbon capture plant could support around 250 local jobs, 320 jobs for the wider region of Yorkshire, the Humber, and East Midlands, and 560 national UK jobs on an annual basis over the station's operational lifetime.

## Advocating for a national approach to energy skills development

The challenge of delivering a decarbonised power system over the next decade is one for the whole energy sector to meet. That requires an economy-level approach to the development of a workforce that is ready to exploit the arising job opportunities in energy. To support policy makers, SSE is proposing a suite of skills policy interventions that will help it, and the rest of the sector, to access the talent it requires.

- **Create green energy training academies** based on a collaborative public/private partnership model, that supports the development of core technical skills key to the growth of the energy sector.
- **Establish high quality conversion programmes** at scale, to support working people in high-carbon industries to transition into low-carbon industries, particularly for roles with projected skills shortages, supporting an economy-wide just transition.
- **Provide funding for universities and colleges** to increase employer partnership offerings in areas of high specialisms essential for net zero, such as HVDC and large capital

project management.

- **Invest, at scale, in the STEM curriculum** encouraging children of all ages to gain an early understanding of the importance of careers in STEM.
- **Modernise trainee and apprentice funding** establishing greater flexibility in delivery models so the programmes provide incentives for the creation of sustainable, economically active jobs.
- **Encourage upskilling of existing employees** by extending funding support which also covers supply chain workers to meet projected skill shortages, as well as providing cost recovery incentives for upskilled trainees entering sustainable employment.
- **Simplify work visa processes** for areas of key skill shortages.
- **Encourage innovation around inclusion and social mobility** by supporting programmes that aim to make green jobs available to the widest possible audience.

## Developing the existing workforce

### Growing skills and talent

Development and training is especially important to both address skills gaps and provide the opportunity for existing employees to develop their careers in SSE. A skills gap analysis in 2022/23 led to targeted investment in a series of specific skills, from upskilling existing electrical jointers, to developing new roles in system planning to support smart

grids. Simultaneously, SSE is working to understand the skills required for new technologies of the future, for jobs that may not exist today, but which may be required to be implemented at pace to deliver net zero.

SSE has a well-established programme of learning and training for employees, recognising that continuous development is an important part of a fulfilling career. Over 2022/23 SSE invested £10.4m in learning, training, and development, representing nearly a 40% increase from investment the previous year.

In addition, the average number of training hours per full-time equivalent employee was 19.8, a slight decrease from 20.7 the previous year. In 2022/23, 85.5% of SSE's employees received some form of development over the year.

### Developing leaders

SSE continues to take a comprehensive approach to developing leaders across the organisation to drive future success. This

includes a range of initiatives that deliver feedback and measure performance, provide training and development opportunities, and encourage collaboration such as 360-degree feedback, personality assessments, performance metrics, and one-on-one coaching sessions.

The objective is to create a future leadership population that does the right thing, discovers future value, builds an inclusive team, reads the energy contest and gets it done brilliantly. This defined Leadership Blueprint is reinforced through a series of interventions, not least a Speaker Series in 2022/23 to challenge leaders to develop their leadership skills.



### Investment in learning, training and development

**£10.4m**

(2021/22: £7.5m)

### Average number of training hours per full-time equivalent employee

**19.8**

(2021/22: 20.7)

**42**

Representation of women on talent programmes in 2022/23

## Building a pipeline of talent

### Attracting diversity into SSE

SSE focuses on improving recruitment practices to ensure a more diverse range of people are aware of SSE's opportunities and can join its workforce. SSE has continued with the process changes implemented over 2021/22, which included adjusting job adverts to ensure the language is inclusive and including 'happy to talk flexible working' on all job adverts. SSE has also revisited the format of job adverts to keep the essential requirements to five key asks, remove unnecessary jargon, and provide contact details on adverts to support with candidate questions. SSE continued its focus on essential skills and strength-based recruitment, swapping technical skills for transferable skills where possible, and continued its relationships with specialist recruitment platforms to help reach people with a wide range of backgrounds, skills, and requirements.

**83%**

Of SSE's employees have the ability to work flexibly (2021/22: 83%)



SSE has been working with hiring managers to develop the skills required for diverse recruitment via hiring manager toolkits, building inclusive nudges into job profile templates to allow them to implement training in their day-to-day roles, and tracking the inclusive hiring processes that are driving change at a senior level. Over 2022/23, SSE has recently launched the Women in Power campaign which features several senior SSE women sharing their stories on how they came to SSE and what it is like to work here.

### Investing in early careers

Core to SSE's strategy to build its future workforce is consistent investment in its pipeline programmes. These pipeline programmes include apprenticeships, technical skills trainee programmes and graduate programmes.

Over 2022/23, investment in pipeline programmes increased significantly to

### Investment in pipeline programmes

**£12.8m**

(2021/22: £9.8m)

### Individuals on pipeline programmes

**564**

(2021/22: 470)

£12.8m from £9.8m in 2021/22. The number of people on SSE's pipeline programmes (apprenticeships, technical skills trainee programmes, graduate programmes, conversion programmes and other pipeline programmes) has increased to 564 individuals in 2022/23 (2021/22: 470 individuals). Continual focus on recruiting from a more diverse talent pool for pipeline programmes also increased the proportion of women across all of these programmes, overall increasing to 21.5% over 2022/23 from 19% over 2021/22.

For more information on SSE's approach to increasing diversity in its workforce see page 73 and see its Inclusion and Diversity Report 2023, available at [sse.com/sustainability](https://www.sse.com/sustainability).

### Apprenticeships:

SSE offers apprenticeships across the UK and Ireland which provide opportunities to develop skills within a variety of technical and business roles. SSE has removed minimum academic requirements for entry, instead seeking to attract individuals who can demonstrate key characteristics, which have been identified as enabling the employee to deliver the role.

Apprenticeships support SSE's critical skills pipeline for the future and include areas such as Power Distribution, Electrical and Mechanical Engineering, Data Science, Procurement, Finance, Laboratory Technician, and Electrical Power Network Engineering. Five new programmes launched over 2022/23 including apprenticeships in Trainee Construction Site Engineering and Occupational Health and Safety.

While there is still a long way to go to have gender balance in SSE's apprenticeship programme, the proportion of women has continued to increase with this year reaching 14%, up from 11% in 2021/22.

### Apprentices over 2022/23

**285**

(2021/22: 280)

### Trainee Engineers:

SSE's trainee engineering programme provides the opportunity to undertake work-based learning whilst studying towards HNC or HND level qualifications in Electrical Engineering and Energy and Environmental Engineering. Trainees undertake work placements to put their education into practice and gain practical, hands-on experience. While the proportion of women participating in the trainee engineering programme had been increasing in recent years, in 2022/23 there was a disappointing fall from 21% in 2021/22 to 14.5% in 2022/23. This further reinforces the importance of early intervention within schools to ensure such programmes are attractive to young women as a serious career pathway.

### Trainee engineers over 2022/23

**62**

(2021/22: 43)

### Graduates:

SSE's graduate programme attracts, develops, and retains a pipeline of talent who are committed to deliver net zero solutions. The two-year programmes are delivered in all seven of SSE's Business Units and graduates have the opportunity to work in areas including Engineering, Commercial, IT, HR, Business, Finance, and Project Management. The graduates gain practical hands-on experience, while building a valuable network and developing essential skills that support career advancement. The graduate engineering programmes have an additional benefit of achieving professional accreditation including chartership. Representation of women on SSE's graduate programmes increased to 37% in 2022/23 compared with 23% in 2021/22.

### Graduates over 2022/23

**191**

(2021/22: 124)

### Employability programmes:

SSE's employability programmes encourage social mobility and are designed to recruit talent from communities and social demographics that may not have otherwise applied to work in the energy sector. The programmes include Barnardo's Works, SSE Works (in Ireland), and Career Ready.

Over 2022/23 SSE's long-standing Barnardo's programme welcomed

## Committed to decent work and economic growth

11 new participants. Its Career Ready programme offered 27 young people places within the business, which is an 18% increase compared to 2021/22. SSE's programme also supported 6 Foundation Apprenticeships in Scotland and 11 in England.

### Shaping the future workforce

#### Engaging the next generation in STEM

Attracting more young people into STEM (Science, Technology, Engineering, Maths) careers is essential for the energy industry to be able to meet its net zero ambitions. SSE's STEM strategy is based around Tomorrow's Engineers STEM Code to ensure its future workforce, supply chain, and communities are inspired to take up the opportunities in the energy sector.

To support applicants into its range of pipeline programmes, SSE works to inspire young people into STEM careers through strategic partnerships with secondary and primary schools. Subject matter experts and education partners have built curriculum-aligned STEM sessions to provide young people with an inspiring insight into the energy sector, the variety of roles, and real-life work tasks. Subjects include digital AI, data, electric vehicles, extending supply, sustainability, and wind turbines. These STEM education materials are published on SSE's website to support teachers, parents, and pupils to access this content for free.

SSE undertook 319 recorded STEM interventions over 2022/23 up from 159

## CASE STUDY

### Providing local jobs through apprenticeships for net zero

SSE's apprenticeships play an important role in attracting people into the Company at the beginning of their careers, but they can also be a valuable way to create local employment opportunities in rural areas.

SSE's 443MW Viking Onshore Wind Farm on Shetland, will be the UK's largest wind farm when complete, in terms of annual output, and will help contribute towards the UK and Scotland's net zero targets.

With the Shetland Islands having an important role in the history of oil and gas exploration in Scotland, Viking Onshore Wind Farm will support the transition of Shetland's economy away from fossil fuels, giving young people an

alternative, low-carbon career path to take. In 2022, four young people from Shetland took part in an apprenticeship scheme giving them an opportunity to build a career while staying in the communities they come from.

The apprentices are currently studying for one year at University of the Highlands and Islands (UHI) in Inverness as part of their training to become four of the first wind turbine technicians working at the Viking Onshore Wind Farm, when it enters operation in 2025. When the year ends, the apprentices will commence a three-year training course with Vestas, which has a 30-year service and maintenance contract for the project, to give them the skills to help maintain the turbines.

in 2021/22, resulting in 5,148 student interactions. To support the delivery of the STEM programme, SSE has a STEM volunteer community made up of employees across the business. In 2022/23, the number of volunteers increased to 581, compared to 365 in 2021/22.

#### Embracing the digital energy system of the future

Digital and technology advancements are

poised to transform the energy sector in the UK, bringing about significant changes and unlocking numerous opportunities. From smart grids, energy storage, and energy efficiency to decentralised energy generation and energy trading, technology will significantly impact the essential skills of the energy sectors workforce.

As SSE strives to become a data driven organisation it is essential all employees understand data and are equipped with the skills to work with data effectively. Therefore as part of SSE's Corporate Digital Programme to ensure everyone has the right knowledge, skills, and tools to embrace digital technology, from broad digital knowledge to tool-specific technical training, a digital skills framework is being designed with six critical pillars: Digital Confidence and Productivity; Digital Communication and Collaboration; Handling Data Information and Content; Digital Ways of Working; Digital Creation, Problem Solving and Innovation; and Being Safe and Legal Online. In addition, learning pathways are being built and a gap assessment is being undertaken to identify resources required.

## PARTNERING IN ACTION



### Supporting the next generation in STEM

In partnership with the Edinburgh Science Foundation, an educational charity supporting STEM education in Scotland, SSE, through its customer businesses, is supporting their Generation Science initiative. Generation Science provides unique science experiences to schools in Scotland which, since Covid, has remotely delivered pre-recorded workshops and science kits to schools, with a plan to return to supporting teachers to deliver face to face lessons in 2023. SSE sponsored 10 packages of support in August 2022 for the start of the academic year. This partnership aims to ignite interest in the areas of STEM for the next generation of potential colleagues who will take up roles supporting the drive to net zero.

## Building an inclusive workforce

The innovative solutions required to deliver net zero need a workforce with diverse perspectives, different experiences and new skills.

