

# Welcome to your CDP Climate Change Questionnaire 2021

## C0. Introduction

### C0.1

#### **(C0.1) Give a general description and introduction to your organization.**

SSE has the largest renewable electricity portfolio in the UK and Ireland, providing energy needed today while building a better world of energy for tomorrow. It develops, builds, operates and invests in low-carbon infrastructure in support of the transition to net-zero, including onshore and offshore wind, hydro power, electricity transmission and distribution networks, alongside providing energy products and services to customers.

UK-listed and headquartered in Perth, SSE is a major contributor to the economies in the UK and Ireland. It employs more than 10,000 people and is real Living Wage and Fair Tax Mark accredited.

Renewable electricity generation and electricity networks form the low-carbon electricity core of SSE. These businesses are key in enabling a net zero economy and have significant growth potential. With common skills and capabilities, there is a strong strategic logic to them forming the low-carbon electricity core of SSE.

SSE will retain other businesses where they are highly complementary to that low carbon electricity core and contribute to the transition to net zero.

SSE's **core** businesses are:

- SSEN Transmission - Owns, operates and maintains the electricity transmission network in the north of Scotland.
- SSEN Distribution - Owns, operates and maintains the electricity distribution networks in the north of Scotland and central southern England.
- SSE Renewables – Develops, constructs, operates and owns assets that generate electricity from renewable sources.

SSE's **complementary** businesses:

- SSE Thermal - Generates electricity from thermal sources in a reliable and flexible way, supporting renewables led electricity systems in GB and Ireland. SSE Thermal includes Gas Storage which owns and operates large underground caverns in which gas is stored.
- SSE Enterprise - Provides innovative energy and utility services solutions.
- Customer solutions – SSE Airtricity provides energy and related services to households, businesses and public sector organisations across the island of Ireland. SSE Business Energy (GB), provides a route to market for the output from SSE’s renewables and thermal businesses and provides the sustainable energy services that customers increasingly seek.
- Energy Portfolio Management (EPM) - Delivers value adding energy trading services for business units in SSE and external customers.

As the world’s political leaders prepare for important climate negotiations at COP26 in Glasgow later in 2021, an accelerated transition to net zero presents an opportunity for a green and resilient recovery from coronavirus. SSE’s strategy is focused on supporting this transition in a way that creates and shares value with shareholders and society.

Through its Sustainable Development Goals (SDGs), the United Nations has created a blueprint for a sustainable world. SSE aligns its business objectives to social objectives, choosing to link four core 2030 business goals to the United Nations SDGs. These 2030 targets provide important interim milestones on the journey to net zero in 2050. SSE plc prioritised SDG13, Climate Action; SDG7, Affordable and Clean Energy; SDG9 Industry, Innovation and Infrastructure; and SDG8 Decent Work and Economic Growth. The first three goals – to reduce the carbon intensity of the electricity generated by 60%, to develop and build enough renewable energy capacity to treble renewable output and help accommodate 10 million electric vehicles on Britain’s electricity networks – are in direct response to the low-carbon challenge. Underpinning those first three goals, is a commitment to the long-term principles of Fair Tax and a real Living Wage. Combined, these goals represent the most material contribution SSE can make to sustainable development and represent an exciting strategy for business growth in support of decent work and economic growth.

In 2020, SSE joined the ‘Race to Zero’ campaign by committing to reaching net-zero emissions by 2050 at the latest. Supporting the net zero ambition is a set of four medium-term science-based targets, aligned to the Paris Agreement and verified by the Science Based Targets Initiative:

- Scope 1 and 2 emissions – to reduce absolute scope 1 and 2 GHG emissions 40% by 2030 from a 2018 base year.
- Scope 1 carbon intensity of electricity generation output - to reduce scope 1 generated electricity GHG emissions 60% per gCO<sub>2</sub>e/kWh by 2030 from a 2018 base year.
- Scope 3 carbon emissions from gas sold - to reduce absolute GHG emissions from use of products sold 50% by 2034 from a 2018 base year.

· Scope 3 supplier engagement - 50% of its suppliers by spend will have a science-based targets by 2024.

SSE has been reporting to CDP on climate-related issues and opportunities since 2004. The most material environment impact and opportunity for SSE is climate-related and SSE's business strategy places climate change and the challenge and opportunity of decarbonisation at its core.

## C0.2

**(C0.2) State the start and end date of the year for which you are reporting data.**

	Start date	End date	Indicate if you are providing emissions data for past reporting years
Reporting year	April 1, 2020	March 31, 2021	No

## C0.3

**(C0.3) Select the countries/areas for which you will be supplying data.**

Ireland

United Kingdom of Great Britain and Northern Ireland

## C0.4

**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

GBP

## C0.5

**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Operational control

## C-EU0.7

**(C-EU0.7) Which part of the electric utilities value chain does your organization operate in? Select all that apply.**

Row 1

### Electric utilities value chain

Electricity generation

Transmission

Distribution

**Other divisions**

Gas storage, transmission and distribution  
 Smart grids / demand response

## C1. Governance

### C1.1

**(C1.1) Is there board-level oversight of climate-related issues within your organization?**

Yes

#### C1.1a

**(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.**

Position of individual(s)	Please explain
Chief Executive Officer (CEO)	<p>Climate-related issues are highly material to the energy industry with climate-related risks and low-carbon opportunities having a direct impact on SSE's business strategy and its ability to achieve its business objectives. For this reason, SSE's CHIEF EXECUTIVE (an Executive Director on the SSE plc Board) has ultimate responsibility in their executive capacity for climate-related issues. Key external activities which support this position include being a member of the UK Government's Hydrogen Advisory Council and of the COP26 Business Leaders group.</p> <p>The Board is responsible for setting SSE's strategy and the CHIEF EXECUTIVE is therefore involved in both setting the Group's strategic direction (in their capacity as an Executive Director), and leading on its implementation (as head of executive management and SSE's Group Executive Committee). SSE's 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' executes its vision of 'being a leading energy company in a net zero world' by focusing on core renewables and economically-regulated electricity networks businesses that support this transition. When setting strategic objectives, all material influencing factors, including climate change, are considered.</p> <p>An example of the CHIEF EXECUTIVE and SSE Board making a prominent climate-related decision in FY20/21, following on from the adoption of SSE's Science Based Targets (SBT) in FY19/20, is the commitment to reach net zero carbon emissions across all of SSE's operations by 2050 at the latest, covering both SSE's direct and indirect emissions, or its scope 1,2 and 3 greenhouse gas</p>

	<p>emissions. The Group Executive Committee, which the CHIEF EXECUTIVE leads, and the SSE plc Board, both approved this decision in October 2020.</p>
<p>Chief Financial Officer (CFO)</p>	<p>SSE's Finance Director deputises for the Chief Executive and is responsible for setting SSE's financial strategy and overseeing financial performance. The Finance Director is a member of the Accounting for Sustainability (A4S) CFO Leadership Network. The presence of climate-related issues within the Finance Director's role includes:</p> <ul style="list-style-type: none"> <li>• Sustainable debt financing, such as the issuance of 'green bonds' and the use of ESG linked finance facilities. In FY20/21 the CFO oversaw the issue of £500m Green Bond to fund part of SSEN Transmission's programme of critical investments in transmission network infrastructure that will help accommodate the significant increase in renewables required to achieve the transition to net zero emissions - including the development of strategic infrastructure required to enable the UK Government's ambition for enough offshore wind to power every home with renewable energy by 2030. This issuance was SSE's fourth green bond in five years and reaffirmed its position as the largest issuer of green bonds from the UK corporate sector. The main selection criteria for a project to be selected for a Green Bonds, includes alignment with, and furtherance of, SSE's commitment to reduce the carbon intensity of its electricity generation and SDG 13 (take urgent action to combat climate change and its impacts).</li> <li>• In FY20/21 SSE further published a new framework through which it can issue sustainability-linked bonds in due course. Unlike a green bond, where proceeds are ringfenced for qualifying low-carbon investments, a sustainability-linked bond would set a coupon based on a commitment from the company to achieve certain sustainability-related KPIs; failure to do so would see a step-up in the coupon.</li> <li>• Engagement with the investment community on ESG and climate-related matters, which are fed-back to the whole Board and considered in decision making where appropriate.</li> <li>• Climate-related financial and non-financial reporting, such as SSE's commitment to achieve the Task Force on Climate-related Financial Disclosure (TCFD) recommendations, this CDP report and other material climate-related non-financial disclosures. The Finance Director approves SSE's CDP Climate Change programme response and also the scenario analysis for the potential financial impacts of SSE's climate-related risks and opportunities, which is part of SSE's TCFD disclosure.</li> </ul>
<p>Board Chair</p>	<p>SSE's Board Chair leads the SSE plc Board, ensuring its effective operation and governance. As set out in SSE's Schedule of Reserved matters, it is the Board which has overall responsibility for setting the strategy of the SSE Group, which is: 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.</p>

	<p>In FY20/21 some of the decisions taken by the Board in line with SSE’s net zero strategy, included: final investment decisions in the Seagreen 1, Dogger Bank A and B and Viking wind projects (all of which progressed to financial close); the adoption by SSE Renewables of an aspirational run rate of at least 1GW of new assets a year during the second half of the decade; and SSE Thermal’s entry into a partnership agreement for the development of Keadby CCS, Keadby Hydrogen and Peterhead CCS which seek to tackle climate change whilst ensuring the security of supply across the energy system. The implementation of SSEN Transmission’s business plan for the RIIO-T2 price control, ‘A Network for Net Zero’ is now also underway and is contributing to the net zero transition. Support was further provided for: SSE to be a Principal Partner on COP26; and the inclusion of an enabling resolution with the business of the Annual General Meeting 2021 that establishes a framework for an annual vote on SSE’s Net Zero Transition report at future AGMs.</p>
<p>Board-level committee</p>	<p>The Safety, Health and Environment Advisory Committee (SHEAC) is a sub-Committee of the SSE plc Board with the membership comprising: three non-Executive Directors; the Chair of the Board; the Chief Sustainability Officer; and four senior executives. The Committee’s role is to support the Board and provide assurance in matters relating to safety, health, environment (SHE) and sustainability. The SHEAC provides a leadership forum for non-Executive Directors to work with senior management and shape policy, targets and strategy to improve SHE performance and culture, in addition to supporting SSE’s commitment to being a sustainable company that makes a positive contribution. The Committee reviews and oversees SSE’s Climate Change Policy and SSE’s Environment Policy. Under its remit for environmental matters, the SHEAC reviews the actions which have been agreed to manage SSE’s environmental footprint, whilst maximising positive and minimising negative impacts. The supporting environmental strategy has been developed around three priority areas covering climate action, responsible consumption and production and the natural environment. And provides a framework for each business area in the Group to develop their own environmental plan with its implementation supported by policies, procedures and targets to guide interactions with the environment. During FY20/21, the SHEAC received presentations on the work being undertaken across the Group covering matters such as net zero, biodiversity, climate adaptation and waste management.</p>