#### A strategy to drive inclusion

SSE's Inclusion and Diversity Strategy, launched in 2021, builds on the inclusion and diversity initiatives that SSE has been undertaking since 2014. It is framed on four pillars: Ambition; Education and Development; Inclusive Processes; and Employee Voice.

The strategy addresses inclusion and diversity at all levels of the business, as well as considering the wider sector and societal impacts. It aims to drive change at the most senior levels, ensure everyone is included by listening to diverse employee voices, and seeks to welcome all into SSE.

#### Increasing transparency around inclusion and diversity

Because of the strategic significance of building a modern, inclusive and diverse workforce, and in addition to key disclosures in its Annual Report and Sustainability Report, in June 2023 SSE published its second Inclusion and Diversity Report, which provides comprehensive information around SSE's Inclusion and Diversity Strategy and the progress against it. This enhanced transparency ensures that SSE is accountable to its stakeholders on its actions and performance.

For further information around SSE's approach to inclusion and diversity over 2022/23, the actions it is taking to drive improvements and plans for the coming years, see SSE's Inclusion and Diversity Report 2023, available at [sse.com/sustainability](https://www.sse.com/sustainability).

### Driving inclusion across all levels

#### Progressing gender balance in senior leadership

SSE has set gender ambitions for senior leaders in line with the FTSE Women Leaders Review. These targets, and performance against them, are outlined in the table above.

Over 2022/23, SSE made progress in increasing representation of women

Table 1: SSE's gender data for senior levels at 31 March in each year

	Year	Ambition	2022/23 % Female (Male/ Female headcount)	2021/22 % Female (Male/ Female headcount)
Board <sup>1</sup>	Ongoing	50%, with no less than 40% female representation	46% (7/6)	50% (6/6)
Group Executive Committee (GEC) <sup>2</sup>	–	–	27% (8/3)	25% (6/2)
(GEC <sup>2</sup> ) and direct reports (excl. administrative roles)	2025	40% female	34% (54/28)	22.4% (45/13)
Leadership Group <sup>3</sup>	2030	40% female	25% (812/274)	23.7% (682/212)

1. As at 23 May 2023, the Board has 42% female representation (seven men and five women).  
2. In the context of gender reporting, the GEC includes all members of the GEC and the Company Secretary. This is the definition of senior managers in SSE for the purposes of s414C(8)(c)(ii).  
3. Employees in SSE's senior level pay grades.

amongst the Group Executive Committee and its direct reports, as well as in its leadership group. Female representation on the Board is currently 42%, following changes to the Board which took effect post 31 March 2023, which remains above the 40% Board Policy target. Full details of changes across membership and Nomination Committee focus are set out on pages 115 and 142 to 149 of SSE's Annual Report 2023.

#### Developing more inclusive leaders

SSE's leadership programmes are designed to build leadership confidence and raise awareness to drive an inclusive workplace from the top:

- **SSE's Igniting Inclusion Programme** supports managing directors and business unit executive committees to learn about three key diversity inclusion topics: the Neuroscience of inclusion and diversity, Growth Mindset, and Psychological Safety. See SSE's 2023 Inclusion and Diversity Report for more details.
- **SSE's Leadership Blueprint** captures the essence of SSE's

leadership culture, its strong values, and the behaviours required to innovate and solve business challenges. It is used during recruitment, in leadership and management development, and in performance reviews. Over 2022/23, inclusivity was embedded throughout the Blueprint ensuring that leaders build proud and inclusive teams.

#### Ensuring everyone is included

SSE has a range of initiatives to drive diversity throughout its company at all levels seeking to listen to its employees and understand the lived experience of its culture of inclusion. This is instructive to know what more can be done to improve that experience for everyone. One way SSE does this is through its Belonging in SSE communities. Over 2,000 employees have joined a community, which include: Working Families, LGBTQIA+, Menopause, Armed Forces, Ethnicity and Culture, Disability, Neurodiversity, Health and Wellbeing, and Gender Balance. See SSE's Inclusion and Diversity Report 2023 for detailed information on the Belonging in SSE communities and their action plans to drive improvement.

## Measuring and understanding progress

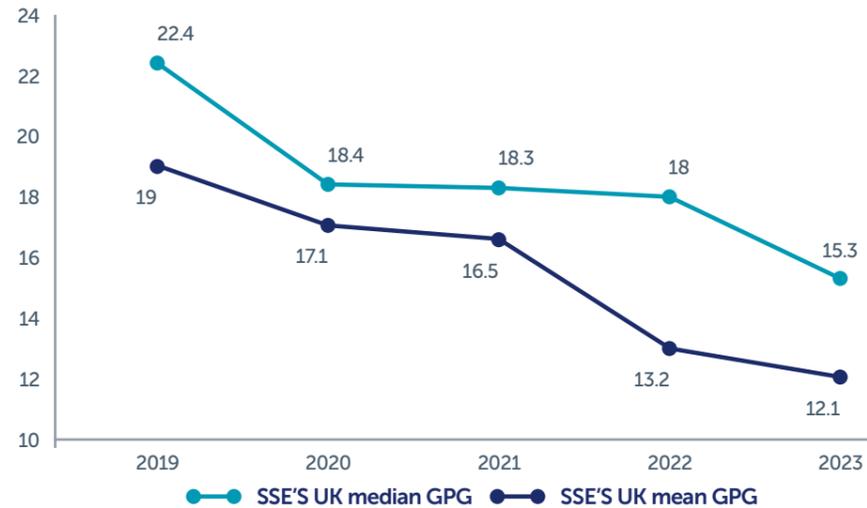
### UK gender pay gap performance

Between 2021/22 and 2022/23, SSE saw a positive trend in its headline UK gender pay gap statistics. SSE's gender pay gap reduced from 18.0% at 5 April 2022 to 15.3% at 5 April 2023. SSE's mean and median UK gender pay gap performance over the last five years, can be seen in Figure 2, showing a continuous positive trend over this period. While SSE's mean gender pay gap performance is more favourable than the median, SSE believes that the median data is a more accurate reflection of SSE's UK gender pay gap.

The reduction in SSE's UK median gender pay gap between 2021/22 and 2022/23 has been driven by three main contributing factors:

- Interim cost-of-living pay increase:** SSE brought forward part of its trade union negotiated cost of living increase for 2023 (full details can be found on page 66), the structure of which prioritised those on lower salaries. At SSE, representation of women is highest in the lower and lower-middle pay quartiles, resulting in a higher percentage of women receiving a 5% pay award. However, the full impact of the 2022/23 pay award on SSE's gender pay gap will not be fully understood until the second part of the award is made for full-year in the first quarter of 2023/24 (backdated to 1 April 2023).
- Salary uplift for employees on Joint Agreement contracts:** SSE introduced a new skill-based Pay Progression model in 2021, which saw employees' salaries being mapped according to their skill-level. This resulted in many employees receiving salary uplifts, mainly those in the lower pay quartile. As SSE has higher female representation in this quartile, this meant a high number of women received a pay increase. Over 2022/23, the positive impact of this new pay model on the gender pay gap has continued with a slightly higher proportion of female employees progressing through the pay progression framework.

Figure 2: SSE's mean and median UK gender pay gap (GPG) between 2019 and 2023



### SSE's 2023 UK gender pay gap performance

#### UK gender pay gap

Median  
**15.3%**  
(2022: 18.0%)

Median  
**12.1%**  
(2022: 13.2%)

#### UK bonus gender pay gap

Median  
**14.7%**  
(2022: 17.6%)

Median  
**44.3%**  
(2022: 45.9%)

- Increasing representation of women in high-paid roles:** Over 2022/23, SSE saw an increase in women represented in high-paid roles, classed as those earning over £100,000 per year, which exceeded the increase of men represented in these roles over the same period.

Between 2022 and 2023, there was also improvement in its UK bonus gender pay gap reducing from 17.6% at 5 April 2022 to 14.7% at 5 April 2023. SSE's bonus applies to a sub-set of employees and by its nature will fluctuate year-on-year subject to corporate, business, and personal performance. An annual incentive accounts for around 60% of the total value of the bonus. A smaller and more senior population also participate in SSE's longer term share arrangements which account

for a further 25% of the overall value.

More detail on SSE's UK gender pay gap, including further statistics, disclosure of the wide range of actions taken to reduce the pay gap, and a full breakdown of its data by legal entity is provided in SSE's Inclusion and Diversity Report 2023, available at [sse.com/sustainability](https://www.sse.com/sustainability).

#### SSE's Irish gender pay gap

SSE has voluntarily disclosed its Ireland Gender Pay Gap since 2021, calculating it in line with the UK Gender Pay Gap methodology, based on a snapshot date of 5 April. In December 2022, SSE disclosed its first set of Ireland gender pay gap data in line with the Irish Government's new mandatory gender pay gap requirements which launched in May 2022. This data is calculated using a 30

June snapshot and SSE will publish its 2023 Ireland gender pay gap disclosure later in 2023. More detail on SSE's 2022 Ireland gender pay gap can be found in its Ireland gender pay gap report 2022, available at [sse.com/sustainability](https://www.sse.com/sustainability).

### Understanding the diversity of SSE's workforce

Gaining deeper insight into the diversity of SSE's workforce requires the voluntary disclosure of diversity information including ethnicity, sexual orientation, and disabilities. This data is collected anonymously and as of 31 March 2023, SSE had an employee disclosure rate of 39% of the total employee population. Increasing employees' voluntary disclosure of their diversity data, even if

Table 2: SSE's wider diversity data at 31 March in each year\*

Diversity category	Year	Ambition (% employees)	2022/23 (% employees)	2021/22 (% employees)
Disability	2030	8	8.9	6.8
Ethnic Minority	2030	15	8.1	6.3
LGBTQIA+	2030	8	3.8	3.6

\*Data is collected on SSE's HR data reporting system. Disability, Ethnic Minority, and LGBTQIA+ data is voluntarily disclosed by employees, with a 39% disclosure rate at 31 March 2023 and a 32% disclosure rate at 31 March 2022. Data excludes those without the facility to share information on the HR data reporting system.

they select 'prefer not to say', is essential for SSE to set develop strategies, establish ambitions and gain learnings that will increase its workforce diversity.

Further detailed breakdown of SSE's workforce diversity data can be found in its Inclusion and Diversity Report 2023, available at [sse.com/sustainability](https://www.sse.com/sustainability).

## DILEMMA

### Increasing transparency to drive improvement

For a company to improve the diversity of its workforce it needs to have a clear understanding of the composition of its current workforce. This provides the evidence base on which strategies are constructed, ambitions are set and progress is tracked.

The right to privacy is important and, as a result, this wider diversity data is disclosed by employees on a voluntary basis. SSE is working to encourage more employees to disclose their data, so that it can improve external disclosure as it becomes feasible to do so.

In March 2023, SSE launched its revised mandatory inclusion and diversity e-learning training. All employees are required to complete this training annually, alongside essential subjects such as anti-fraud, financial crime, and cyber security. Aligning with SSE's Igniting Inclusion programme, the training covers allyship, privilege, and microaggressions, providing learners with the skills and confidence to become supportive colleagues, increase diversity, and comply with legal requirements.

As part of this course, SSE has also introduced the functionality to capture voluntary diversity data from employees. Employees are encouraged to voluntarily submit their data or select 'prefer not to say', providing the opportunity to submit feedback on the rationale behind their choice. This approach keeps disclosure voluntary whilst ensuring all employees are aware of how to disclose their data. It aims to better understand why people may not be sharing data at present, so SSE can work to create a culture where everyone feels comfortable disclosing their diversity data.



## Valuing employee voice

Actively listening to and incorporating the employee voice, to respond to employee needs, is recognised by SSE as an important part of decision-making and strategy.

### SSE's all-employee survey

Every year, SSE gives employees the opportunity to share their views on a range of topics through an all-employee survey. An in-depth survey is carried out every two years and a shorter 'pulse' survey takes place on alternate years. 79% of employees provided feedback in the 2022 pulse survey which resulted in a Sustainable Engagement Score of 84% - up from 82% last year. Two questions in the survey focus on SSE's strategy to support net zero. 93% of employees said they are committed to SSE's vision to be a leading energy company in a net zero world and 73% said they know how they can contribute to SSE's transition to net zero.

The survey also includes questions on work life balance, recognising the importance of measuring the impact of work on quality of life. In 2022, 85% of employees said that they were able to balance work and personal commitments while 94% said that they were able to work well with team members who work differently to them.

A range of other questions from the survey are referenced throughout this report where relevant.

### Reviewing the employee value proposition

In a tight labour market with strong competition for energy-related skills, SSE seeks to be an employer of choice. In 2022/23, SSE reviewed its employee value proposition to ensure a fair and competitive offering across all employee benefits. Key areas of focus were identified through analysis of feedback received in the 2022 all-employee survey, through external benchmarking exercises, and engagement with Trade Union partners through the SSE Policy Review Group. The review led to improvements in a number of areas, including wellbeing services (see page 76) and SSE's family leave offering (see case study on this page).

### New Non-Executive director for employee engagement

To ensure Board-level direct engagement with employees, an appointed non-executive director of the Board has

## ENGAGEMENT IN ACTION



### Enhancing family leave to offer additional support

Core to SSE's enhanced employee value proposition is the improvement of its family leave offering. Complementing SSE's existing package to new parents the new family policy includes: an additional seven weeks' paid leave for partners of parents who take maternity or adoption leave; two weeks' leave at full pay for employees who suffer a pregnancy loss, including partners; up to 2 weeks' leave at full pay for those undertaking fertility treatment.



While previous enhancements to family policies focused on additional paid leave for primary carers, the enhancements made over 2022/23 aimed to ensure that all new and prospective parents at SSE feel supported, regardless of personal or family circumstances and where they are on the journey to becoming a parent. Full details of SSE's family leave offering can be found in its Inclusion and Diversity Report 2023.

responsibility for engagement. As reported previously and in line with succession plans, Dame Sue Bruce stepped down from the role of Non-Executive Director for Employee Engagement in early 2023. Lady Elish Angiolini assumed the position from 1 April 2023, bringing rich experience in assimilating and interpreting views and translating findings into a required course of action.

### Working with employee representatives

Everyone in SSE has the fundamental right to freedom of association and to join a trade union. SSE has four recognised trade union partners (Unite, Prospect, Unison and GMB). The Company has established an effective network of employee representation forums, with the principal forum being the Joint Negotiation and Consultation Committee, and various sub forums with delegated responsibility, including the Joint Business Committees in each business area, the Joint Health, Safety and Environment Committee, the Policy Review Group and the Pay Sub Group.

For employees who are not covered by

SSE's collective bargaining agreements, elected employee representatives are in place and an informal engagement group, the PC Forum, also meets regularly with representatives from the Trade Unions to discuss any matters concerning their Personal Contract members.

Through the Joint Negotiating and Consultative Committee, local Joint Business Councils Committee's and focused working groups such as the Policy Review Group and the Health Safety and Environment Committee, employee representatives have the opportunity to influence decision making and strategy. Over 2022/23, examples of decisions influenced by this engagement included: SSE's new family leave policies launched in 2022, which were developed in collaboration with Trade Union partners through the Policy Review Group, the implementation of a jointly designed skills-based pay progression model, and establishment of a joint review group to ensure that the new skills based pay progression system is operating as intended.

## Providing a safe and secure workplace

SSE is committed to providing a workplace with a healthy business culture where employees feel confident to speak up against wrongdoing and where safety underpins everything SSE does.



"Doing the right thing by people and the environment and getting everyone home safe are abiding principles at SSE. They will endure before, during and after our transition to net zero. Simply put, it's what makes us SSE."

**Mark Paterson**  
Safety, Health and Environment Director

## The safety of everyone

### Setting a strong safety culture

Everyone at SSE operates to the license "If it's not safe, we don't do it". SSE's safety strategy is focused on two goals:

- We have no life changing incidents or major safety, health and environment incidents; and,
- We are healthy and happy at work.

These goals are reinforced by SSE's Safety Family which sets the tone of its safety culture.

SSE has a well-established governance framework which underpins its top priority: the safety of everyone who works for and encounters the Company. SSE's safety management system is certified to the internationally recognised standard ISO 45001 Occupational Health and Safety Management (certificate available on [sse.com/sustainability](https://www.sse.com/sustainability)).

### A challenging year of performance

SSE measures overall safety performance using the Recordable Injury Rate (TRIR) for employees and contractors. The



Table 3: Total Recordable Injury Rates for SSE's employees and contractors

	Unit	2022/23	2021/22
Total Recordable Injury Rate – employees and contractors	Per 100,000 hours worked	0.19	0.17
Total Recordable Injury Rate – employees	Per 100,000 hours worked	0.10	0.09
Total Recordable Injury Rate – contractors	Per 100,000 hours worked	0.34	0.32

rate for 2022/23 for employees and contractors combined was 0.19 per 100,000 hours worked, an increase from 0.17 the previous year. This safety performance is in the context of the tragic fatality of one of SSE's contractor's employees, Liam Macdonald.

Compared to the year before, 2022/23 saw a significant increase in construction associated with SSE's record year of investment, which was a contributing factor to the rise in TRIR. SSE has established a programme of action to bring about improvements in contractor safety performance, and has set separate TRIR targets for 2023/24 for contractors and direct employees, of 0.31 and 0.11 respectively. Considering the increased activities and workload within all Business Units, SSE expects that these will be challenging targets, but believes they are achievable. More information on

contractor safety can be found on page 76.

The concept of 'Safe Days' is also used to measure the number of days in which there are no minor, serious, or major safety incidents; serious or major environmental incidents; or any incident with high potential for harm to people or the environment. 255 Safe Days were achieved during 2022/23, a decrease of the 276 safe days recorded in the year before.

In addition to these core metrics, SSE monitors specific types of safety incident including road traffic collisions and number of people injured. The level of engagement in SSE's safety culture is monitored through targeted questions in an annual all-employee engagement survey.

DILEMMA



## Upholding safety standards as contractor hours worked increases

SSE recognises that the significant surge in investment and construction required to achieve its business goals and the associated increase in contractor hours worked represents a higher-risk environment than for SSE's operational activity. In 2022/23, SSE's contractor TRIR increased slightly compared to 2021/22 performance (see table 3) and tragically, there was a contractor fatality on Shetland in June 2022.

In order to ensure that the necessary rigour and support is in place for its contract partners, SSE has formed a new central Contractor Safety Team supported by dedicated Contractor Safety, Health and Environment (SHE) Managers and Assurance Auditors to improve contractor safety performance.

In SSE's plan for the next financial year, key actions have been captured in the following three categories:

- 1. Collaborate** – how SSE aligns all parties to deliver;
- 2. Support** – how to provide direct support; and
- 3. Check** – Risk Based audit plan across SSE businesses and directly with contract partners to identify and address any issues systematically.

SSE continues to improve SHE Specification for its contractors and provide guidance for project management teams. In addition to the Contractor Safety Community, local SHE Communities are embedded across all SSE Business Units.

CASE STUDY

## Immersive Training

SSE continually challenges itself on how to keep colleagues and contract partners engaged on safety. Building on an already strong safety culture, this year and as part of a refresh and re-energise programme for SHE, SSE will be rolling out a new Immersive Training programme. The programme, which requires significant investment, is designed to evoke a much deeper level of recognition for what happens when something goes wrong.

Following a successful pilot in 2022, the one-day training sessions will take place in two established training centers owned and run by SSE's contract partners in London and Immingham. A third, due to open later in 2023/24 in Perth, will be owned and run by SSE.

SSE will send all employees and some contract partners who undertake operational roles through this one-day immersive experience.

The training which is highly interactive and thought provoking, equips attendees with the right mindset, skill set and tool set to ensure that everyone gets home safe.

Feedback from the pilot sessions has been very positive and for those who have attended, has resulted in a significant increase in confidence in challenging unsafe behavior and highlighting risks.

Focus on wellbeing

Recognising the impact of the pandemic and the cost-of-living crisis on employees' health, SSE made employee wellbeing a priority in 2022/23. Building on a strong foundation of existing wellbeing benefits, SSE introduced several new and enhanced benefits in 2022/23, for example, the We Care Health App through which employees and their immediate families can access 24/7 GP video consultations and support on physical and mental health issues, general wellbeing and financial and legal matters. Employees in Ireland can receive similar support through SSE's partnerships with VHI Healthcare.

SSE also launched a pilot scheme in partnership with the British Heart Foundation providing employees with free health assessments. The service was accessed by over 150 colleagues in 2022/23 and SSE plans to make it more widely available in 2023/24.

For further information on SSE's new and enhanced wellbeing benefits, see SSE's Annual Report 2023, available at [sse.com/sustainability](https://www.sse.com/sustainability).

**WeCare**

- Free online GP appointments within 48 hours. ✓
- Access to a private prescription service. ✓
- 24/7 support on physical and mental health issues, general wellbeing and financial and legal matters. ✓
- Can be used by all UK and Northern Ireland employees, as well as their immediate family. ✓



## Embedding a healthy business culture

Doing the right thing

SSE has well established processes and procedures to embed a healthy business culture at all levels of its business, to support people to do the right thing. SSE's 'Doing The Right Thing' guide to good business ethics applies to all SSE's employees as well as people employed by other organisations to work on SSE's behalf, and sets out clearly the behaviours and standards expected, which are underpinned by SSE's values. The guide covers a wide range of topics, including how to raise concerns about wrongdoing, cyber security, fair competition, transparency in the wholesale energy market, preventing corruption and financial crime and engagement with politicians and regulators.

The 'Doing The Right Thing' guide draws from SSE's 19 Group Policies and sets out the principles and values from which a healthy business culture is established. These principles guide decisions and actions and make sure that SSE undertakes its activities in a sustainable way. For each issue, the Group Policies outline SSE's core policy principles, roles and responsibilities within the Company and how SSE ensures its employees receive suitable training in the subject area. The policies also detail additional guidance and supporting documents which employees can access.

The full suite of Group policies and SSE's 'Doing the right thing' guide are available on [sse.com/sustainability](https://www.sse.com/sustainability).

To ensure a consistent standard across SSE's workforce of their responsibilities in relation to good business ethics, SSE also has a suite of mandatory ethics and compliance training modules. This includes three modules which selected employees must complete annually and Fraud Awareness, Bribery and Anti-Corruption, Anti-Money Laundering and Financial Sanctions and Inclusion and Diversity which all employees must complete bi-annually.

SSE uses multiple sources to assess the strength of its business culture and understand how this is embraced by employees. One of the core tools is SSE's cultural dashboard which provides a health check, comprising data covering people



metrics and performance metrics under cultural strands, and which is reviewed by the Board twice annually. More information around the Board's focus on culture and full details of SSE's cultural dashboard, can be found on pages 137 and 138 of SSE's Annual Report 2023.

Creating conditions to speak up

A healthy business culture is one where everyone feels able to speak up in the event of wrongdoing. People that work for SSE, or on its behalf, are encouraged to speak up when they witness or suspect wrong-doing and are protected from retribution.

Anyone who suspects wrongdoing at SSE can speak up through both internal and external channels. Incidents of suspected wrongdoing can be reported internally through line managers, nominated internal Speak Up contacts and the Board's five sub-committees. Employees who feel this route is not possible can report incidents in a safe and secure way externally, through an independent whistleblowing channel hosted by Safecall, with the option to report anonymously. Details for how to report wrongdoing through all of these channels is made publicly available through SSE's 'Doing the right thing' employee guide.

Once incidents have been reported, SSE has a Speak Up Aftercare Programme in place, which has been designed to promote good communication with people who speak up and provide reassurance that there will be no detriment for anyone speaking up in good faith.

The number of reports of suspected wrongdoing has remained stable year-on-year, with 50 reports made through SSE's speak up channels in 2022/23, compared to 49 the previous year. Every report is triaged and considered for investigation, and SSE monitors the trends of Speak Up cases closely.