## C1.1b

**(C1.1b) Provide further details on the board’s oversight of climate-related issues.**

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Please explain
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<p>Scheduled – all meetings</p>	<p>Reviewing and guiding strategy</p> <p>Reviewing and guiding major plans of action</p> <p>Reviewing and guiding risk management policies</p> <p>Reviewing and guiding annual budgets</p> <p>Reviewing and guiding business plans</p> <p>Setting performance objectives</p> <p>Monitoring implementation and performance of objectives</p> <p>Overseeing major capital expenditures, acquisitions and divestitures</p> <p>Monitoring and overseeing progress against goals and targets for addressing climate-related issues</p>	<p>SSE’s Schedule of Reserved matters outlines the Board’s responsibilities, core to this is the definition of the Company’s purpose and strategy. Climate change is implicitly linked to SSE’s strategy and covered at every Board meeting.</p> <p>Through SSE’s financial governance framework, the Board must approve major projects that materially impact the Group’s strategy. This includes climate-related risks and opportunities in relation to policy, environment social and governance matters.</p> <p>In FY21, the Board’s strategic focus continued to be the growth opportunities from the net zero transition. Examples included: financial close on the Dogger Bank A &amp; B and Viking wind projects; the adoption of an aspirational run rate of at least 1GW of new assets a year during the second half of the decade; and a partnership agreement for the development of Keadby Hydrogen and Peterhead CCS.</p> <p>Related focused discussions in the year included the Energy White Paper, the 6th Carbon Budget and the Crown Estate Offshore Leasing Round 4.</p> <p>Effective identification, understanding and mitigation of Group Principal Risks (GPRs) supports the Board’s approach to setting strategic objectives and informing decision making. The Board aims to consider all material influencing factors, including climate-related impacts, in a way that reflects the expectations of SSE’s key stakeholders. These factors impact the nature and extent of risks the Board is willing to take to meet these objectives, and mitigation strategies adopted. Material changes in the nature and potential impacts of GPRs are continuously assessed with appropriate mitigations implemented.</p> <p>Climate-related Board activity in FY21 included:</p> <ul style="list-style-type: none"> <li>● Endorsement of a sustainability plan centred on a green and sustainable recovery; sustainable procurement strategy (with a new Sustainable Procurement Code); systematic engagement on ESG issues; and a Just Transition Strategy.</li> </ul>
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		<ul style="list-style-type: none"> <li>• Oversight of the 2030 business goals; science based targets (SBTs); SSEN Transmission's SBT and approval of the 2050 net zero target.</li> <li>• Inclusion of an enabling resolution in the 2021 AGM that establishes a framework for an annual vote on SSE's Net Zero Transition report at future AGMs.</li> <li>• Consideration of the policy framework and market design required to deliver net zero and build economic resilience. This included regulatory price controls that support continued investment and fair returns, and a policy pathway that supports the infrastructure required for net zero.</li> </ul> <p>SSE reports key climate-related performance metrics in its Annual and Sustainability Reports. It is the Board's responsibility to confirm that the Annual Report is fair, balanced and understandable and provides the information necessary for shareholders to assess the Company's performance, business model and strategy, following an agreed assurance process. At each Board meeting Group performance and strategy implementation is monitored through business updates and supporting KPIs.</p>
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## C1.2

**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Chief Sustainability Officer (CSO)	Both assessing and managing climate-related risks and opportunities	Quarterly
Other committee, please specify Members of the Group Executive Committee	Both assessing and managing climate-related risks and opportunities	Quarterly



## C1.2a

**(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).**

### **Where in the organizational structure this position(s) lie**

The CHIEF EXECUTIVE is an Executive Director on the Board and is head of executive management leading the Group Executive Committee (GEC). As a member of the Board, the Chief Executive is involved in setting the strategic direction of SSE. As leader of the GEC, the Chief Executive oversees strategic implementation which is further reported back to the Board, and has overall responsibility for sustainability issues relevant to SSE's positioning which includes climate-related matters. With climate change and net zero highly material to SSE's strategy, the Chief Executive, the GEC and relevant sub-Committees have defined roles which monitor and address climate-related issues, risks and opportunities.

The Chief Sustainability Officer (CSO) is responsible for advising the Board, the GEC and SSE's Business Units on sustainability-related issues and strategy, including those relating to climate. The CSO reports directly to the Chief Executive and is a member of the SHEAC (a sub-Committee of the Board) and two of the three SSE Group-wide sub-committees of the GEC: the Group Safety, Health and Environment Committee (SHEC) and the Group Risk Committee. The CSO is also a non-Executive Director of the Board of SSEPD, the subsidiary company which is responsible for SSE's regulated electricity networks businesses. The roles and responsibilities of the CSO have been defined in recognition of significance of climate-relates issues to the Group's strategy, sustainability approach and ultimately long-term success. The role of CSO ensures a continuous focus on sustainability issues through agreed reporting to the Board and executive, ensuring relevant issues are elevated to the most senior level.

Members of the GEC include the: Chief Executive; Finance Director; Group Energy and Commercial Director; Managing Director, SSEN Transmission; Managing Director, SSEN Distribution; and Managing Director, SSE Renewables. The GEC has responsibility for climate-related issues through its mandate to implement SSE's strategy and sustainability approach, as set by the Board, through the operational management of SSE's Business Units. It is supported in its role by a suite of sub-Committees with agreed delegated authorities. The members of the GEC ensure that each business within the Group is equipped with the necessary resources to deliver agreed strategy effectively and efficiently by considering the expectations of stakeholders in respect of economic, social and environmental impacts. This includes the impacts and opportunities related to climate change.

### **Specific responsibilities with regard to assessment and monitoring of climate-related issues**

The Chief Executive is responsible for considering material influencing factors (which includes climate-related issues and low-carbon opportunities) when proposing and leading the delivery

of strategy (which is centred on addressing the issue of climate change and supporting the net-zero transition); implementing and driving climate-related performance programmes across the organisation; and communicating and providing feedback on the implementation of Board agreed policies, including SSE’s Group Climate Change Policy.

The Chief Sustainability Officer is responsible for the Group Sustainability function which assesses, manages and monitors climate-related issues and opportunities in the context of strategic development, and oversees external reporting, which includes non-financial disclosures such as those in relation to climate change. In addition, the Chief Sustainability Officer, is responsible for driving sustainability performance across the organisation and reports progress on sustainability activities to the Board and SSE’s stakeholders. This includes working with SSE’s Business Units to deliver the business strategy and implementing the four 2030 business goals, three of which address the challenge and opportunity of climate change. The Group Sustainability function monitors: performance against SSE’s Science Based Targets; progress against the 2030 goals; and undertake TCFD risk and opportunity assessment. Results of these are reported to the GEC, Board and CEO.

The GEC is responsible for delivering strategy under the leadership of the Chief Executive and for overseeing SSE’s Group Principal Risks and implementing a comprehensive Principal Risk Self-Assessment, this includes for the Climate Change Group Principal Risk. It drives climate-related performance programmes across the company and considers climate-related issues on a standing basis at least annually, with other climate-related issues being considered as and when required as advised by the Chief Executive or Chief Sustainability Officer.

### C1.3

**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

### C1.3a

**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

Entitled to incentive	Type of incentive	Activity incentivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Emissions reduction target	Part of the remuneration for SSE’s Executive Directors is determined by their performance against the Annual Incentive Plan (AIP). The AIP award is determined by performance against both financial metrics and non-financial performance. In March 2019, the Remuneration Committee aligned 20% of the AIP to progress against the achievement of SSE’s four business goals aligned

			<p>to the UN Sustainable Development Goals.</p> <p>Three of the four goals are climate-related and drive renewable development, electrification and reduce carbon intensity of generated electricity. In March 2020 the GEC approved and in April 2020 the Board endorsed the adoption of four new Science Based Target validated by the Science Based Target Initiative. This meant that the first of SSE's four 2030 Goals became more stretching, committing to a 60% reduction in carbon intensity of the electricity SSE generates by 2030, up from 50%. Accordingly, SSE's Executive Directors AIP has been adjusted to accommodate this target.</p> <p>SSE's 2030 Goals, which are linked to the AIP are: to cut SSE's carbon intensity of the electricity generated by 60%, to develop and build enough renewable energy capacity to treble renewable output and help accommodate 10 million electric vehicles on Britain's electricity networks – are in direct response to the net-zero challenge. The final goal, to champion a real Living Wage and Fair Tax are also important to delivering the first three. Public consent for climate action will, in part, depend upon the social benefit of climate action been shared widely with society. While this goal to promote decent work and economic growth is not directly related to the climate imperative, SSE believes that fair tax and fair wages play an important role in demonstrating positive social impact in the transition to a net zero economy.</p>
Chief Financial Officer (CFO)	Monetary reward	Emissions reduction target	<p>Part of the remuneration for SSE's Executive Directors is determined by their performance against the Annual Incentive Plan (AIP). The AIP award is determined by performance against both financial metrics and non-financial performance. In March 2019, the Remuneration Committee aligned 20% of the AIP to progress against the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals.</p> <p>Three of the four goals are climate-related and drive renewable development, electrification and reduce carbon intensity of generated electricity. In March 2020 the GEC approved and in April 2020</p>

			<p>the Board endorsed the adoption of four new Science Based Target validated by the Science Based Target Initiative. This meant that the first of SSE's four 2030 Goals became more stretching, committing to a 60% reduction in carbon intensity of the electricity SSE generates by 2030, up from 50%. Accordingly, SSE's Executive Directors AIP has been adjusted to accommodate this target.</p> <p>SSE's 2030 Goals, which are linked to the AIP are: to cut SSE's carbon intensity of the electricity generated by 60%, to develop and build enough renewable energy capacity to treble renewable output and help accommodate 10 million electric vehicles on Britain's electricity networks – are in direct response to the net-zero challenge. The final goal, to champion a real Living Wage and Fair Tax are also important to delivering the first three. Public consent for climate action will, in part, depend upon the social benefit of climate action been shared widely with society. While this goal to promote decent work and economic growth is not directly related to the climate imperative, SSE believes that fair tax and fair wages play an important role in demonstrating positive social impact in the transition to a net zero economy.</p>
Other, please specify Energy Director (Board member)	Monetary reward	Emissions reduction target	<p>Part of the remuneration for SSE's Executive Directors is determined by their performance against the Annual Incentive Plan (AIP). The AIP award is determined by performance against both financial metrics and non-financial performance. In March 2019, the Remuneration Committee aligned 20% of the AIP to progress against the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals.</p> <p>Three of the four goals are climate-related and drive renewable development, electrification and reduce carbon intensity of generated electricity. In March 2020 the GEC approved and in April 2020 the Board endorsed the adoption of four new Science Based Target validated by the Science Based Target Initiative. This meant that the first of SSE's four 2030 Goals became more stretching, committing to a 60% reduction in carbon intensity of the electricity SSE generates by 2030, up from</p>