A detailed breakdown of the incidents reported, the topics they cover and outcome of investigations over 2022/23, alongside more information on SSE's Speak Up Aftercare Programme, can be found on page 59 of SSE's Annual Report 2023.

SSE's Group Whistleblowing Policy is available publicly on [sse.com/sustainability](https://www.sse.com/sustainability), and the effectiveness of SSE's whistleblowing arrangements are reviewed twice yearly by the Group Executive Committee and the Board.

# Protecting and restoring the natural environment

The depletion of nature is posing a significant risk to the health of our communities and economy. SSE has a responsibility, where its business activities interact with the natural environment, to both prevent harm and restore depleted ecosystems.

While the greatest threat to nature is from climate change, ecosystems and biodiversity are affected by human behaviour in other ways too. Overuse of resources, land encroachment and pollution are combining with climate change to create a natural environment emergency that is described as being as profound to human life as global warming. SSE operates in places that are home to a variety of valuable ecosystems and habitats. Its environment strategy is designed to ensure that environmental impacts are considered throughout SSE's business activities and are carefully managed.

**SSE's  
Environment  
Strategy**

## Environmental management and governance

Resource used



Natural environment



## Protecting and restoring the natural environment

### Performance summary

Category	Description	Unit	2022/23	2021/22	2020/21
<b>Waste</b>	Total waste produced	Tonnes	6,063	5,287	2,321
	Proportion of total waste:				
	Sent to landfill	%	5	12	9
	Processed as energy from waste	%	29	25	55
	Recycled	%	62	59	31
	Composted/sent to anaerobic digestion	%	3	1	4
	Treated	%	2	4	1
	Hazardous waste	Tonnes	1444	1479	54.9
<b>Air Emissions</b>	Sulphur dioxide (SO <sub>2</sub> ) – thermal generation	Tonnes	1,336	3,021	1,379
	Nitrogen oxide (NO <sub>x</sub> ) – thermal generation	Tonnes	3,870	4,573	4,281
	Sulphur hexafluoride (SF <sub>6</sub> ) – thermal generation and electricity transmission and distribution activities	kg	424	305	295
<b>Environmental Management</b>	Relevant SSE operations covered by ISO14001 by reported revenue <sup>1</sup>		100	61	51
	Number of major incidents <sup>2</sup>		1	0	0
	Number of serious incidents <sup>2</sup>		31	24	25
	Number of minor incidents <sup>2</sup>		77	60	52
	Environmental prosecutions and civil penalties <sup>2</sup>		0	0	0 <sup>3</sup>
	Permit/Licence breach <sup>2</sup>		9	7	4
<b>Resource Use</b>	Total water abstracted	Million m <sup>3</sup>	23,354 <sup>(A)</sup>	23,896 <sup>(B)</sup>	26,032
	Total water abstracted (exc. hydro generation)	Million m <sup>3</sup>	731	779	832
	Freshwater abstracted (rivers and groundwater) (exc. hydro generation)	Million m <sup>3</sup>	2.2	1.9	13.6
	Total water returned	Million m <sup>3</sup>	23,353 <sup>(A)</sup>	23,895 <sup>(B)</sup>	26,028
	Total water consumed	Million m <sup>3</sup>	1.4 <sup>(A)</sup>	0.8 <sup>(B)</sup>	3.9

(A) This data is subject to external independent limited assurance by PricewaterhouseCoopers LLP (PwC). For the results of that assurance, see PwC's assurance report and SSE's 2023 Reporting Criteria on [sse.com/sustainability](https://www.sse.com/sustainability).

(B) This data was subject to external independent assurance in 2022. The Limited Assurance Report can be found in SSE's Sustainability Report 2022, available at [sse.com/sustainability](https://www.sse.com/sustainability).

1 The percentage of SSE's relevant business units that have material interactions with the environment that are certified to ISO14001, by reported revenue. The relevant business units are: SSEN Transmission, SSEN Distribution, SSE Renewables, SSE Thermal (generation and gas storage) and SSE Enterprise. SSE Energy Customer Services, while they have more limited interactions with the environment than other business units, are also certified to ISO14001. For reported revenue, see note 5.1 Segmental information disclosure, (i) Revenue by segment section of Annual Reports in each financial year.

2 2021/22 and 2020/21 excludes SSE Contracting following the sale of this business in June 2021.

3 SSE previously stated 1 prosecution or civil penalty in 2020/21. This has been revised to 0 as it related to an Environment Agency warning letter.



## Effective environment strategy, management and governance

SSE's environment strategy provides a framework for SSE to manage and mitigate impacts to terrestrial, freshwater and marine ecosystems, and build a business that uses resources efficiently and embraces the principles of a circular economy.

### SSE's environment strategy

Whilst SSE's GHG emissions are its most material impact, it also has a wider role to carefully manage its impact on the natural world.

SSE's environment strategy considers wider environmental impacts under three pillars inspired, in part, by the UN Sustainable Development Goals (SDGs). The core pillars are: environmental management and governance; responsible consumption and production; and, the natural environment. The strategy provides a framework to engage internal and external stakeholders while holding SSE accountable for performance. SSE has set Group-wide environment goals, targets and indicators to measure success. Supporting these are Business Unit specific goals and management plans, as each of its businesses have different interactions with, and impacts on, the environment.

### Effective environmental governance and management

SSE's environment strategy is governed at both the Executive and Board level. The Safety, Health and Environment Committee (SHEC) advise and the Safety, Sustainability, Health and Environment Advisory Committee (SSHEAC) and have oversight of matters relating to the environment.

To ensure effective environmental management, SSE operates an environmental management system (EMS) certified to ISO14001, including controls, processes and procedures, across all its business activities that interact with the environment. In 2022/23, SSEN Distribution, SSE Energy Customer Solutions and SSE Enterprise all achieved certification for the first time. This means SSE is currently ISO14001 certified for 100% of its business activities by reported revenue, based on 2022/23 figures. SSE's ISO14001 certificates

are available at [sse.com/sustainability](https://www.sse.com/sustainability).

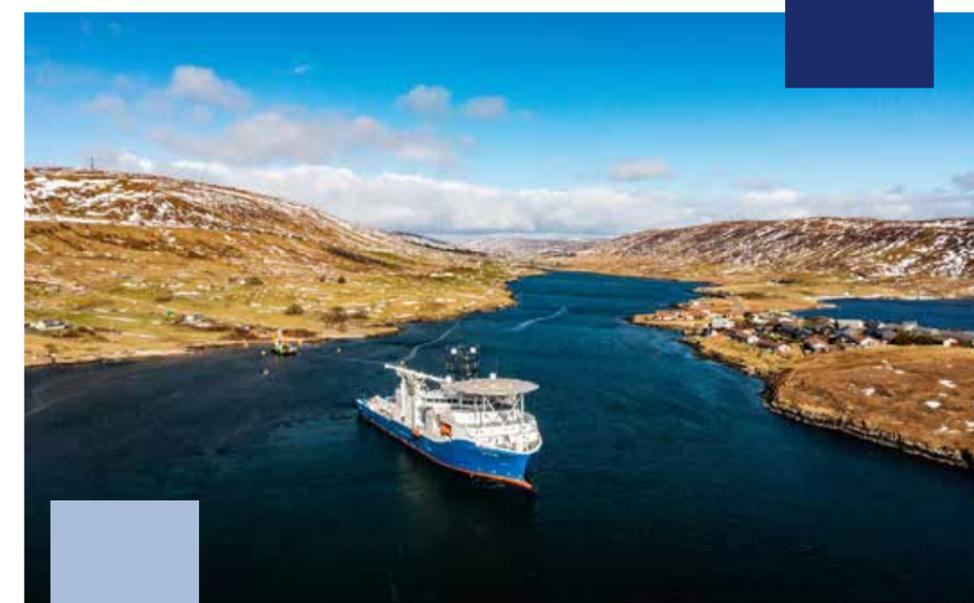
Furthermore, an enhanced environmental training module was implemented in 2022/23 and is being rolled out across SSE. For the first time, the module is a mandated requirement of the induction programme for new recruits joining SSE. SSE also became a corporate partner of the Institute of Environmental Management and Assessment (IEMA) supporting the professional development of relevant employees and promoting collaboration on environmental matters.

### Monitoring environmental performance

The number of environmental incidents rose significantly in 2022/23, increasing to 109 compared to 84 the previous year. This was in part due to improved reporting of incidents by operational teams during the year as well as the increased growth in business unit activity.

The number of environmental permit breaches as a result of SSE's activities totalled nine, compared to seven incidents in 2021/22. For the first time since 2018/19, SSE recorded one major incident, related to SF<sub>6</sub> at SSE's substation project in Alyth which led to the release of 63kg of SF<sub>6</sub> gas to the atmosphere. A breakdown of environmental incidents by severity category can be found on page 80.

To review, assess and identify opportunities to improve environmental performance SSE will conduct a series of deep dives, alongside its contractors, across its main areas of environmental risk (including fluid filled cables, SF<sub>6</sub> leakage, silt run off during construction projects and oil related incidents and spills). The results of this work will inform and improve processes and controls to ensure that performance improves for the future.



## Understanding nature impacts and dependencies

SSE operates in some of the UK and Ireland's least populated places, home to a wide variety of valuable ecosystems and habitats. Measurable, science-based data will be key to ensuring nature impacts and dependencies are understood and integrated into decision making.

### Working to meet biodiversity targets

The ability to quantify biodiversity is key to how we better understand our impacts and identify how we continually improve our approach to developing and operating our assets. Due to the varied nature of operations and geographical locations, approaches are continually evolving and aligning with emerging recommendations and best practice.

To target enhanced value for nature, SSE has made a commitment to achieve biodiversity net gain on all its large, onshore, capital projects. Recognising that this is a complex target to achieve, it is specifically working to ensure that all projects consented from 2023 onwards achieve no 'net loss' in biodiversity, and for those projects consented after 2025, to achieve 'net gain'.

In preparation to monitor and report against the 'net loss' in biodiversity target this year, several SSE business units have been developing methods to measure and baseline their biodiversity units. This Biodiversity Net Gain (BNG) approach has been embedded in SSE's electricity transmission business, through the development of its own BNG toolkit and SSE's renewables business has further adapted the toolkit for its business needs (see case study).

### Improving nature-related disclosures

In preparation of the launch of the Taskforce on Nature-related Financial Disclosures (TNFD) in late 2023, SSE has established a TNFD working group. Consisting of members of SSE's Sustainability, Environment and Finance teams, the group will prepare SSE's biodiversity-related governance, strategy, risk management and metrics disclosure ahead of the publishing of the Sustainability Report 2023/24. SSE recognises that next year will be its first

in disclosing information guided by the TNFD requirements and accepts that it may not meet all the recommended criteria during its first year of disclosure. Similar to how SSE has developed its TCFD reporting, improvements to disclosures will be made with each future iteration of SSE's Sustainability Report, to ensure complete and robust reporting.

### The next frontier: measuring marine and intertidal biodiversity

While the methods for confidently enhancing the value of nature on land are well understood by SSE, measuring and monitoring marine biodiversity, either intertidal or within the ocean environment, poses different challenges and is a key area of focus for the future. As part of its efforts to connect Scotland's

## CASE STUDY

### Delivering Biodiversity Net Gain in development projects

Every development site has an intrinsic 'biodiversity value', which is determined by a wide range of factors including the type, condition and distinctiveness of the habitat. By quantifying the biodiversity value of a site pre-and post-development, the impact of the development on biodiversity value, whether positive or negative, can be understood. Importantly this provides insight into the most effective ways of mitigating biodiversity losses and maximising biodiversity gains.