			<p>50%. Accordingly, SSE's Executive Directors AIP has been adjusted to accommodate this target.</p> <p>SSE's 2030 Goals, which are linked to the AIP are: to cut SSE's carbon intensity of the electricity generated by 60%, to develop and build enough renewable energy capacity to treble renewable output and help accommodate 10 million electric vehicles on Britain's electricity networks – are in direct response to the net-zero challenge. The final goal, to champion a real Living Wage and Fair Taxes are also important to delivering the first three. Public consent for climate action will, in part, depend upon the social benefit of climate action been shared widely with society. While this goal to promote decent work and economic growth is not directly related to the climate imperative, SSE believes that fair tax and fair wages play an important role in demonstrating positive social impact in the transition to a net zero economy.</p>
Other, please specify Group Executive Committee	Monetary reward	Emissions reduction target	<p>The Annual Bonus scheme for Executive Directors was based on personal objectives, which included the achievement of sustainability targets and goals (which includes climate and environment related targets and goals). In addition, a 'Corporate' element of the annual incentive for GEC members, representing 25% of the award, flows through directly from Executive Directors' incentive outcomes which includes the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals as detailed above.</p>
All employees	Monetary reward	Other (please specify) Achievement of SSE's sustainability value	<p>Annual appraisals for all SSE employees are based around its 6 core values, one of which is sustainability. Individual performance is assessed and has implications on whether annual incremental pay rises and/ or bonuses are given. In addition, a 'Corporate' element of the annual incentive for all eligible employees, representing between 10% and 25% of the award, flows through directly from Executive Directors' incentive outcomes which includes the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals as detailed above</p> <p>NB: Activity incentivised is reported as Other: Achievement of SSE's sustainability value.</p>

All employees	Non-monetary reward	Other (please specify)  Achievement of SSE's sustainability value	Better Off is SSE's energy and water campaign, working with staff to highlight and adopt positive behaviours and develop a 'switch off' culture both at work and at home. As part of this campaign, SSE has a target to reduce carbon emissions from energy use in non-operational buildings by 2030 by 20%. A network of Energy Champions, made up of SSE employees, is helping to share the Better Off messages with colleagues and act as a local source of advice on energy reduction measures.
Management group	Monetary reward	Emissions reduction target	There are several managers in SSE whose jobs are directly related to environmental management and climate change, and therefore their salary and any incentive (monetary and non-monetary) is linked to the fulfilment of environment and climate change related personal targets.

## C2. Risks and opportunities

### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

#### C2.1a

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

	From (years)	To (years)	Comment
Short-term	0	3	SSE's time horizons for assessing climate-related risks and opportunities are aligned with other business practice time horizons. The three climate related time horizons mirror the investment/capital and regulatory time horizons that govern SSE's financial, operational and capital plans. SSE's short-term horizon for assessing climate-related risks and opportunities is 0 to 3 years. This is influenced by the viability assessment of the company. Each year, in line with the requirements within provision C.2.2 of the UK Corporate Governance Code and as part of the risk assessment process, the Board assesses the prospects of the Company over the next 3 financial years. It is through this process that SSE determines its Group Principal Risks. Material influencing factors are considered when reviewing Group Principal Risks including those relating to climate change. The Directors have determined that as this time horizon is consistent with

			the Group's current capital programme and is within the strategy planning period, a greater degree of confidence over the forecasting assumptions modelled can be established.
Medium-term	3	12	<p>SSE's medium-term horizon for considering climate-related risks and opportunities is 3 to 12 years (to 2030). This is influenced by work done by the Committee on Climate Change (CCC), which is an independent, statutory body set up to monitor the UK's progress towards meeting targets set out in the Climate Change Act 2008 and to ensure emissions targets are set based on expert independent assessment of the evidence. The Act requires the Government to set legally-binding, five-yearly carbon budgets, twelve years in advance, from 2008 to 2050, to act as steppingstones towards these targets. In relation to the power sector, the CCC has estimated that the average grid intensity of electricity generated in 2030 should be between 50 and 100 gCO<sub>2</sub>/kWh. It has recommended that the UK Government provide a longer-term view of future low-carbon power auctions to support an emissions intensity below 100 gCO<sub>2</sub>/kWh by 2030. The carbon budgets and the CCC's recommendations both impact policy makers' time horizons, which in turn provides a framework for SSE's business planning.</p> <p>An example of SSE using this horizon in its planning is through the setting of its Science Based Target : to reduce the carbon intensity of the electricity it produces by 60% by 2030, based on 2018 levels.</p> <p>In addition to this, within this medium-term time horizon, the end of Ofgem price control periods for both electricity transmission and electricity distribution regulatory settlements fall (2021 for transmission and 2023 for distribution). The current price control periods are in 8-year blocks, and from 2021 and 2023 the period reduces to five years, meaning that the planning for future price control periods will take place within this medium-term horizon.</p>
Long-term	13	30	<p>Most of SSE's core low carbon electricity assets have lifetimes that exceeds 20 years; therefore, SSE naturally has a long-term business outlook. The long-term horizon runs beyond 12 years and is focused on the trends and scenarios that may shape the future energy system, including climate-related policy, markets, technology and weather/climate impacts. While the longer the timeframe, the less certainty or certainty around the market and policy, it is possible for SSE to understand and consider a number of permutations of both opportunities and threats it may face in that period, outline, for example, within SSE's scenario analysis reports ('Transition to Net Zero: The Role of Gas and Post-Paris report), which assessed the resilience of SSE's business models to various warming scenarios. As part of this work that was undertaken for the two reports SSE assessed the various warming scenarios for the long-term horizon. Three</p>



		scenarios were established by using publicly available data from National Grid's Future Energy Scenarios which forecasts energy scenarios out to 2040 and SSE projected these out to 2050 using the same assumptions.
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## C2.1b

### (C2.1b) How does your organization define substantive financial or strategic impact on your business?

#### Definition of substantive financial or strategic impact:

SSE follows the guidance and definitions relating to risk management as outlined in the FRC Corporate Governance Code. Its Principal Risks are therefore those risks that have the potential to impact the liquidity, solvency or business model of one or more of the core Business Units and/or of the Group as a whole to be substantive. SSE only accepts risk when: it is consistent with its core purpose, strategy and values; is well understood; can be effectively managed; with consideration of stakeholder expectations and offers commensurate reward. SSE defines risk as any event or circumstance that has potential to threaten achievement of its strategic objectives or compromise its business values.

In determining its appetite for specific risks, the Board is guided by three key principles:

1. Risks should be consistent with SSE's strategy, values and financial objectives;
2. Risks should only be accepted where appropriate reward is achievable on the basis of objective evidence and in a manner that is consistent with SSE's purpose, strategy and values; and
3. Risks should be actively controlled and monitored through the appropriate allocation of management and other resources, underpinned by the maintenance of a healthy business culture.

The Board has overall responsibility for determining the nature and extent of the risk it is willing to take and for ensuring that risks are managed effectively across the Group. The Board aims to consider all material influencing factors and key external trends in the energy market, including those relating to climate change, and aims to do so in a way that reflects the expectations of SSE's key stakeholder groups. These material influencing factors also have an impact on the nature and extent of risks the Board is willing to take in order to meet these objectives, and related mitigation strategies adopted by the Group. Material changes in the nature and potential impacts of SSE's Group Principal Risks are regularly assessed with appropriate mitigations implemented where necessary. SSE's Group Executive Committee (GEC) and its sub-Committees have responsibility for overseeing SSE's eleven Principal Risks, of which Climate Change is one. All Principal Risks are reviewed by the Board.

Description of the indicators to define substantive financial or strategic impact:



In addition to, and complementary to the Group Principal Risk assessment SSE also conducts a specialist TCFD climate-related risk and opportunity assessment process. This specialist TCFD risk assessment process takes the climate change risks from the Principal Risks and goes into more detail to identify and assess both climate-related risks and opportunities. This specialist TCFD assessment process uses a risk rating matrix to define the material risks and opportunities and consider the relative significance of the risk or opportunity at a corporate level, this process involves assessing the likelihood and financial impact.

Likelihood - the time frame in which the risk or opportunity is likely to impact SSE:

- **Low** (exceptionally unlikely to unlikely to occur) – less than 1 in 10-year event;
- **Medium** (about as likely as not or more than likely than not to occur) – 1 in 5-year event; and
- **High** (very likely to virtually certain to occur) – 1 in 3-year event.

Financial impact - the financial impact of the risk or opportunity:

- **Low** – <£50m earnings annually or <£100m revenue annually;
- **Medium** – >£50m <£100m earnings annually or >£100m <£250m revenue annually; and
- **High** >£100m earnings annually or >£250m revenue annually.

This framework enables SSE to determine the risks and opportunities with a substantive financial or strategic impact. Out of these thresholds, SSE determines a substantive impact on the business to be an impact which is of a high likelihood (very likely to virtually certain to occur) and of a high financial impact (>£100m earnings annually or >£250m revenue annually).

From 2021/22 governance will be further strengthened, with the Audit Committee of the Board to take oversight of the annual TCFD report and the reform of the Safety Health and Environment Advisory Committee to include sustainability oversight includes a focus on climate adaptation.

## C2.2

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

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### **Value chain stage(s) covered**

Direct operations  
Upstream  
Downstream

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

## **Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

## **Description of process**

Process used for identifying and assessing climate-related risks and opportunities which could have a substantive financial impact

SSE's Group Risk Management framework (RMF) integrates a process for identifying and assessing climate-related risks and opportunities. SSE also undertakes a TCFD climate-related risk and opportunity assessment process which is conducted by the TCFD Steering Group. This specialist TCFD assessment process takes the climate change risks from the RMF and goes into more detail to identify and assess the climate-related risks and opportunities over longer periods of time than the RMF.

This TCFD assessment process identifies the substantive climate-related risks and opportunities by reviewing: key climate-related trends in the external environment; key stakeholder issues and concerns; internal climate-related business unit risk assessment outputs; as well as climate-related influencing factors in the RMF. This assessment is completed across the value chain (direct operations, upstream and downstream activities) for each of the key business areas. Each risk or opportunity is then assessed on its impact over the short (up to 3 years), medium (3 to 12 years) and long term (12 to 30 years).

To determine which risks and opportunities could have a substantive financial or strategic impact on the organisation, the TCFD assessment process identifies and assesses the potential financial impact of the risks and opportunities that are material to SSE. A risk rating matrix provides the framework to define the material risks and opportunities and to consider the relative significance of the risk or opportunity at a corporate level. This process involves assessing the likelihood and financial impact of the risk or opportunity (as defined in C2.1b) and helps to identify the importance of each material risk or opportunity to the business.

To calculate the potential financial impact the following method is used:

- Climate-related risks involve modelling the financial cost of the risk (i.e. reduced earnings or increased costs) over the identified timeframe that the risk is perceived to impact the business.
- Climate-related opportunities, the financial benefits (i.e. operating profit or earnings) are identified over the timeframe that the opportunity is perceived to be realised by the business.

Frequency of risk identification and assessment processes

The climate-related risk and opportunity assessment process is conducted on an

ongoing basis by the TCFD Steering Group with a six monthly review of the outputs by the Group Risk Committee. The TCFD Steering Group consists of finance and sustainability professionals from the core business as well as business unit finance technical experts. The outputs of this process are reviewed by SSE's Company Secretary, Finance Director and the Chief Sustainability Officer and approved by the Group Risk Committee.

Where relevant, risks and opportunities are assessed against different outcomes as determined by relevant scenarios.

The potential financial impacts are high-level estimates and are likely to change and evolve as methods mature. These risks and opportunities are designed to support consistent, comparable and clear climate-related financial information to SSE's investors and stakeholders.

The decision to mitigate, transfer, accept or control identified risks or opportunities is completed by the Group Risk Committee as part of the risk assessment process. The risk assessment process reviews costs, mitigating actions, the timeframe of the impact against relevant scenarios to provide an indication of the potential financial impact and the relative significance of the risk. This approach is completed for each material climate-related risk or opportunity.

Examples of how SSE determines if a risk is mitigated, transferred, accepted or controlled include:

**Case Study: Physical Risk:** The TCFD assessment process identified that chronic long term changes in climate patterns may result in lower rainfall and reduced wind levels. This may impact SSE's renewable output and associated earnings. Based on SSE's long-term monitoring of weather changes and current forecasts (conducted by SSE's in-house meteorological team), a plausible scenario has been established of significantly below-average rainfall and of low wind levels. Weather patterns affect renewable output and in any one year the potential adverse financial impact on renewable earnings is estimated to be around £100m. The likelihood of this risk occurring, and its associated financial impact means that this risk would surpass SSE's threshold for a substantive risk, as outlined above.

This risk materialised in 2018/19 when SSE experienced lower than expected renewable energy outputs and higher than expected gas prices. SSE's risk assessment process identified an element of geographical and technological diversity amongst its renewable portfolio providing a natural hedge to changing weather patterns within and between years. Furthermore, crisis management and business continuity plans are in place to deal with severe weather events that can damage energy assets.

**Case Study: Transition Opportunity:** SSE's TCFD assessment process recognised the UK and Irish Governments' commitment to install 40GW and 5GW of offshore wind capacity by end of 2030, respectively. These strengthened commitments from governments, combined with the continued access to Contracts for Difference (CfD) or

other price stabilisation mechanism, would continue to support an investment case for offshore wind projects. SSE identified this as a significant business opportunity and SSE has a wind pipeline at varying stages of development with a clear aspiration to reach a run rate of at least 1GW of new assets a year during the second half of this decade. As a result, SSE is able to take advantage of this opportunity and expects to exceed its target for trebling its renewable output by 2030.

The opportunities that exist include consented Arklow Bank (520MW) as well as pipeline development projects e.g. Strathy South (208MW). Assuming a potential £250m of additional revenue for every 1GW of extra wind capacity, then the cumulative impact on revenue between 2025 to 2030 is around £3.75bn. The likelihood of this opportunity occurring, and its associated financial benefits means that this risk would surpass SSE's threshold for a substantive opportunity, as outlined above.

## C2.2a

### (C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	<p>SSE faces risks from changes in obligations arising from operating in markets in the UK and Ireland which are subject to a high degree of regulatory, legislative and political intervention or uncertainty. The climate-related risks and opportunities relating to current regulation are identified through the Group Principal Risk review process for the 'Politics, Regulation and Compliance' Principal Risk and in the climate-related risks and opportunities risk assessment. Climate Change legislation (UK Climate Change Act 2008 and Irish Government's National Mitigation Plan) impacts financial, strategic and operational decisions.</p> <p>The risks and opportunities to SSE are in relation to the impact of current legislative frameworks in terms of its financial and strategic decisions around renewables investments, operation of thermal assets and development of new infrastructure. For example, the UK Climate Change Act 2008 and Clean Growth Strategy (published in 2017) and its Industrial Strategy describe the mechanisms for the UK to transition to a low-carbon economy. For instance, the UK Government has committed to 40GW of installed offshore wind capacity by 2030 and the Committee on Climate Change sees at least 75GW by 2050. The continued access to Contracts for Difference (CfD) or other price stabilisation mechanism would continue to support an investment case for SSE in off- and onshore wind projects.</p> <p>In September 2019, the results for the UK's third Contracts for Difference (CfD) Allocation Round for renewable energy projects were</p>

		<p>announced, with SSE Renewables-backed offshore wind projects at Dogger Bank and Seagreen securing 15-year contracts for delivery between 2023 and 2025. The UK's fourth Contracts for Difference (CfD) allocation round (AR4) is expected in late 2021. SSE will decide whether to bid into AR4 later this year and the risk that SSE faces is that key off-shore developments fail to succeed in any CfD auction, which in turn risks the viability of the projects. Future CfD auctions also impact on SSE's electricity networks as these auctions determine the scale and location of future new generation plant that requires to be connected to the grid. Uncertainty over the medium-term on the future scale, shape and timing of new generation plant is determined by policy and lack of certainty means system planning can be more difficult.</p>
<p>Emerging regulation</p>	<p>Relevant, always included</p>	<p>SSE faces risks from changes in obligations arising from operating in markets in the UK and Ireland which are subject to a high degree of regulatory, legislative and political intervention or uncertainty. The climate-related risks and opportunities relating to emerging regulation are identified through the Group Principal Risk review process for the 'Politics, Regulation and Compliance' Principal Risk and in the climate-related risks and opportunities risk assessment.</p> <p>International and national agreements such as the 2015 Paris Agreement on Climate Change have been identified as a material influencing factor. Climate Change legislation (UK Climate Change Act 2008 and Irish Government's National Mitigation Plan) has the potential to impact the strategy, finance and investment decisions that are made by SSE.</p> <p>The risks and opportunities SSE faces in relation to the impact of emerging legislative frameworks is in terms of its financial and strategic decisions around renewables investments, operation of thermal assets and development of new infrastructure.</p> <p>For example, there is a potential for more aggressive climate change policy that speeds up the closure of unabated gas generation from 2030. SSE expects to operate 2.1GW of Combined Cycle Gas Turbine (CCGT) capacity in 2030. It is, therefore, a plausible scenario that this capacity will not be able to generate beyond 2030 without low-carbon abatement technology. The early closure of the remaining gas assets is estimated to have an adverse impact on earnings of up to £300m cumulatively over five years after 2030. The net zero transition requires a significant increase in renewable generation, whilst flexible generation is required to provide electricity when renewable output is low. In the short to medium-term gas generation is likely to play a key strategic role in balancing the variability of renewables, albeit with shorter running regimes, until sufficient net zero alternatives are deployed.</p>

		<p>While the 'Balanced Net Zero Pathway' scenario in the Climate Change Committee's 6th Carbon Budget, suggests the phasing out of unabated gas generation by 2035 (subject to security of supply considerations), it is plausible that to meet climate change commitments the UK Government (and potentially the Irish Government too) may strengthen climate change policies to require unabated gas generation to cease as early as 2030.</p>
Technology	Relevant, always included	<p>The climate-related risks relating to technology are identified through the Group Principal Risk review process for 'Speed of change' and 'Large capital projects quality/management' Principal Risks as well as a risk in the risk and opportunities assessment process.</p> <p>SSE's 'Speed of change' Principal Risk, highlights that SSE faces the risk of failing to recognise and react appropriately to climate-related competition, technological advancements and changes in customer expectations. SSE's 'Large capital projects quality/management' Principal Risk highlights that SSE faces the risk that its climate-related assets that it builds do not meet the quality standards required to support economic lives of typically 15 to 30 years.</p> <p>Technology has the potential to impact the strategy, finance and investment decisions that are made by SSE. For example, technology risk is relevant to Scottish and Southern Electricity Networks (SEN), both in transmission and distribution networks. These businesses are central to supporting the transition to a low-carbon electricity system – connecting clean energy, supporting electrification of transport and facilitating change as local 'system operators' – and require significant modernisation and reform. SEN's distribution businesses in the north of Scotland and central southern England are leading the industry through a number of high impact innovation and demonstration projects.</p> <p>The risk is that SEN's technologies fail to adapt quickly enough to changed patterns of electricity demand and supply, and that customer expectations are not met. That is why SEN has a deliberate strategy to take a leadership position within the electricity networks industry with innovative demonstration projects that enable far greater levels of flexibility.</p>
Legal	Relevant, always included	<p>SSE faces risks from changes in obligations arising from operating in markets in the UK and Ireland which are subject to a high degree of regulatory, legislative and political intervention or uncertainty. The climate-related risks and opportunities relating to emerging regulation are identified through the Group Principal Risk review process for the 'Politics, Regulation and Compliance' Principal Risk.</p> <p>International and national agreements such as the 2015 Paris</p>

		<p>Agreement on Climate Change have been identified as a material influencing factor on the 'Politics, Regulation and Compliance' Principal Risk. Climate Change legislation (UK Climate Change Act 2008 and Irish Government's National Mitigation Plan) has the potential to impact the strategy, finance and investment decisions that are made by SSE. Compliance is core to securing SSE's legitimacy as a provider of energy.</p> <p>As a generator of electricity, SSE is subject to national and international policies that impact the price of carbon. SSE Group has been operating under the established EU ETS carbon pricing system since the 1st of January 2005. Since the 1st of January 2021, following Brexit, the UK Government has established a UK Emissions Trading Scheme (UK ETS) to replace the EU ETS with the Group's UK generation assets now operating under the UK ETS carbon pricing system. Not meeting the legislative requirements of the UK ETS in the United Kingdom and the EU ETS in the Republic of Ireland would represent a legal risk for SSE. While this has created uncertainties which SSE has had to manage prudently, SSE is encouraged that all policy scenarios lead to high carbon pricing, which SSE supports as a critical tool in decarbonisation.</p>
Market	Relevant, always included	<p>SSE 'Commodity Prices' Group Principal Risk highlights that SSE faces risks associated with the Group's exposure to fluctuations in both the physical volumes and price of key commodities, including electricity, gas, carbon dioxide permits, oil and related foreign exchange values. International and national agreements on climate change have been identified as material influencing factors on this Principal Risk. SSE's 'Energy Affordability' Group Principal Risk highlights that SSE faces risks from the combination of the cost of providing reliable and sustainable energy and the level of customers' incomes means that energy becomes unaffordable to a significant number of SSE's customers.</p> <p>This risk is directly connected to political interventions and commodity price exposure. Public policies, including those aimed at reducing carbon emissions and energy consumption is identified as a material influencing factor on this Principal Risk. Market forces are a relevant risk because they impact on SSE's wholesale, retail and transmission/distribution activities in the countries in which SSE operates and invests (i.e. UK and Ireland), which have the ability to influence the capital, operational and financial decisions of the company and the markets in which it operates.</p> <p>For example, offshore wind represents an opportunity for SSE to deliver its own decarbonisation ambitions and contribute to the achievement of the UK's and Ireland's carbon targets. The Crown Estate and the Crown</p>