To achieve the goal of leaving the natural environment in a measurably better state than it was found, SSEN Transmission initially developed a project-level toolkit to quantify pre- and post-development biodiversity value, alongside a site optioneering toolkit to model the impact on biodiversity from different site decisions. The toolkits have now been applied to a number of new developments including the Kintore substation in Aberdeenshire, HVDC switching station at Noss in Caithness

and as part of the development of a new substation and overhead line upgrades at Rothienorman. These toolkits, based on the Defra Metric (which is now at version 4.0) used in England and Wales, were then further developed by SSE Renewables over 2022/23 to recognise the typical habitat types, in particular peatland, encountered by SSE Renewables in developing large-scale onshore assets predominately in Scotland and Ireland. To support collaboration and encourage transparent decision making, SSE Renewables published comprehensive user guides in its 'Positive for the Planet' report. In this report, SSE Renewables outlined its 10-point plan for Biodiversity Net Gain.

SSE Renewables and SSEN Transmission continue to engage at a strategic level to promote the adoption of standardised measures for biodiversity quantification across the renewables sector and more broadly.

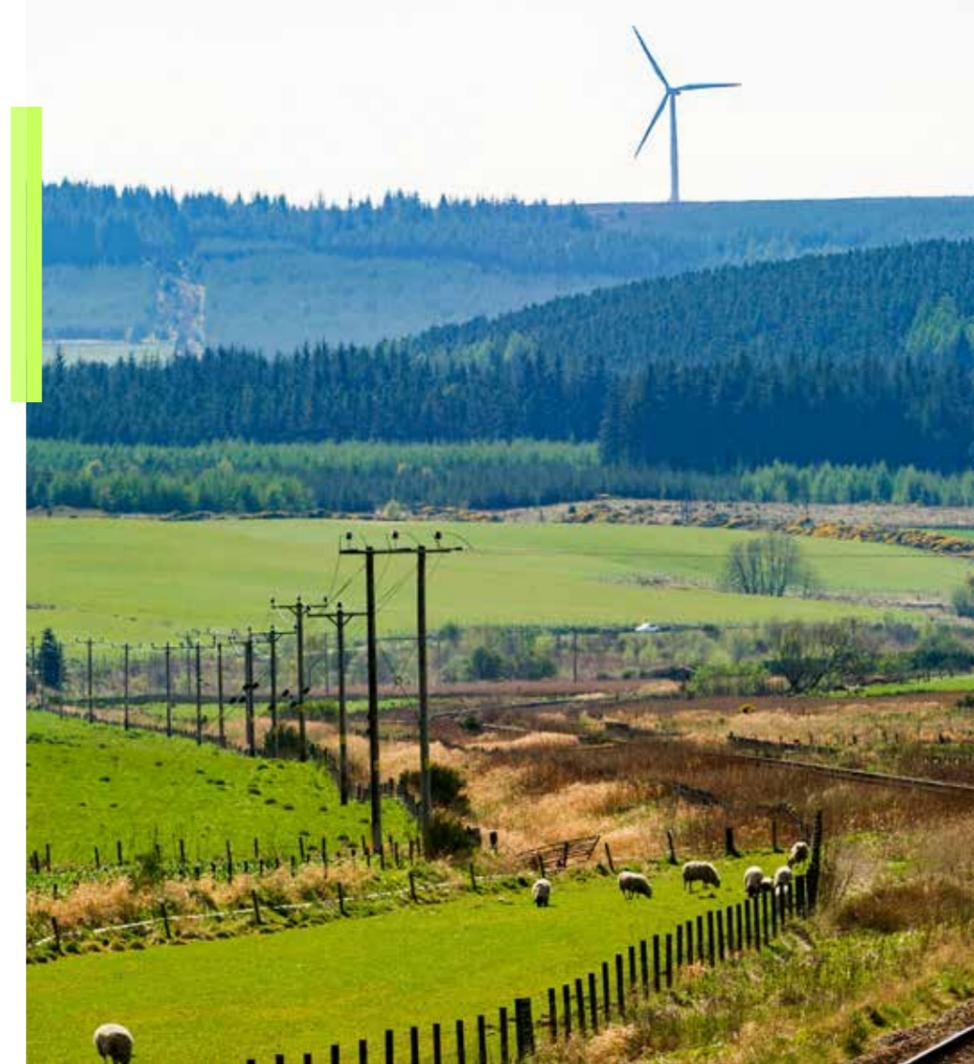


"Our biodiversity net gain toolkits - which we have made open source - allow us to transparently quantify the progress we're making to improve the natural environment on our onshore sites. This means we are building the renewables assets needed for net zero, while leaving the biodiversity at our sites in a measurably better state – tackling both the climate and nature emergencies, hand-in-hand."

**Kate Wallace Lockhart**  
Head of Sustainability,  
SSE Renewables

remote islands to the national grid and progress vital reinforcements for future offshore renewable wind projects, SSEN Transmission is working with environmental groups to enhance the collective understanding of the wider marine environment and to recognise the potential impacts that such offshore projects may bring to the submarine environment. In doing so, SSE will be able to identify actions to protect and restore Scotland's marine species and habitats.

An example of collaboration on marine biodiversity research is SSEN Transmission's work with Orkney Skate Trust. SSEN Transmission is providing funding to support the Trust's research work to survey the seabed that will be used for the proposed Orkney transmission connection. The research will collect and share invaluable data on the current condition of the seabed and the population of flapper skate. The information gathered from this



partnership will provide SSE with a much deeper understanding of the marine environment and provide the facts to determine how SSE can help to preserve and enhance the unique wildlife and habitat on the seabed.

Given the complexity of the marine environment, and the extensive nature of its development ambitions, SSE Renewables is working in partnership to develop shared approaches and expand the amount of data available to developers to make informed and transparent decisions.

A broad array of industry collaborations are seeking to develop knowledge and understanding of cumulative environmental impacts from offshore wind and the interaction between species affected by offshore wind farms. Research is underway into methods for better monitoring of seabirds and the development of an environmental platform collating species data from the variety of surveys being undertaken.

The core of this collaboration is being undertaken in Scotland and the UK. To support shared learning at an international

level, SSE Renewables has joined the UN Global Compact's Offshore Wind and Marine Spatial Planning Steering Group, created through the Ocean Stewardship Coalition, which runs a series of 'sprint' projects to quickly map existing initiatives and develop shared policy asks from offshore wind developers, academia, UN bodies and other institutions.

Finally, SSE Renewables is pursuing wider partnership opportunities with key conservation and research organisations to drive development of innovative approaches to measure marine and coastal biodiversity. This includes the adoption of artificial intelligence for species monitoring and exploring the potential for "ecological digital twins" to better understand the interaction between species and our assets.

More information on SSE's approach to biodiversity can be found in SSE's Annual Biodiversity Report, available at [sse.com/sustainability](https://www.sse.com/sustainability). The report highlights the work SSE has undertaken to protect and enhance biodiversity, contribute to biodiversity research and knowledge, and connect people with the natural world.

# Enhancing the natural environment

SSE supports the conservation, restoration and enhancement of the natural environment; and promotes the integration of amenity, ecosystem, and biodiversity improvement into business activities.

## Conserving and restoring valuable species and habitats

SSE implements best practice measures to conserve, restore and enhance the UK and Ireland's habitats and species. Where SSE's operations interact with the natural environment, it strives to mitigate risks and works, wherever possible, to deliver biodiversity enhancement in line with its policy and legal requirements.

## The strategic role of nature within the ED2 Business Plan

Within SSEN Distribution's 2023-2025 business plan, approved by Ofgem in December 2022, the role of nature has, for the first time, been identified as both creating future value for customers, and as a method of mitigating and adapting to a changed climate.

A Customer Value Proposition (CVP), is a mechanism that Ofgem allows for network expenditure, outwith the normal set of expected outputs, in the pursuit of innovative ways to create value for

customers. SSEN Distribution's proposal to establish new seagrass meadows in the seas around its licence areas, due to its exposure to the marine environment when replacing subsea electricity cables, was granted funding. This CVP seeks to understand the value of seagrass both as a method of enhancing marine biodiversity and, potentially, providing important evidence on the contribution of seagrass replanting for carbon sequestration.

A second element of the Business Plan, is the funding of nature-based solutions for carbon removal. The objective of SSEN's plans for a nature-based solutions approach, is to tackle residual emissions at the end of its science-based targets aligned carbon abatement activity, thus demonstrating nature-based solutions as a feasible and credible method, while delivering wider environmental and social ecosystem service benefits.

This work has set in motion a significant

policy shift; it not only secures funding for investment in nature for the short term, but shifts the policy dial for future price controls, laying the pathway for others to follow.

## The co-existence of nature and renewable energy

SSE's portfolio of hydro-electric power stations has co-existed with the valuable ecosystems of the north of Scotland, for nearly 80 years. Decades of experience exist in fulfilling statutory obligations to ensure that Atlantic salmon can follow their migratory path (see case study on the journey of the smolts).

This includes the continued operation of adult fish counters at key strategic locations with fish count records dating back over 60 years in some instances. This information is invaluable in informing wider conservation strategies for Atlantic salmon and SSE Renewables have long-standing commitments to sharing this with conservation agencies and fisheries boards. In addition, SSE Renewables currently commit to extensive and targeted management interventions to enable juvenile salmon (smolts) to migrate safely to sea each year (see case study on page 83). A similar approach is in place to enable upstream migration of adults.

The development of onshore wind in Scotland, often in places where peat dominates the landscape, has led to an obligation on developers to both protect and enhance peatland habitats. Through sensitive site design and long-term habitat management plan commitments, SSE Renewables has extensive expertise in peatland restoration and management practices. For example, SSE Renewables' Strathy South wind farm commits to an ambitious forest to bog restoration scheme involving the removal of 1,132ha of commercial forestry, considered to be of very low biodiversity value, and returning this to native peatland habitat. The project

has also committed to a further 468ha of offsite open moorland bog restoration.

## Managing habitats during Transmission upgrades

SSEN Transmission has introduced an 'Irreplaceable Habitats' policy, which puts stringent processes in place to prioritise the avoidance of routing transmission infrastructure through ancient woodland, veteran trees and peatland wherever possible.

In circumstances where impacts are unavoidable due to the extent of ancient woodland coverage in its network area, and where network resilience could potentially be put at risk, SSEN Transmission set out comprehensive and site-specific irreplaceable habitats plans to minimise any potential impacts wherever possible. Examples include exploring micro-siting, reducing standard operational corridors and restorative action.

In the case of ancient woodland specifically, SSEN Transmission is committed to funding appropriate restoration projects to enhance the condition of existing ancient woodland sites (for example, by removing invasive non-native rhododendron) or where tree removal is unavoidable (historically, this tends to affect commercial plantation), replacing removed trees with native broadleaves to enhance woodland ecosystems.

For example, in Scotland's rainforest in Argyll, SSEN Transmission is working with the Argyll Coast and Countryside Trust (ACT) to deliver 30 hectares of new woodland. The business also provided funding to ACT for a woodland officer to help develop plans for the planting activities. Over the next five years, SSEN Transmission will need to plant approximately 650 hectares of woodland in this area.

## Supporting communities to improve wellbeing and enhance nature

SSE works to raise awareness and understanding of biodiversity and conservation, encouraging both employees and communities to connect with the natural environment around them. The importance of connecting with nature and having access to outdoor spaces remains essential for people's physical and mental wellbeing.

Many of SSE's assets provide recreational amenity, for example Galway Wind Park in Ireland has a series of recreational trails open to the public called the Galway Wind Way; SSEN Distribution

## INNOVATION IN ACTION



# Using innovative techniques to improve salmon management

SSE Renewables is responsible for mitigating the impact of hydropower on salmon in water catchments in the north of Scotland, which can require trapping young salmon (called smolts) in spring during their seaward migration and transporting them downstream, to allow safe passage past dams.

In 2022, to improve the number of smolts reaching the sea, SSE Renewables took over management of the Tirry trapping site on the Shin water catchment area. SSE Renewables' dedicated hydro environment team, which includes a full-time fisheries biologist, has implemented several innovative changes, including the use of a motorised trap, a novel automatic release cage to preserve the nocturnal migration of smolts, and rock-filled bags to direct river flow and smolts into the trap. Total capture increased to 4,000 smolts in 2022 and 4,200 in 2023, almost four-times higher than the 10 year average capture rate.

Improving the number of smolts reaching the sea increases the likelihood of adult returns and has contributed towards increasing numbers in the catchment area in recent years, which is a positive trend at a time when the abundance of wild salmon is at an all-time low across Scotland.

Full detail of the project can be found in the SSE Renewables Sustainability Report 2023, which will be published later in the year at [saserenewables.com/sustainability](https://saserenewables.com/sustainability).

## PARTNERING IN ACTION



# Sensitive habitat conservation during network upgrades

In 2022/23, SSEN Distribution replaced the 11kv subsea cable between the isles of Mull and Coll. Through stakeholder consultation it was identified that the cable route would run through unique machair habitat. This habitat is a low-lying grassy plain that supports plant species such as red clover, bird's-foot trefoil, yarrow and daisy, and rarer species such as lesser-butterfly orchid, Hebridean spotted orchid and marsh orchid.

Working with NatureScot, Scotland's nature agency, SSEN Distribution identified mitigation actions that would minimise the impact of the cable replacement to this unique habitat. Where the machair habitat was found to be sensitive (due to shallow root systems), coir matting, additional reseeding and temporary fencing were used to support re-establishment of the habitat. In addition, minimal trench width excavation was used, lifting as little of the machair as possible, for as minimal a time as possible. This ensured there was no detriment to the root system, allowing the machair to rapidly re-establish.

The local stakeholders and NatureScot were satisfied with the retention efforts, with NatureScot planning to showcase SSEN Distribution's efforts as best practice in machair preservation during construction. In 2023/24, SSEN Distribution will continue to monitor the integrity of the machair.

repurposed excess topsoil from its submarine cable reinforcement project at Loch Broom to support four wildflower meadow projects in Ullapool; and SSE Thermal's dedicated liaison manager at its Aldbrough site has been working

alongside the local community to deliver a number of biodiversity improvements to a local woodland, St Michaels Woodland, by introducing bird nesting boxes, wildflower planting and other infrastructure improvements to promote community use.



## Responsible consumption and production

SSE relies on natural resources and recognises the impacts of resource extraction on the natural environment. SSE supports the sustainable use of land and water resources and embraces circular economy principles alongside the waste hierarchy to seek opportunities to mitigate these impacts.

### Resource efficiency

SSE is working towards more sustainable patterns of resource consumption by reducing reliance on non-renewable and single use products. As a result of SSE's rationalisation of its recycling and resource recovery services as well as working with suppliers on circular economy approaches, SSE is driving improvements in its recycling and diversion from landfill performance.

SSE has waste management controls within each of its businesses and seeks to follow the waste hierarchy to prevent, reduce, reuse and recycle its waste. It provides recycling facilities at its key offices and operational sites and adheres to the relevant regulatory requirements

for waste management at its different sites and locations.

SSE's target for 2022/23 was to divert 85% of waste by tonnage from landfill and recycle 40% of waste by tonnage. It exceeded these targets, with 65% of SSE's total waste being recycled/composted and only 5% being sent to landfill. The proportion of waste sent to landfill more than halved compared to the previous year. This was due to a higher proportion of waste being processed as 'energy from waste' and an increase in waste recycled. Recycled waste increased as a result of improved recycling processes implemented at sites, as well as the inclusion of additional waste recycling data, such as metals.

Over 2023/24, SSE expects to further broaden the coverage of waste performance data to include large capital projects and minor works. SSE's 2023/24 performance target is to divert 95% of waste by tonnage from landfill and recycle 50% of waste by tonnage. It is expected that the planned scope expansion of waste data in 2023/24 will influence performance, in particular recycled waste data. SSE will continue to review its waste target to ensure that it remains stretching.

SSE is also introducing the principles of circularity into its business activities and is collaborating with stakeholders to create solutions for industry-wide challenges and support circular supply chains.

## PARTNERING IN ACTION



### Creating the Coalition for Wind Industry Circularity (CWIC)

In March 2023, SSE Renewables with partners the University of Strathclyde, National Manufacturing Institute Scotland and Renewable Parts Ltd, launched the Coalition for Wind Industry Circularity (CWIC). The creation of CWIC followed the signing of a Memorandum of Understanding in July 2022 with Renewable Parts and the University of Strathclyde which identified three priorities for collaboration: 1) Increase the circularity of in-service parts on onshore wind farms; 2) Establish an end-of-life strategy for onshore wind farm parts; and 3) Deliver a UK Wind Circular Economy Sector Deal to maximise the environmental and socio-economic opportunities to ensure UK leadership on circularity.

CWIC seeks to bring together the UK wind sector to create a supply chain for the refurbishment and reuse of wind turbine components within the UK. Analysis, commissioned by CWIC undertaken by BVG Associates, modelled the economic value associated with this proposal, with the assessment identifying a potential European market of £8.9bn from 2025-2035 and creating 20,000 full-time equivalent jobs based on demand for just 10 wind turbine component parts. More than 25 organisations have submitted an expression of interest to

join CWIC, including some of the world's largest global wind developers, government institutions, innovation bodies and SMEs.

Beyond component parts, SSE Renewables is also focusing on progressing solutions for large-scale and commercially viable options for the reuse, recycling and remanufacture of end-of life turbine blades. SSE Renewables remains active in SusWIND, with progress made on the development of a life cycle analysis toolkit to enable owners of wind turbines to make informed sustainable decisions when turbine blades must be decommissioned.

The Company is a pilot partner of ReWind, a tool produced by DNV which profiles which materials are contained in wind turbines, how they can be disposed of in the best possible way, what can be recycled and what the recycling method would be. It is intended that SSE Renewables will use this tool to quickly assess turbine recyclability percentage and options for end-of-life planning and sustainable decommissioning. Digital solutions such as ReWind will aid the move towards increased recycling rates for decommissioned wind assets.

## CASE STUDY

### Reusing materials to support birdlife at Creag Riabhach

In 2022, SSE Transmission continued its work to expand the transmission network in the north of Scotland. Several new overhead lines and substations to facilitate new renewable generation were under construction and some wooden boxes used to store equipment were identified as having reuse potential.

An opportunity was identified to reuse the wood and reduce waste by using it to build nest boxes for birds. Nesting sites for birds are in decline in many areas in Scotland. Discussions with Forestry and Land Scotland and the Highland Raptor Study Group identified that the wooden boxes could be used in the local area as well as further afield. In total, 36 boxes were built for a variety of birds, including barn owls, tawny owls and kestrels. The boxes will help support raptor populations, particularly kestrels which have been showing recent steep declines in numbers. The initiative has already proven to be a success, with two tawny owl chicks hatching in one of the repurposed boxes near Nethy Bridge in the Cairngorms which were recently ringed by Highland Raptor Study Group for monitoring purposes.

### Managing water use

Water plays a significant role in SSE's operations, being used in the energy production process including as a coolant in power stations and a source for power generation in hydroelectric generators. SSE also uses water as an amenity in its buildings.

In 2022/23, total water abstracted by SSE fell to 23,354 million m<sup>3</sup> from 23,896 million m<sup>3</sup> from the previous year. This was largely due to a reduction in water passing through SSE's hydro generation plant as a result of lower levels of rainfall compared to the previous year. The vast majority (97%) of water abstracted in 2022/23 was used in SSE's hydro generation operations. This water is technically recorded as abstracted, but

it passes through turbines to generate electricity and is returned to the environment almost immediately, and therefore has minimal environmental impact.

Total water consumed increased significantly over this period, by over 70%. This was due to increased output from thermal generation overall, as well as a proportional increase in the output from thermal power plant with cooling towers which have higher evaporative losses of water than once through (direct) cooling systems.

SSE has a water efficiency and saving programme in its non-operational offices, data centres and depots, and also runs a behavioural change campaign in its



non-operational buildings to encourage water savings at work and at home. In 2017/18 a target was launched as part of the programme, to reduce water consumption every year by 2.5%. Total SSE non-operational buildings water use in 2022/23 was 27,859 million m<sup>3</sup>, up from 22,875 million m<sup>3</sup> the previous year as a result of a return to the offices after the lockdowns associated with the COVID pandemic. SSE provides more detail on water risk management and performance in its annual CDP Water Programme response. SSE received a 'B' rating for its 2022 submission, which is publicly available at [sse.com/sustainability](https://www.sse.com/sustainability).

### Managing air emissions

In 2022/23, SSE's thermal generation sites emitted 3,870 tonnes of nitrogen oxides (NO<sub>x</sub>), compared 4,573 tonnes the previous year, a reduction of around 15%. Emissions of sulphur dioxide (SO<sub>2</sub>) reduced to 1,336 tonnes from 3,021 tonnes the previous year. In addition, particulate emissions (PM10) fell to 116 from 277 tonnes in 2020/21. The falling trend across these key air emission sources reflects the reduced demand for oil-fuelled peaking plant in Ireland that occurred the previous year as a result of the need to balance the grid. Finally, mercury emissions to air increased to 10.6kg from 2.2kg in 2021/22 as a result of an increased level of test running on back-up fuel oil that was required during the year, as dictated by Transmission Operator on the island of Ireland.

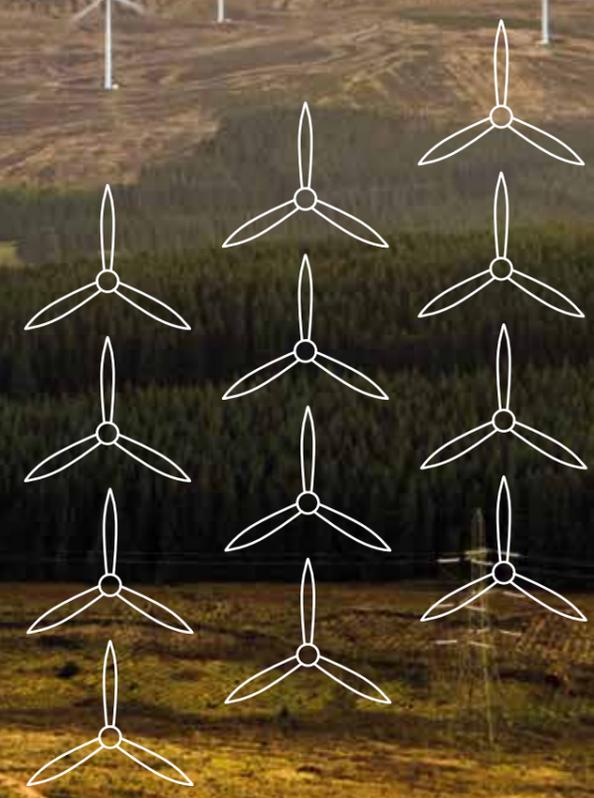


# Governance report

SSE has a well-established framework through which sustainability-related issues are governed, ensuring that social and environmental risks and opportunities are effectively managed.



Governance and accountability	pages 90 to 91
Sustainability-linked Executive remuneration	page 92
Managing sustainability-related risks	page 93



## Governance and accountability

The structures governing sustainability within SSE are designed to deliver clear lines of accountability and ensure the alignment of strategic objectives with social and environmental value.



“Good quality governance provides more than a key ‘check and balance’ on SSE’s social and environmental policies, practices and performance – it can provide support to the entire organisation as it seeks to pursue shared value for all its stakeholders.”

Helen Mahy CBE  
Chair, SSHEAC

### Structured governance pathways

Responsibility for the most material sustainable impacts lie at the highest levels of the organisation with sustainability integrated into the responsibilities of the Board, the Chair, the Chief Executive and the Group Executive Committee. With the quantity and diversity of ESG issues of interest to stakeholders becoming ever more sophisticated, SSE regularly reviews the effectiveness of the governance arrangements which support its most material sustainability policies, practices and performance.