		<p>Estate Scotland made new seabed rights available to offshore wind developers to ensure new projects can start to operate from the late 2020s. Whilst SSE Renewables did not secure any new seabed in the Crown Estate Round 4 leasing process, the auction outcome demonstrated the huge value of SSE Renewables' existing pipeline. Following review by the Scottish Government, the process will maintain a capped option fee structure, albeit at a higher level than the previous cap, which should help to ensure the projects remain competitive versus those in England. The process will be completed towards the end of 2021. SSE is following this process closely to prepare for potential new offshore wind leasing in the form of extensions and new sites. The risk to this opportunity is the highly competitive nature of the growing offshore wind industry. The Contracts for Difference (CfD) auctions to date are proven to be highly competitive resulting in aggressive cost reductions.</p>
Reputation	Relevant, always included	<p>Reputational risk is not determined by SSE as a risk in its own right, however impacts are evaluated, and 'Reputation' is used as an indicator in the risk assessment process. Climate-related reputational risks arise as a result of not managing and responding appropriately to the other climate-related risks highlighted in this table. For example, there is a public and political consensus on the need to address climate change. SSE firmly supports Net Zero legislation and believes that an accelerated path to limit global warming to no more than 1.5 degree centigrade must be pursued. SSE has also publicly announced its longer term carbon ambition: to reduce the carbon intensity of the electricity it generated by 60% by 2030, based on 2018 levels. Failure to take action to meet this ambition could result in reputational damage to SSE for a number of SSE's key stakeholders, including society, shareholders, and government and regulators – especially in the context of the growing public support for tackling climate change.</p>
Acute physical	Relevant, always included	<p>SSE's 'Energy Infrastructure Failure' Group Principal Risk highlights that SSE faces the risk of national energy infrastructure failure, whether in respect of assets owned by SSE or those owned by others which SSE relies on, that prevents the Group from meeting its obligations. Severe adverse weather that causes damage or interrupts energy supply or generation is identified as a material influencing factor on this risk. In addition to this, weather associated seasonal fluctuations in demand, supply and generation capabilities – which may or may not be in line with historical trends both in GB and across Europe – is highlighted as a material influencing factor on the 'Commodity Prices' Principal Risk. Severe adverse weather that causes damage or interrupts energy supply or generation can impact the Group's ability to meet its business objectives and influences investment decisions made. For example, SSE's Networks business is at risk of the impacts of severe adverse weather events which can result in flooding of substations and/or damage to overhead lines.</p>



		<p>Over ten days in February 2021, SSE employees faced challenging work conditions faced by weather hazard impacts including: 'line-icing' (significant snowfall freezing and accumulating on overhead power lines, increasing the tension on the conductor causing them to sag and potentially even break) impacting conductors on the network in Argyll; heavy snowfall in the Highlands, with Braemar in Aberdeenshire experiencing the lowest temperature in 26 years; extremely high flood waters at Coupar Angus substation, risking a widespread interruption to supply which could have impacted thousands of customers. This ten-day series of events was concluded with wildfires on the Western Isles, with both electricity transmission and distribution lines at risk of choking and heat damage on the Isles of Skye and Lewis.</p>
Chronic physical	Relevant, always included	<p>SSE's 'Energy Infrastructure Failure' Group Principal Risk highlights that SSE faces the risk of national energy infrastructure failure, whether in respect of assets owned by SSE or those owned by others which SSE relies on, that prevents the Group from meeting its obligations. Severe adverse weather that causes damage or interrupts energy supply or generation is identified as a material influencing factor on this risk. In addition to this, weather associated seasonal fluctuations in demand, supply and generation capabilities – which may or may not be in line with historical trends both in GB and across Europe – is highlighted as a material influencing factor on the 'Commodity Prices' Principal Risk. Long-term changes in climate have the potential to impact SSE's ability to meet its obligations. For example, changes in climate could impact SSE's ability to produce electricity from its wind and hydro generation assets, which would impact on SSE's Wholesale business. Changes in climate could also impact the amount of gas and electricity used by customers which would affect SSE's Retail business. SSE's Networks business is at risk of the impacts of changes in climate, including severe adverse weather events which can result in flooding of substations and/or damage to overhead lines. It would also need to adapt its approach to operation and investment in infrastructure to meet the change in electricity generation and consumption patterns as a result of long-term changes in climate.</p>

## C2.3

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.3a

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

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**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

Chronic physical

Changes in precipitation patterns and extreme variability in weather patterns

**Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

**Company-specific description**

Longer term changes in climate patterns cause sustained higher temperatures that may result in lower rainfall and reduced wind levels. These changes may impact SSE's renewables output and associated earnings.

SSE's businesses activities are significantly influenced by the weather: from influencing how much energy is demanded from customers, to providing the 'fuel source' for renewable generators. Therefore, weather patterns are an important contributor to SSE's business performance. Weather affects production of renewable energy, the operation of the electricity transmission and distribution networks, and the amount of gas and electricity SSE's energy customers use.

One of the most material impacts that weather can have is fluctuations in weather patterns impacting adversely on the output of SSE's hydro-electric and wind generation assets. SSE has hydro-electric generation assets across the north of Scotland, and onshore wind farms across the UK and Ireland (with the majority of installed capacity in Scotland). In particular, impacting SSE's 1,459MW of hydro electricity generation capacity (including pumped storage) which includes 91 hydro dams in the north of Scotland covering a water catchment area of 5,382 sq. miles and its 2,423MW of on-and off-shore wind generation capacity.

In total, SSE has approximately 3.9GW of renewable electricity capacity which provides electricity to over 2 million homes. Changes in generation output that is associated with changes in the weather is already factored into SSE's Risk Management Framework. There is the possibility that climate change could exacerbate these weather-related fluctuations by impacting weather patterns over the longer term. The risk facing SSE is that lower levels of wind and rainfall could reduce the output from SSE's wind and hydro assets which could result in a reduction in revenue.

**Time horizon**

Long-term

**Likelihood**

Likely

**Magnitude of impact**

High

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

100,000,000

**Potential financial impact figure – minimum (currency)****Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

Based on SSE's long-term monitoring of weather changes and current forecasts, a plausible scenario has been established of significantly below-average rainfall and of low wind. The combination of both these weather impacts will result in reduced renewable generation output and associated earnings. This weather risk is a perennial feature of risk for SSE as the largest generator of renewable electricity in the UK and Ireland.

Weather patterns affect renewable output and in any one year the potential adverse financial impact on renewable earnings is estimated to be around £100m. This figure represents a worst-case scenario of a combination of the worst year of hydro generation output and the worst year of onshore wind generation output from the past decade coinciding. The calculation is based on differences between average and lowest outputs over the last 10 years combined with reasonable assumptions for forward power prices.

**Cost of response to risk**

250,000

**Description of response and explanation of cost calculation**

While the opportunity to mitigate against year-to-year weather variability is limited, there is an element of geographical and technological diversity amongst SSE's renewable portfolio providing a natural hedge to changing weather patterns within and between years. For example, 2,423MW of on-and off-shore wind capacity in UK and Ireland and 1,459MW of hydro generation capacity (inc. pumped storage) in Scotland. This diversity enabled SSE to generate a renewable output of 10.2 TWh in 2020/21.

SSE monitors short- and long-term weather conditions so that it can manage and respond to conditions across its assets. For instance, in the first half of 2018/19 SSE experienced a relatively dry, still weather period leading to lower wind speeds and hydro production than expected. In the past few years, SSE has responded to these changes in weather patterns by operating and adapting its conventional hydro generation plant in a way that allows it to more flexible and responsive for the needs of the electricity system, with increased storage and adaptive operation regimes.

SSE has crisis management and business continuity plans in place to deal with severe weather events that can damage energy assets.

One element of management costs directly attributed to this climate-related risk is the monitoring/forecasting of weather by SSE's meteorological team. The costs directly attributed to SSE's meteorological team and the management of weather is in the region of £250,000 annually.

## Comment

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### Identifier

Risk 2

### Where in the value chain does the risk driver occur?

Direct operations

### Risk type & Primary climate-related risk driver

Acute physical

Increased severity and frequency of extreme weather events such as cyclones and floods

### Primary potential financial impact

Decreased revenues due to reduced demand for products and services

### Company-specific description

Increased severity of extreme weather events, such as storms, floods and heat waves bring prolonged extreme temperatures, wind or rainfall. These severe adverse weather events can cause damage or interrupt energy supply or generation, and this is a key risk to SSE's business. The risk is that these events can impact the Group's ability to meet its business objectives and influences investment decisions made. For instance, weather events such as storms, floods and heat waves may damage network assets in central southern England and the north of Scotland, which result in the loss of incentive revenue and increased maintenance costs for SSE's Distribution Networks business.

For example, severe adverse weather events can result in flooding of substations and/or damage to overhead lines.

Over ten days in February 2021, SSE employees faced challenging work condition faced by weather hazard impacts including: 'line-icing' (significant snowfall freezing and accumulating on overhead power lines, increasing the tension on the conductor causing them to sag and potentially even break) impacting conductors on the network in Argyll; heavy snowfall in the Highlands, with Braemar in Aberdeenshire experiencing the lowest temperature in 26 years; extremely high flood waters at Coupar Angus substation, risking a widespread interruption to supply which could have impacted thousands of customers. This ten-day series of events was concluded with wildfires on the Western

Isles, with both electricity transmission and distribution lines at risk of choking and heat damage on the Isles of Skye and Lewis.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

120,000,000

**Potential financial impact figure – maximum (currency)**

220,000,000

**Explanation of financial impact figure**

To estimate a potential financial impact of this risk, it is assumed that the next distribution price control (2023 to 2028) will be of similar value and size as the current RIIO-ED1 distribution price control (2015 to 2023). To calculate the financial impact two scenarios have been assessed:

- The first scenario is a simple consistent assessment where there is an additional 10% fault cost incurred each year for the next 10 years and this would have a corresponding 10% impact on incentive revenue each year in the same period.
- The second scenario takes account of weather modelling which suggests that the weather changes will not be consistent and that in the first part of the decade fault costs will increase by 10% with a corresponding 10% decrease in annual incentive revenue in three of the five years between 2021 and 2026. Whilst in the second part of the decade (between 2026 and 2031) the impact of weather will be greater in magnitude and fault costs will increase by 20% with an 20% annual incentive revenue reduction in two of the five years.

These calculations are consistent with the number of faults and current RIIO-ED1 incentive and penalty methodology.

The estimated cost of faults and loss of incentive income over the next 10 years may result in a potential reduction of earnings of between £120m and £220m cumulatively

**Cost of response to risk**

60,600,000

## Description of response and explanation of cost calculation

To mitigate the impact of severe weather events, SSE monitors short- and long-term weather conditions; has crisis management and business continuity plans; and has a continuous programme of investment in strengthening and improving the resilience of the electricity network (including overhead line replacement and refurbishment).

In 2021, SSEN's Network assets were subjected to a high number of extreme weather hazards over a ten day period. These included: 'line icing' (increased tension on the conductor causing them to sag and potentially break, due to significant snowfall) impacting conductors on the network in Argyll; heavy snowfall in the Highlands, occurring alongside extremely high flood waters at Coupar Angus substation, risking a widespread interruption to supply which could have impacted thousands of customers. This 10-day period concluded with wildfires on the Western Isles, with both electricity transmission and distribution lines at risk of choking and heat damage on the Isles of Skye & Lewis.

SSEN Transmission is working to understand whether these events are exacerbated by climate change. SSE established a Wildfires subgroup to assess risks and develop a mitigation strategy, reviewed safety management procedures which manage wildfire response and appointed specialist wildfire consultants to provide wildfire risk forecasts for the network area. It also engaged with other UK asset owners and electricity transmission businesses worldwide to understand risk, control and mitigation measures they have in place to deal with wildfires.

Using the Met Office's Climate Projections, asset resilience is reviewed using climate projections for the next 30 years. This includes assessing the impact to the assets from higher temperatures, changing rainfall patterns, rising sea levels, and more extreme weather events such as floods, droughts and heat waves. This process is part of the UK Government's assessment of critical infrastructure which takes place every five years.

Examples of the cost to management of directly mitigating severe adverse weather in SSEN Distribution is the combination of costs associated with:

- Investment in overhead line replacement and refurbishment (£30.7m);
- Tree cutting (£26.6m);
- Flood protection (£3.3m).

The combination of these costs was £60.6m in 2020/21. These investment costs strengthen and improve the resilience of the assets, this in turn ensures that SSE also mitigates the impact of weather damage on its assets.

## Comment

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### Identifier

Risk 3

## Where in the value chain does the risk driver occur?

Direct operations

## Risk type & Primary climate-related risk driver

Legal

Other, please specify

Mandates on and regulation of existing products and services

## Primary potential financial impact

Decreased asset value or asset useful life leading to write-offs, asset impairment or early retirement of existing assets

## Company-specific description

Policy risk: more aggressive climate change policy results in the closure of unabated gas assets from 2030 onwards.

The net zero transition requires a significant increase in renewable generation. Flexible generation is required to provide electricity when renewable output is low.

In the short to medium-term gas generation is likely to play a key strategic role in balancing the variability of renewables, albeit with shorter running regimes, until sufficient net zero alternatives are deployed.

While the 'Balanced Net Zero Pathway' scenario in the Climate Change Committee's 6th Carbon Budget, suggests the phasing out of unabated gas generation by 2035, it is plausible that to meet climate change commitments the UK Government (and potentially the Irish Government too) may strengthen climate change policies to require unabated gas generation to cease from 2030.

SSE has around 5.3GW of installed gas- and oil-fired generation, the vast majority of which is gas-fired generation. Much of SSE's existing Combined Cycle Gas Turbine (CCGT) portfolio will move towards the end of its expected life during the 2020s.

The Committee on Climate Change (CCC) has highlighted the importance of carbon capture usage and storage (CCUS) technology in helping the UK to achieve its carbon targets. SSE Thermal has entered an agreement with Equinor to co-develop low-carbon thermal options at its Keadby site, in North Lincolnshire, and at its Peterhead site in Aberdeenshire.

However, the longer-term risk to SSE in the absence of an economically feasible method of CCUS, is that the output of unabated gas plants may need to be curtailed if the UK and Ireland is to meet carbon targets. This may result in a financial impact to earnings as the output of gas-fired generation is impacted beyond 2030 (this involves 2.1GW of Combined Cycle Gas Turbine capacity which is expected to be in operation in 2030 and beyond).

## Time horizon

Medium-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

300,000,000

**Potential financial impact figure – minimum (currency)****Potential financial impact figure – maximum (currency)****Explanation of financial impact figure**

SSE's existing 5.3GW fleet of installed gas- and oil-fired generation will be nearing the end of its expected life towards the end of the 2020s and early 2030s. However, 2.1GW of Combined Cycle Gas Turbine capacity will still be in operation in 2030 and beyond. It is a plausible scenario that this capacity will not be able to generate beyond 2030 without low carbon technology. It is therefore assumed that the financial impact of this policy change is a loss of five years of earnings for the remaining life of these assets. The early closure of the remaining gas assets taking account of the cost to mitigate is estimated to have an adverse impact on earnings of up to £300m cumulatively over five years after 2030.

**Cost of response to risk**

300,000

**Description of response and explanation of cost calculation**

The primary way to mitigate against gas risks is to have a diversified generation portfolio of renewable and thermal assets as well as a healthy pipeline of renewable developments.

To ensure SSE is attuned and up to date and aware of policy developments and recognising gas provides important transitional role in securing supply in a grid with high levels of intermittency, SSE engages with UK and Irish Governments, European Commission, Members of European Parliament and others on low-carbon policy. SSE supports a Carbon Price Floor, the EU ETS, Levy Control Framework and other legislation that supports a move towards a low-carbon economy, with gas providing an important role in the security of supply.

Building on past experience of working towards commercial demonstration of Carbon Capture Usage and Storage (CCUS) technology in the UK SSE Thermal is pursuing the opportunity to partner within key industrial decarbonisation clusters in the UK. SSE Thermal has announced an agreement with Equinor to co-develop low-carbon thermal



options at its Keadby site, in North Lincolnshire, and at its Peterhead site, in Aberdeenshire.

Both sites have the potential to be the UK's first power plants with carbon capture facilities, and the Keadby site could be the world's first major hydrogen-fired power station. The project will include:

- Keadby Carbon Capture and Storage: a c.900MW gas-fired power station with carbon capture.
- Peterhead Carbon Capture and Storage: a c.900MW gas-fired power station with carbon capture.
- Keadby Hydrogen: a 900MW low-carbon hydrogen-fired power station, with a peak demand for hydrogen of 1,800MW.

Through the early deployment of these essential technologies, SSE seeks to support the wider decarbonisation of key regions across the UK, ensuring a just transition for workers and communities, and maximising the benefits of the transition to net zero for industrial heartlands.

In the event that closures are required SSE incorporates the costs associated with decommissioning is factored into the end-of-life plans for ageing plant.

One element of these costs that can be directly attributed to this climate-related risk is Corporate Affairs and Energy Portfolio Management teams' role in managing climate-related policy impacts. The costs directly attributed to these teams and the management of climate-related policy is in the region of £300,000 annually.

## Comment

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### Identifier

Risk 4

### Where in the value chain does the risk driver occur?

Direct operations

### Risk type & Primary climate-related risk driver

Market

Other, please specify

Oversupply of renewable energy

### Primary potential financial impact

Other, please specify

Extremely low or negative renewable electricity prices.

## Company-specific description

All credible pathways to net zero in the UK and beyond assume the dramatic scaling up of wind (especially offshore) generated electricity. This significant growth in wind power output without a corresponding increase in demand represents a potential climate-related transition risk.

As wind generation capacity increases, both the market and SSE expect the average electricity price which wind power receives ('wind capture price') to be less than the average price for electricity ('baseload price'). As wind becomes the dominant source of electricity output it will define the market price, so the volatility of electricity prices will correlate to wind output, both high and low.

The effect of a wind capture price only materially impacts wind generation that is fully exposed to market prices (or 'merchant' wind output), as it is not supported by government-backed fixed price mechanisms such as the Contracts for Difference. Assuming a build out rate of wind generation assets as set out in SSE Renewables project pipeline on 85 of the SSE Annual Report 2021, it is assumed there will be 10TWh of merchant wind output in 2029/30.

While this is expected in the medium term, and is factored into investment decisions, there is a risk that this lower average price for wind output is more extreme than what the market (or SSE) expects. In the longer term, and with careful market design reform, the effect of the wind capture price will stabilise as more low carbon technologies adapt their patterns of demand according to the price signal sent by the market.

### Time horizon

Medium-term

### Likelihood

Virtually certain

### Magnitude of impact

High

### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

### Potential financial impact figure (currency)

50,000,000

### Potential financial impact figure – minimum (currency)

### Potential financial impact figure – maximum (currency)

### Explanation of financial impact figure

The effect of a wind capture price only materially impacts wind generation that is fully exposed to market prices (or 'merchant' wind output), as it is not supported by

government-backed fixed price mechanisms such as the Contracts for Difference. Assuming a build out rate of wind generation assets as set out in SSE Renewables project pipeline on page 85 of the SSE Annual Report 2021, it is assumed there will be 10TWh of merchant wind output in 2029/30. The scale of any impact of a change to the expected wind capture price would therefore be a function of the assumed wind capture price and the amount of merchant wind electricity generated. The potential financial impact of this climate-related risk in the absence of any mitigating action is for every £5/MWh of wind price capture, it is estimated that the negative impact on SSE's earnings in 2029/30 would be around £50m.

#### **Cost of response to risk**

6,000,000

#### **Description of response and explanation of cost calculation**

The effect of a wind capture price only materially impacts wind generation that is fully exposed to market prices (or 'merchant' wind output), as it is not supported by government-backed fixed price mechanisms such as the Contracts for Difference. To mitigate these risks, SSE will seek, where appropriate, to submit certain development projects into CfD auctions, thereby removing merchant risk. Further, with its integrated customer facing business, SSE will work with large customers wishing to purchase renewable energy, to provide long term power contracts, called power purchase agreements (PPAs), which again removes merchant risk. Services by EPMI support the most economic market outcomes for SSE's electricity generation, the overall cost of this service provided by EPM is in the region of £6m annually. This activity supports all market activities in renewables, not simply any risks associated with wind price capture.

SSE will also continue to invest in a geographically and technologically diverse generation portfolio of renewable and low carbon thermal assets in order to balance the effect of price volatility. For example, SSE Renewables is now involved in a consortium participating in the tender process for the 800-1000MW Thor offshore wind site in Denmark, which will conclude later in 2021. Additionally, a partnership agreement was struck with Madrid-based renewables developer Acciona to explore opportunities for offshore wind projects in Spain and Portugal, which are in the early phase of policy and industry development.

SSE we will also continue to engage with the UK and Irish Governments, European Commission, Members of European Parliament and others on policies that support the reduction of risk in low carbon electricity and, therefore supports lower-cost renewable energy production.

#### **Comment**

## **C2.4**

**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

## C2.4a

**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

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### Identifier

Opp4

### Where in the value chain does the opportunity occur?

Direct operations

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

Development and expansion of SSE's off- and on-shore wind pipeline to support a low-carbon electricity system.

The UK Government's Climate Change Act 2008, its Clean Growth Strategy (published 2017), and its Industrial Strategy, describe the mechanisms for the UK to transition to a low-carbon economy. These policies have led to an increase in renewable generation contributing to the GB electricity network. With the Committee on Climate Change report on Net Zero, an accelerated path towards further decarbonisation is plausible.

In a low-carbon world, new off- and on-shore wind has an important role to play. The UK Government is targeting at least 40GW of installed offshore wind capacity by end of 2030 and the Climate Change Committee sees at least 75GW by 2050. The combination of strong carbon price, high energy price and continued access to Contracts for Difference (CfD) or other price stabilisation mechanism would continue to support an investment case for SSE in off- and on-shore wind projects. This would benefit SSE as it would enable SSE to invest in its significant pipeline of both on- and off-shore renewable energy projects.

SSE currently has the largest renewable energy capacity across the UK and Ireland at around 3.9GW (including pumped storage) and in 2020/21 SSE generated 10.2 TWh (including biomass, pumped storage and constrained off wind in GB).