### The Board and its sub-committees

At the highest level of the organisation, the **Board** sets SSE’s vision and purpose. The Group strategy that seeks to fulfil that vision and purpose is also set by the Board and is reviewed across the year through an iterative programme of work. Sustainability is articulated within the description of SSE’s strategy given the close alignment between its long-term strategic objectives and the pursuit of net zero.

Within its supporting plan of work, and on an annual basis, the Board further reviews and approves SSE’s priorities relating to its principal sustainability impacts, of which, climate change is defined as the most material of all. This is in addition to a range of sustainability and climate-related issues which may be brought in response to the agreed sustainability priorities, or internal or external developments.

In setting strategy and ensuring an effective framework for its delivery, the Board considers both the spirit and letter of its duties under Section 172 of the Companies Act, including the long-term consequences of decision-making and promoting the success of the Company for the benefit of all stakeholders. A Board-approved framework for engaging with SSE’s key, defined stakeholder groups, sets expectations surrounding the understanding and incorporation of stakeholder views within business

plans and objectives. Re-enforcing the approach to ethical business conduct and culture, the Board also owns SSE’s Group Policy suite which applies to all employees, and during 2022/23, it reviewed and approved specific policy statements on human rights, the environment, climate change and sustainability. While the purpose of these policies is to guide the behaviours, actions and decisions of SSE employees and their senior leaders, they are available for stakeholders to review on [sse.com/sustainability](http://sse.com/sustainability).

The Board is advised on matters relating to safety, sustainability, health and the environment by the **Safety, Sustainability, Health and Environment Advisory Committee (SSHEAC)**, which continues to be chaired by an independent non-Executive Director. Its membership comprises four non-Executive Directors, the Chair of the Board, the Chief Commercial Officer, the Chief Sustainability Officer and three senior leaders from across the SSE Group. The SSHEAC has oversight of the annual SSE Sustainability Report and across 2022/23, it enhanced its oversight of ESG matters through deep dives on SSE’s external benchmark performance and an ESG gap analysis.

The **Remuneration Committee** is also chaired by an independent non-Executive Director of the Board. It prepares SSE’s policy on executive remuneration which remains subject to consideration and approval of shareholders. Through this policy, the approach to performance-based pay assesses Executive Directors’ progress against SSE’s 2030 Goals, which are aligned to the UN’s SDGs. The Remuneration Committee undertook its three-yearly review of SSE’s Directors’ Remuneration Policy in 2021/22, and as part of that, the 2022/23 Annual Incentive Plan included a new measure aligned to ESG performance, with progress against the 2030 Goals now incentivised in the longer-term Performance Share Plan. Finally, the **Audit Committee** of the



Board has responsibilities relating to the integrity of financial reporting and the effectiveness of risk management, and oversees SSE’s approach to its Task Force on Climate-Related Financial Disclosures (TCFD) report within SSE’s Annual Report.

### The Group Executive Committee and its sub-Committees

SSE’s **Group Executive Committee (GEC)** is responsible for implementing strategy, as approved by the Board, including Group Policies and the management of risks. The GEC supports identification of SSE’s most material social, environmental, and economic impacts and the delivery of Group sustainability strategy including in relation to climate change. The Chief Executive chairs the GEC and as Executive Director with responsibility for sustainability, agrees the annual objectives and priorities for the Chief Sustainability Officer.

The **Group Risk Committee** is responsible for managing the processes to assess and monitor the Group’s Principal Risks and provides oversight to identified Business Unit risks. The Human Rights Steering Group, responsible for the production of the annual Human Rights and Modern Slavery Statement, and the action plans that fall underneath, reports to the Group Risk Committee. The Group Risk Committee also has oversight of the internal process to identify and quantify the most material climate-related risks and opportunities, which forms the core of the TCFD report in the Annual Report.

The **Group Safety Health and Environment Committee (SHEC)** is responsible for the careful management of safety, health and environment matters across the SSE Group. The SHEC also considers operational sustainability issues, including climate adaptation and overall ESG performance.

### Chief Sustainability Officer

The role of **Chief Sustainability Officer (CSO)** was established in 2019 and reports directly to the Chief Executive. The role is responsible for advising the Board and its Committees, the GEC and individual Business Units on sustainability issues and strategy.

To further integrate sustainability within the governance structures of SSE, the CSO is a member of the Board-level SSHEAC and three of the six Group-level sub-Committees of the GEC: the Group Risk Committee; the Group Safety, Health and Environment Committee; and the Group Large Capital Projects Committee. The CSO is also a non-Executive Director of the SSEN Transmission Board.

# Sustainability-linked Executive remuneration

SSE's approach to Executive remuneration reflects the role of sustainability and climate-related considerations within SSE's purpose and strategy, with sustainability-linked metrics and targets forming an element of performance-related pay.

- performance against the 2030 Goals is now linked to the longer-term Performance Share Plan.
- average performance across three independent external ESG ratings, now being linked to the Annual Incentive Performance.

Overall, the link between sustainability performance and Executive remuneration has been strengthened.

### Annual Incentive Plan (AIP)

The updated sustainability measures in the Annual Incentive Plan include average

percentile performance across three key ESG ratings, linked to 10% of the AIP award. These measures and the outcomes for 2022/23 are outlined in Table 4, with performance at the median deemed the threshold and performance at the upper quintile, or above, the maximum. Performance across these ESG ratings in 2022/23 was strong, with upper quintile ranking achieved across all indices.

In addition to the new sustainability measures, operational measures based on People and Customers ensure a strong focus on sustainability in the AIP.

The framework of SSE's 2030 Goals has been used since 2019 to assess performance, which was linked to the performance based Annual Incentive Plan until 2021/22. The updated Directors' Remuneration Policy, approved by shareholders at the 2022 AGM, has seen two important changes:

**Table 4: Sustainability measures and outcome for the 2022/23 AIP award**

High-level measure	Detailed measure	Factors taken into account in index scoring	Assessment	Outcome (% of max)
<b>Sustainability 10%</b>	<b>Moody's ESG rating (formerly V.E.)</b>	Environment; Human Resources; Human Rights; Community Involvement; Business Behaviour; Corporate Governance. Peer group: Electric & Gas Utilities	Upper quintile (Sep 2022)	
	<b>Sustainalytics sustainability index</b>	Carbon – own operations; Emissions, Effluents and Waste; Resource Use; Land Use and Biodiversity; Business Ethics; Corporate Governance; Product Governance; Community Relations; Human Capital; Occupational Health and Safety. Peer group: Electric Utilities	Upper quintile (Nov 2022)	
	<b>S&amp;P Global sustainability index</b>	27 different categories which cover all of the above and also additional issues such as Policy Influence, Information and Cyber Security, Talent Attraction and Retention, Stakeholder Engagement, and Climate Strategy. Peer group: ELC Electric Utilities	Upper quintile (Oct 2022)	
<b>Average performance across three assessments</b>			<b>85th percentile (upper quintile)</b>	<b>100%</b>

### Performance Share Plan (PSP)

Progress against SSE's 2030 Goals, which are outlined on page 7, are linked to the Performance Share Plan (PSP), which will vest for the first time in 2025. The measures and targets used to measure performance are outlined in Table 5. These

measures are worth 15% of the overall award. In 2022, SSE's Shareholders also approved new 'strategic' measures which assess progress towards the successful delivery of SSE's capital investment plan. This means that 30% of the shares awarded under the new PSP are linked

to sustainability, either directly through sustainability measures or through strategic measures by virtue of SSE's NZAP Plus.

Outcomes will be reported in 2025 at the end of the current three-year measurement period.

**Table 5: Sustainability measures and targets for the 2023 PSP award**

SSE's UN SDG 2030 Goal	Measure and Targets
<b>SDG 13 Climate Action:</b> Reduce scope 1 carbon intensity by 80% by 2030, compared to 2017/18 levels, to 61gCO <sub>2</sub> e/kWh.	Scope 1 carbon intensity reduction to 61gCO <sub>2</sub> e/kWh
<b>SDG 7 Affordable and Clean Energy:</b> Build a renewable energy portfolio that generates at least 50TWh of renewable electricity a year by 2030.	Renewables output TWh tracked to 2026/27. Renewables output TWh by 2030/31.
<b>SDG 9 Industry, Innovation and Infrastructure:</b> Enable at least 20GW of renewable generation and facilitate around 2 million EVs and 1 million heat pumps on SSEN's electricity networks by 2030.	GW renewable generation capacity connected to SSEN's electricity transmission network by 2026. Low-carbon technologies connected to SSEN's local electricity distribution networks by 2028.
<b>SDG 8 Decent Work and Economic Growth:</b> Be a global leader for the just transition to net zero, with a guarantee of fair work and commitment to paying fair tax and sharing economic value.	Achieve performance in the top 10% of rankings on average for progress on Just Transition, including in the World Benchmarking Alliance (WBA) and others as they emerge.

Further detail on the performance outcome for 2022/23 and the changes to the Remuneration Policy can be found within the Remuneration Committee Report in SSE's Annual Report 2023, on pages 166 to 187.

# Managing sustainability-related risks

The execution of SSE's strategy and the creation of value from the opportunities arising from net zero are dependent on the effective identification, understanding and mitigation of the Group's Principal Risks.

### Sustainability in the Group Principal Risk context

Whilst all the Group Principal Risks are relevant to the sustainable development of SSE, those with particular significance to social and environmental impacts are outlined below. More information can be found in SSE's Group Principal Risk report and SSE's Annual Report 2023, pages 68 to 77, which detail key developments during the year and key mitigations SSE has in place.

## Climate Change

**The risk that SSE's strategy, investments or operations are deemed to have an unacceptable future impact on the natural environment and on national and international targets to tackle climate change.**

The physical impacts of climate change, such as severe weather that can interrupt energy supply or generation, and the transitional risks relating to developments in political and regulatory requirements on the products and services SSE provides, have potential to impact SSE's operations. SSE's work to reduce its impact on climate change and the consideration of longer-term key climate-related risks and opportunities is detailed on pages 14 to 29.

## Large Capital Projects Management

**The risk that SSE develops and builds major assets that do not realise intended benefits or meet the quality standards required to support economic lives of typically 25 to 60 years within forecast timescales and budgets.**

SSE's investment in large infrastructure projects can have considerable social, economic and environmental consequences. To deliver high-quality projects, SSE works closely with suppliers and contractors to ensure its values on issues such as environmental protection, safety, modern slavery and fair pay, are upheld. SSE's work to promote and embed sustainability within its supply chain is detailed on pages 46 to 48.

## Politics, Regulation and Compliance

**The risk associated with operating in a fast-paced, highly regulated environment which is subject to constantly changing political, regulatory and legislative expectations and interventions.**

SSE aims to work constructively with governments and regulators to help deliver net zero, whilst ensuring the energy system works in the interest of energy customers. SSE's activities are influenced by international and national agreements on climate change, and sustainability issues are increasingly included in regulatory and legislative requirements. See page 26.

## Energy Affordability

**The risk that energy customers' ability to meet the costs of providing energy, or their ability to access energy services is limited, giving rise to negative political or regulatory intervention that has an impact on SSE's regulated networks and energy businesses.**

SSE seeks to support the transition to net zero through disciplined investment in developing and operating low-carbon energy infrastructure, and delivering this in a way that represents value for money for energy customers. It works to ensure that the energy it supplies to customers is not only affordable but is accessible too, and it strives to offer services that are inclusive to all. See pages 30 to 39.

## People and Culture

**The risk that SSE is unable to attract, develop and retain an appropriately skilled, diverse and responsible workforce and leadership team, and maintain a healthy business culture which encourages and supports ethical behaviours and decision making.**

An ethical business culture alongside the talent and skills of SSE's employees enable it to fulfil its purpose and achieve its strategic goals. SSE has a long-standing commitment to fair and decent work and seeks to provide an inclusive, fulfilling and high-performing workplace. SSE's responsible approach to attracting, developing and retaining a future skilled workforce is detailed on pages 65 to 73.