SSE believes its 7GW wind energy pipeline means it could double its renewable energy output to over 20TWh by 2025, which would be a significant step towards its 2030 sustainability goal of trebling renewable output to 30TWh by 2030. This includes offshore wind farms Dogger Bank (each 1,200MW, SSE Renewables share 40%) and

Seagreen (1,075MW, SSE Share = 49%) and the Viking onshore wind farm (443MW). SSE has further offshore wind project interests in Berwick Bank and Marr Bank in Scotland, Greater Gabbard Extension in England and Arklow Bank Wind Park in Ireland.

SSE believes this pipeline of new assets will play a critical role in helping the UK and Ireland achieve their decarbonisation goals and contribute to the ultimate goal of zero carbon electricity

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

3,750,000,000

**Potential financial impact figure – minimum (currency)**

**Potential financial impact figure – maximum (currency)**

**Explanation of financial impact figure**

SSE has an off- and on-shore wind pipeline at varying stages of development of around 7GW. The portfolio has the potential to generate significant additional earnings for SSE. In September 2019, SSE Renewables secured Contracts for Difference (CfDs) for 2.2GW of new offshore wind capacity through the third Allocation Round.

The opportunities that exist include consented as well as pipeline development projects. Growth opportunities come from consented offshore projects which could be operational by 2025/26 involving: Seagreen 1A (360MW, 49% share) and Arklow Bank (520MW). SSE has future onshore growth through consented sites at Strathy South (208MW) and Tangy repower (57MW) in Scotland and Yellow River (105MW) in Ireland.

Further CfD Allocation Rounds present significant new opportunities for SSE to develop more offshore and onshore wind potential in UK waters. Further development projects involve: Berwick Bank and Marr Bank offshore wind farms located off the Firth of Forth (up to 4,150MW); North Falls offshore wind farm an extension to Greater Gabbard wind farm off the east coast of England (up to 504MW 50% share)); and in Ireland 800MW Braymore Point and 800MW Celtic Sea offshore wind projects. Future onshore growth can come from yet to be consented sites and further prospects. This takes the total GB and Ireland onshore wind pipeline to over 1100MW

Assuming the potential for £250m of additional revenue for every 1GW of extra wind capacity then the cumulative impact on revenue between 2025 to 2030 is around £3.75bn.

The potential financial impact of this climate-related opportunity represents one of the most significant available to SSE both in the short- and long-term.

## **Cost to realize opportunity**

### **Strategy to realize opportunity and explanation of cost calculation**

SSE has a pipeline of over 7GW of potential new wind opportunities. SSE will develop these projects in partnership and will recycle some capital to support further development.

In addition to the immediate opportunities at Seagreen, Dogger Bank and Viking, SSE has further offshore wind project interests in Berwick Bank and Marr Bank in Scotland, Greater Gabbard Extension in England and Arklow Bank Wind Park in Ireland.

SSE engages with UK, Scottish and Irish Governments, European Commission, Members of European Parliament and others on low-carbon policies.

SSE has invested considerably in the pipeline of SSE's renewable development opportunities and this involves capital and investment expenditure in renewable projects, the maintenance of development consents and grid connections, alongside ongoing stakeholder engagement activities and major project investment governance processes. Given the highly competitive and current nature of the CfD process, it is not appropriate to give estimates of the costs of the investment process.

## **Comment**

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### **Identifier**

Opp3

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Products and services

### **Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

Decarbonisation of the electricity system provides the opportunity to increase output and earnings from flexible and renewable hydro assets.

As the energy system decarbonises, increasing volumes of wind energy is coming onto the GB system. Flexible generation and storage are required to provide electricity when wind output is low. SSE's hydro generation assets (inc. pumped storage) are in a good position to take advantage of an increase in the value of flexible output. Hydro is unique in SSE's portfolio (it represents 16% of its portfolio capacity), as it can be characterised as both renewable and flexible. In addition to 400MW of run-of-river hydro, SSE has 750MW of flexible hydro and SSE's 300MW of pumped storage as well as planning consent for an additional 1.5GW of pumped storage. Flexible hydro operates as 'Britain's biggest battery' and SSE has a significant role to play in providing this.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

900,000,000

### **Potential financial impact figure – minimum (currency)**

### **Potential financial impact figure – maximum (currency)**

### **Explanation of financial impact figure**

SSE has 1,459MW of existing hydro capacity (inc. pumped storage) and has planning consent for an additional 1.5GW of pumped storage at Coire Glas. SSE continues to invest in its hydro generation assets to increase flexibility to the UK grid.

It is assumed that by providing more flexible hydro output from existing assets SSE could generate an additional £10m per annum through generating additional volumes and/or capturing high prices during system stress periods. In addition, balancing market and ancillary services revenues could generate income of up to around £25m per year. These values will vary depending on market conditions. Furthermore, the successful development of the consented 1.5GW Coire Glas Pumped Hydro plant could potentially earn additional revenue from 2028/2029. This is based on the current revenue projections for the existing pump storage capacity that SSE owns.

The combination of these additional revenues could result in revenues of up to £900m being earned by continuing to provide flexible hydro output and investing in new pumped storage output over the next 10 years.

### **Cost to realize opportunity**

#### **Strategy to realize opportunity and explanation of cost calculation**

In order to realise this opportunity, SSE is continuing to invest in a diversified generation portfolio of renewable and flexible generation assets (including hydro generation assets). For example, in 2019/20 SSE commissioned Beatrice (588MW capacity) offshore wind farm and has over 8GW of new renewable projects in development.

SSE also has been investing in its hydro fleet to make them more efficient and provide flexible and renewable energy to ensure that they can take advantage of a decarbonized energy system. To support this SSE has an ongoing programme of maintenance, refurbishment and construction to ensure these assets continue to deliver during the low-carbon transition. SSE has 1,450 MW of existing hydro capacity (inc. pumped storage) and has planning consent for an additional 1.5GW of pumped storage.

Finally in order to realise this strategy, in 2020/21, and despite challenging weather conditions, SSE's hydro fleet delivered value from their increased flexibility, which was enabled by enhancements in SSE's commercial management of these assets. SSE's hydro generation facilities represent 16% of SSE's generation capacity and 13% of the Group's electricity generation output in 2020/21. In addition, in 2020/21 SSE Renewables' (hydro and wind generation) accounted for 48% of the Group's total adjusted operating profit.

The costs associated with realising this opportunity are wrapped up in the costs of the refurbishment of SSE's assets (which involves upgrades and replacement of plant as a result of age as well as to respond to this opportunity to provide more flexibility). SSE expects to give enhanced disclosures to CDP on the renewables pipeline opportunity in the future.

### **Comment**

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#### **Identifier**

Opp2

#### **Where in the value chain does the opportunity occur?**

Direct operations

#### **Opportunity type**

Products and services

#### **Primary climate-related opportunity driver**



Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

Opportunity: Investment in transmission infrastructure in the north of Scotland to support the delivery of an accelerated low-carbon electricity system.

The UK Government's Climate Change Act 2008, Clean Growth Strategy (2017), and Industrial Strategy, describe the mechanisms for the UK to transition to a low-carbon economy. These policies have led to an increase in renewable generation in the GB electricity network. With the UK Government's net zero legislation and interim 2035 climate target, that are in line with the Committee on Climate Change report on Net Zero, an accelerated path towards further decarbonisation is plausible. SSEN's transmission network plays a key role connecting the sources of renewable generation to the areas of high demand.

SSEN operates the transmission network in the north of Scotland. SSEN's transmission network allows the renewable energy generated in the north of Scotland to be transmitted down south to areas of higher demand. This makes it fundamental in facilitating the transition to a low-carbon electricity system.

SSEN Transmission's business plan between 2021 to 2026 contains a total expenditure plan of £2.8bn (including the Shetland HVDC link). There are further key development opportunities that are emerging in relation to additional transmission infrastructure beyond the 'Certain View' investments in the RIIO T2 investment plan to further support the net zero transition. Subject to the outcome of needs assessments to be submitted to Ofgem, including further network investment in Argyll, Skye and the East Coast HVDC from Peterhead. The combined investment of these projects is well in excess of £1bn. These projects could see the total installed generation capacity in the north of Scotland increase to around 14GW by the end of RIIO-T2, with almost 13GW of this from renewable sources.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

100,000,000

**Potential financial impact figure – maximum (currency)**

150,000,000

**Explanation of financial impact figure**

SSEN Transmission's business plan between 2021 to 2026 contains a total expenditure plan of £2.8bn (including the Shetland HVDC link). There are further key development opportunities that are emerging in relation to additional transmission infrastructure beyond the 'Certain View' investments in the RIIO T2 investment plan to further support the net zero transition. Subject to the outcome of needs assessments to be submitted to Ofgem, including further network investment in Argyll, Skye, and the East Coast HVDC from Peterhead. The combined investment of these projects is well in excess of £1bn. The revenue increase as a result of the significant capital investment in additional projects over the RIIO-T2 price control (2022 to 2026) period would amount to around £100m - £150m per year. This is reflective of SSE's Network for Net Zero business plan for investment up to 2026 with a steady state investment for the remaining period to 2030.

**Cost to realize opportunity**

5,000,000

**Strategy to realize opportunity and explanation of cost calculation**

SSEN operates the transmission network in the north of Scotland. This network enables renewable energy generated in the north of Scotland to be transmitted south to areas of high demand. To realise this opportunity and ensure that SSEN can continue to invest in this critical infrastructure, SSEN has an ongoing programme of maintenance, refurbishment and construction.

Over 2020/21, SSEN Transmission made good progress on the Shetland HVDC link and the project remains on track for completion in 2024. This addition could see over £650m spent to connect new renewable generation and secure Shetland's supply. This will mean that, for the first time, Shetland will be connected to the GB electricity network, generating significant social value through access to a reliable and increasingly green supply of electricity.

There are further key development opportunities that are emerging in relation to additional transmission infrastructure beyond the 'Certain View' investments in the RIIO T2 investment plan to further support the net zero transition. Subject to the outcome of needs assessments to be submitted to Ofgem, including further network investment in Argyll, Skye and the East Coast HVDC from Peterhead. The combined investment of these projects is well in excess of £1bn. These projects could see the total installed generation capacity in the north of Scotland increase to around 14GW by the end of RIIO-T2, with almost 13GW of this from renewable sources.

The costs associated with realising this opportunity is based on the management actions with the development costs for projects up to the commencement of construction

activities estimated at 3-5% as defined by SSE's Large Capital Project governance process. The management costs alone for this element is estimated at approximately £5m - £8m per annum. The cost of managing the Transmission projects is likely to be towards the lower end of the range, at around £5m per annum.

## Comment

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### Identifier

Opp1

### Where in the value chain does the opportunity occur?

Direct operations

### Opportunity type

Products and services

### Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

### Primary potential financial impact

Increased revenues resulting from increased demand for products and services

### Company-specific description

Decarbonisation of transport presents opportunities for SSE's Networks business. Whilst the number of EVs on SSEN's network at the end of 2018 was estimated to be 25,000, it is expected to grow rapidly in response to the UK Government's Ten Point plan for a Green Industrial Revolution which will see a ban on the sale of new petrol and diesel cars and vans by 2030.