## Safety and the Environment

**The risk of harm to people, property or the environment from SSE's operations.**

SSE has an uncompromising commitment to keep people safe and healthy, and to respect the environment in which it operates. SSE's working environment includes challenging geographic locations and adverse weather conditions, which can impact its activities. It has clear safety and environmental processes and training in place to address these risks. SSE's safety, health and environment performance and initiatives are detailed on pages 75 to 76 and 78 to 87.

# Performance and disclosures

SSE seeks to provide comprehensive information for the benefit of its stakeholders, and does so through this report and a variety of additional information sources through its website and in standalone reports. It also seeks to align to commonly understood sustainability disclosure standards.

## Additional information

SSE's Sustainability Report 2023 is complimented by the Annual Report 2023, as well as a range of sustainability disclosures, which can be found on [sse.com/sustainability](https://sse.com/sustainability). Examples of additional disclosures include:

### Sustainability data tables

Detailed environmental, social and economic data is available to download from SSE's website. For transparency, three years' worth of data is provided against each indicator where possible.

### GHG and water criteria documents

The criteria document details the reporting approach SSE uses to disclose GHG and water-related information related to its operational activities. The criteria is updated annually.

### Gender pay gap information

SSE's UK and Irish gender pay gap information is available to download on SSE's website. More detail on SSE's gender pay gap and diversity information can be found in SSE's Inclusion and Diversity Report 2023.

### Modern slavery statements

SSE's Modern slavery statements set out the steps taken by SSE to identify and prevent modern slavery and human trafficking existing within its business and supply chains. All statements since 2016 are available to download.

### Group Policies

SSE makes key sustainability-related Group Policies publicly available on its website, outlining SSE's approach to promoting a healthy business culture and guiding decisions and actions as expected by its stakeholders.

### ISO certification

SSE's ISO 14001:15 (Environmental management systems) and ISO 45001:18 (Occupational health and safety management systems) certificates are available to download from its website.

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## ESG ratings and indices performance

To increase transparency of its performance in key ESG ratings and investor-led initiatives, the table below outlines SSE's last two years' ratings and inclusion in indices.

	2022/23	2021/22	Stable/improved/decreased
 <b>S&amp;P Global</b> Corporate Sustainability Assessment	71/100	66/100	<b>Improved</b> SSE has an 86th percentile ranking (Oct 2022)
 <b>MOODY'S</b> ESG Rating	67/100	67/100	<b>Stable</b> SSE scored as 'Advanced' (Oct 2022)
 <b>MSCI</b> ESG RATINGS AAA	AAA	AAA	<b>Stable</b> SSE is in the top 11% of 139 global utilities (Oct 2022)
 <b>SUSTAINALYTICS</b> ESG Risk Rating*	22.5	30.1	<b>Improved</b> SSE is ranked 12th percentile in Electric Utilities (Nov 2022)
 <b>CDP</b> A LIST 2022 CLIMATE	A	A	<b>Improved</b> SSE is on CDP's climate change A-list (Dec 2022)
 <b>Climate Action 100+</b> Global Investors Driving Business Transition	4/9	1/9	<b>Improved</b> SSE fully met 4 of 9 criteria in the CA100+ Net Zero Company Benchmark (Mar 2022)
 <b>CDP</b> DISCLOSURE INSIGHT ACTION Water	B	B	<b>Stable</b> SSE scored as 'Management' (Dec 2022)
 <b>FTSE4Good</b>	Included	Included	<b>Stable</b> SSE has been included in the index series since 2001 (Aug 2022)
 <b>WDI</b> Worldwide Disclosure Initiative	Included	Included	<b>Stable</b> SSE is in the top decile for disclosure (Jan 2023)
 <b>Bloomberg</b> Gender-Equality Index	Included	Included	<b>Stable</b> SSE has been included since the index since 2018 (Jan 2023)

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# SASB Standards Disclosure

Table 1. Sustainability Disclosure Topics & Accounting Metric

		SSE disclosure 2022/23
IF-EU-110a.1	(1) Gross global Scope 1 emissions, percentage covered under (2) emissions-limiting regulations, and (3) emissions-reporting regulations	SSE's generation activities in the UK are subject to the UK ETS and the carbon price support and in Ireland they are subject to the EU ETS (see page 26 of this report and page 51 of the Annual Report 2023. SSE is required to report its GHG emissions and energy consumption in the UK through the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 and the Streamlined Energy and Carbon Reporting (SECR) requirements. Information disclosed in the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ), alongside pages 49 to 51 of SSE's Annual Report 2023 represent SSE's disclosure against these requirements.
IF-EU-110a.2	Greenhouse gas (GHG) emissions associated with power deliveries	As of January 2020, SSE Energy Services, the retail division of the SSE Group, was sold to OVO Energy. This ended the direct supply of electricity from SSE to household customers in Great Britain. Scottish and Southern Electricity Networks (SSEN) maintain responsibility for the distribution of electricity across central southern England and the north of Scotland, as well as the electricity transmission network in the north of Scotland. Details of the emissions associated with the losses within it's networks are disclosed in the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ).
IF-EU-110a.3	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Two of SSE's science-based carbon targets cover SSE's scope 1 GHG emissions. Discussion on trends and progress against these targets can be found on pages 20 and 21 of the Sustainability Report 2023 and page 51 of the Annual Report 2023.
IF-EU-110a.4	(1) Number of customers served in markets subject to renewable portfolio standards (RPS) and (2) percentage fulfillment of RPS target by market	SSE's customer facing businesses only serve customers in the GB market and the island of Ireland Single Electricity Market. Both these energy markets have mature carbon reduction and renewable support frameworks. In Ireland, there are government targets on particular forms of renewable energy (for example, 7GW of offshore wind by 2030) and, in the UK, renewable targets support statutory carbon budgets. Neither market has standards that mean electricity generators must secure a proportion of their portfolio of energy generation from renewable sources.
IF-EU-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N <sub>2</sub> O), (2) SOx, (3) particulate matter (PM10), (4) lead (Pb), and (5) mercury (Hg); percentage of each in or near areas of dense population	SSE discloses NOx, SOx, PM10 and Mercury air emissions on page pages 80 and 87 of this report and page 54 of the Annual Report 2023 and in the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ). Data from other air emissions is reported to the environmental regulator and, while this information can be accessed through a request to the regulator, SSE is working to disclose it more readily to its stakeholders in future.
IF-EU-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	SSE depends on water in various ways across its operations, from use in electricity generation to an amenity in its buildings. SSE provides information on its water management approach and its operations in relation to water stressed areas on page 87 of this report and page 53 of the Annual Report 2023, alongside a detailed breakdown of water use data in the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">www.sse.com/sustainability/reporting</a> ).
IF-EU-140a.2	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	In 2022/23, SSE had eight minor permit breaches in relation to water quantity and/or quality permits. Immediate action to rectify the non-compliance was undertaken and the environmental regulator notified in each case. Investigations were completed following these events and actions taken to prevent reoccurrence.
IF-EU-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	Detailed description of the strategies and practices SSE has in place to mitigate water management risks is provided in SSE's CDP Water Programme response, which is publicly available on its website at <a href="https://www.sse.com/sustainability">sse.com/sustainability</a>
IF-EU-150a.1	Amount of coal combustion residuals (CCR) generated, percentage recycled	N/A - SSE closed its last remaining coal-fired power plant in March 2020.
IF-EU-150a.2	Total number of coal combustion residual (CCR) impoundments, broken down by hazard potential classification and structural integrity assessment	N/A - SSE closed its last remaining coal-fired power plant in March 2020
IF-EU-240a.1	Average retail electric rate for (1) residential, (2) commercial, and (3) industrial customers	Information will be made available in 2023/24.
IF-EU-240a.2	Typical monthly electric bill for residential customers for (1) 500 kWh and (2) 1,000 kWh of electricity delivered per month	Information will be made available in 2023/24.
IF-EU-240a.3	Number of residential customer electric disconnections for non-payment, percentage reconnected within 30 days	Information will be made available in 2023/24.
IF-EU-240a.4	Discussion of impact of external factors on customer affordability of electricity, including the economic conditions of the service territory	SSE recognises the challenging circumstances faced by energy consumers, exacerbated by the cost-of-living crisis. In response, SSE Airtricity supported its customers through a combination of keeping tariffs as low as possible, a price freeze targeted at financially vulnerable consumers and customer support funds. More details can be found on pages 64 of the Annual Report 2023, and page 32 of the Sustainability Report 2023.
IF-EU-320a.1	(1) Total recordable incident rate (TRIR), (2) fatality rate, and (3) near miss frequency rate (NMFR)	See the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ) for SSE's safety performance, as well as page 75 of the Sustainability Report 2023 and pages 63 and 163 to 164 of SSE's Annual Report 2023.
IF-EU-420a.1	Percentage of electric utility revenues from rate structures that (1) are decoupled and (2) contain a lost revenue adjustment mechanism (LRAM)	Not applicable in the UK and Irish electricity systems.
IF-EU-420a.2	Percentage of electric load served by smart grid technology	With the smart meter roll out continuing in Great Britain, there are now 1,845,807 smart meters connected to SSEN Distribution's network that can 'communicate' to SSEN's system. This means that 50% of all SSEN's supply points have communicable and smart capability*.
IF-EU-420a.3	Customer electricity savings from efficiency measures, by market	See pages 34 to 38 for details of SSE's fuel poverty and energy efficiency support.
IF-EU-540a.1	Total number of nuclear power units, broken down by U.S. Nuclear Regulatory Commission (NRC) Action Matrix Column	N/A - SSE does not operate nuclear generation.
IF-EU-540a.2	Description of efforts to manage nuclear safety and emergency preparedness	N/A - SSE does not operate nuclear generation.
IF-EU-550a.1	Number of incidents of non-compliance with physical and/or cybersecurity standards or regulations	SSE has robust processes and practices in place to manage cybersecurity and its datacentres are certified to ISO27001 for information security. SSE also has a suite of mandatory ethics and compliance training modules which all employees are required to complete, which includes Cyber Security eLearning module. SSE discloses the number of material or regulatory reportable incidents caused by cyber security breaches of SSE systems in the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ).
IF-EU-550a.2	(1) System Average Interruption Duration Index (SAIDI), (2) System Average Interruption Frequency Index (SAIFI), and (3) Customer Average Interruption Duration Index (CAIDI), inclusive of major event days	A comparable indicator for GB is the Customer Interruptions and Customer Minutes Lost on SSE's electricity distribution network. See the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ) for data.
IF-EU-000.A	Number of: (1) residential, (2) commercial, and (3) industrial customers served	See the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">sse.com/sustainability/reporting</a> ) for SSE's domestic and business customer supply accounts.
IF-EU-000.B	Total electricity delivered to: (1) residential, (2) commercial, (3) industrial, (4) all other retail customers, and (5) wholesale customers	See pages 106 and 107 of SSE's Annual Report 2023 for volume of electricity sold to customers by business and domestic supply businesses.
IF-EU-000.C	Length of transmission and distribution lines	SSEN owns, operates and maintains around 130,000km of electricity distribution overhead lines and underground cables, and around 5,000km of electricity transmission overhead lines and underground cables.
IF-EU-000.D	Total electricity generated, percentage by major energy source, percentage in regulated markets	See the accompanying data and performance tables (available at <a href="https://www.sse.com/sustainability/reporting">www.sse.com/sustainability/reporting</a> ) and pages 101 and 104 of SSE's Annual Report 2023 for SSE's generation by source. SSE has generation activities in the UK and Ireland which are both regulated markets.
IF-EU-000.E	Total wholesale electricity purchased	See pages 106 and 107 of SSE's Annual Report 2023 where the total volume of electricity sold by SSE Business Energy and SSE Airtricity is described. Because both these businesses act independently from SSE's generation businesses in the market, the volume of electricity sold to customers represents the net amount of electricity purchased by SSE throughout 2022/23.

\*Calculated using the number of smart meters connected to SSEN's distribution network which are communicable by SSEN as a proportion of SSEN Distribution's reported customer numbers.

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