National Grid's 'Two Degree' Future Energy Scenario 2018 anticipated EVs to grow in GB to around 10 million by 2030. SSE aims to support an additional 10 million EV in GB by 2030. The uptake of EVs on SSE's networks is likely to provide a significant investment opportunity to support the low carbon transport transition. Updated Distribution Future Energy Scenario reports were published in 2020. In SSEN's distribution areas alone the number of EVs will increase from 30,000 in 2020 to over 5 million in 2050. These additions will create extra demand on the distribution network and SSEN will need to ensure the transition to EVs is as smooth as possible by developing cost-effective, smart technology interventions to manage demand without unnecessary upgrades to GB networks and disruption to customers.

Increased uptake of EVs has the potential to provide opportunities for SSEN as a network operator. There is the opportunity to invest in and develop the network infrastructure required to support the roll out of EVs, including smart energy systems, demand side response and distributed flexible and renewable energy. For example, SSE is playing a leading role in the transition from a Distribution Network Operator (DNO) to a Distribution Systems Operator (DSO). This involves significant innovation to

deliver a cleaner, smarter and more local electricity system, with the rapid transition to a more flexible electricity network.

To support this, SSEN has joined up with key local and industry partners to launch Project LEO, which is one of the most wide-ranging and holistic smart grid trials ever conducted in the UK. These projects provide insight into the opportunities available to SSEN from the UK's preparations for a decentralised energy system that is capable of accommodating a dramatic increase in EVs. Studies forecast that EVs will contribute to between £400m to £1bn of capital investment by 2030 for SSE in its network areas. To calculate the revenue impact of rapid electrification of vehicles, SSE has profiled the investment predictions of a fast and average uptake over the period up to 2030.

**Time horizon**

Medium-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

**Potential financial impact figure – minimum (currency)**

200,000,000

**Potential financial impact figure – maximum (currency)**

40,000,000

**Explanation of financial impact figure**

The uptake of EVs on SSE's networks is likely to provide a significant investment opportunity to support the low carbon transport transition. SSEN is taking a leadership role on electrification and has a 2030 target to build network flexibility that helps accommodate 10 million electric vehicles in the UK. These additional EVs will create extra demand on the distribution network and SSEN will need to ensure the transition to EVs is as smooth as possible by developing cost-effective, smart technology interventions to manage demand without unnecessary upgrades to GB networks and disruption to customers. Studies forecast that EVs will contribute to between £400m to £1bn of capital investment by 2030 for SSE in its network areas.

To calculate the revenue impact of rapid electrification of vehicles, SSE has profiled the investment predictions in its networks to support electrification of transport up to 2030 and this is between £200m and £400m increase in cumulative revenue.

**Cost to realize opportunity**

8,000,000

## Strategy to realize opportunity and explanation of cost calculation

SSEN is taking a leadership role on electrification and has a 2030 target to 'build network flexibility that helps accommodate 10 million electric vehicles in the UK'. In FY21, SSEN invested a total of £350m in electricity distribution networks.

In 2020, SSEN published its EV Strategy, with its principles to support the decarbonisation of transport in line with SSE's 2030 Goal. The EV Strategy sets five key principles to facilitate EV uptake ensuring SSEN is 'EV ready':

1. Using data and analytics to anticipate issues, support decision making and make sure SSEN's networks are ready for EV uptake;
2. Making a suite of tools available to support widespread EV uptake;
3. Using Local Development Plans to inform and establish strategic investment programmes;
4. Using innovation, digitalisation, new skill sets and operational capabilities to meet the forecast growth; and
5. Supporting stakeholder and customer ambitions to decarbonise.

Major innovation projects have included: Project LEO, which continued to test demand and generation matching, flexibility and balancing across the Oxford region; Optimise Prime, a fleet electrification project which has moved into physical trials; and Skyline, a first-of-its-kind project launched in FY21, which will establish data sharing with the automotive and charge point industries to allow early visibility of planned domestic EV charger connections. SSEN Distribution is also a core member of the Scottish Government's Strategic EV Partnership

SSE is also a member of the Climate Group's global EV100 initiative and pledged to switch its 3,500 strong vehicle fleet to electric by 2030 and install charging points for its 21,000 employees to use. By the end of FY21, SSE's vehicle fleet had 458 fully electric or hybrid vehicles compared to 290 the year before. SSE has installed 184 charging points across 20 of its sites with further plans for more installations across its estate and home chargers for operational staff when they move to a fully electric van.

The costs associated with realising this opportunity is based on the management actions with the development costs for projects up to the commencement of construction activities estimated at 3-5% as defined by SSE's Large Capital Project governance process. The management costs alone for this element is estimated at approximately £5m - £8m per annum. The cost of managing the Distribution projects is likely to be towards the higher end of the range, at around £8m per annum.

## Comment

## C3. Business Strategy

### C3.1

**(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

### C3.1a

**(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?**

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	Yes	In 2020/21, SSE proposed a resolution within the business of the 2021 Annual Generation Meeting (AGM) that establishes a framework for an annual vote on SSE's Net Zero Transition report at future AGMs.

### C3.2

**(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?**

Yes, qualitative and quantitative

### C3.2a

**(C3.2a) Provide details of your organization's use of climate-related scenario analysis.**

Climate-related scenarios and models applied	Details
2DS RCP 2.6 RCP 4.5 RCP 6 RCP 8.5 Other, please specify UK National Grid FES and internal energy and company specific FES and Committee on Climate Change	<p>Analysis considerations: SSE uses scenario analysis to inform its business strategy and financial planning. SSE uses publicly available data from Committee on Climate Change and National Grid's Future Energy Scenarios (FES), which take and climate based on the Met Office's climate projects: RCP 2.5, RCP 4 and RCP 8.5.</p> <p>In Nov 2019, SSE published its most recent scenario analysis report 'Transition to Net Zero: The Role of Gas', which responded to investors keen to understand how SSE's gas businesses align with its net-zero ambitions. It focused on SSE's gas related activities in the UK and Ireland that are impacted by market and policy changes. The resilience of these businesses was assessed against three different warming scenarios (1.5°C, 1.5°C low nuclear &amp; 4°C) over the short, medium and</p>

long term. This 2019 report built upon its 2017 'Post Paris' report – an assessment of how resilient its electricity businesses are to 1.5°C, 2°C and 3-4°C warming scenarios in the short, medium and long term.

Time horizons cover: short term 0 to 3 years; medium term 3 to 12 years; and long term 12 to 30 years. These time horizons are aligned with SSE's other business practice time horizons and mirror the investment/capital/ regulatory time horizons that govern SSE's financial, operational and capital plans.

Summary of results: Both of these scenario analyses demonstrated that SSE's businesses are resilient to, and have a key role to play in, different warming scenarios, with future options for development that align with a net zero pathway highlighted.

One of the key findings from 'Transition to Net Zero' report was the importance of SSE's gas businesses role in providing flexible and reliable system services to support renewables. Specially, the medium term analysis found that there was the need for SSE Thermal to develop the next generation of low-carbon technologies (i.e. CCS and hydrogen) and for these to be rolled out at scale in the long term to achieve net zero targets set by UK Government. SSE Thermal's strategy reflects this report's findings and is committed to finding decarbonised solutions to thermal electricity generation. For example, SSE is progressing plans with Equinor to develop carbon capture and storage generation plant at Keadby in Humberside and Peterhead in northeast Scotland, as well as what could be the world's first hydrogen-fired power.

SSEN's Transmission business uses scenario planning (based on National Grid FES) to understand likely future network requirements and these trends help will enable SSEN to identify potential future requirements of its transmission network and inform business strategy and investments. SSEN's Distribution business also used climate-related scenario analysis through their Distribution Future Energy Scenario reports, which were published in December 2020. SSEN used scenario analysis to understand the growth potential of electrification within its distribution networks. The upper range of the net zero scenarios forecast the number of electric vehicles in SSEN Distribution licence areas to increase from 30,000 in 2020 to 5 million in 2050, with heat pumps rising from 32,000 to 2.5m and local renewable capacity from 5GW to 18GW. This analysis is one of the factors informing SSEN's RII0-ED2 business plan which will be published in draft form in early July, with the final plan submitted to Ofgem in December.

### C3.3

**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Climate-related risks and opportunities have shaped SSE's short, medium, and long-term strategy, which is focused on its core businesses of economically regulated electricity networks and renewables, complemented by thermal generation. These businesses have a crucial role in the net-zero transition. SSE's product-related strategy is influenced by climate change legislation and policy such as the UK Government's Ten Point Plan and the Irish Government's Climate Action and Low Carbon Development Bill. These developments signal a more supporting policy environment which provides the opportunity for SSE to deliver its strategy and realise the growth opportunities from an accelerated transition to net zero.</p> <p>Examples of a substantial decision made that has been influenced by climate related policy opportunity in SSE's products:</p> <p>Example:</p> <p>The UK and Irish Governments have set 2030 ambitions for new offshore wind, targeting 40GW in the UK and at least 5GW in Ireland. This strong policy support has influenced SSE's short and medium-term strategy and as such SSE is confident that it will exceed its target of trebling renewable energy output by 2030 compared to a 2017/18 baseline. SSE is pursuing a number of projects and has an offshore pipeline of 7GW, including 3.6GW (SSE share of 1.56GW) at Dogger Bank and 1,075MW (SSE share of 527MW) at Seagreen. Both projects were successful in the September 2019 CfD auction round, with construction progressing well in 2021.</p> <p>Example:</p> <p>In 2020, the UK Government published its Ten Point Plan for a Green Industrial Revolution setting out plans to</p>



		<p>establish four CCS clusters in the UK by 2030 and intent to work with industry to generate 5GW of low-carbon hydrogen production capacity by 2030. In 2020/21, SSE Thermal assessed their strategic fit with SSE’s net zero sustainability ambitions (including its 2030 business goals) and aligned to the Ten Point Plan for a Green Industrial Revolution. As result, SSE entered into a cooperation agreement with Equinor to jointly develop Keadby CCS and Keadby Hydrogen. Research and development of the supporting CCS and hydrogen technologies will be progressed under the partnership, alongside options to further decarbonise the Keadby 2 project through hydrogen blending. In 2021, the scope of the co-operation agreement was expanded to include the Peterhead CCS Power Station in Aberdeenshire.</p>
Supply chain and/or value chain	Yes	<p>SSE’s short, medium, and long-term strategy is influenced by climate change legislation and policy such as UK Climate Change Act 2008 and in Ireland the Climate Act 2015. This in turn has influenced elements of SSE’s supply chain/value chain strategy.</p> <p>Supply chain: examples of a substantial decision made that has been influenced by climate-related policy opportunities: The UK and Irish Government targets for new offshore wind mean that SSE’s short and medium-term strategy has been influence and it is pursuing a number of offshore projects. Offshore wind technology cost reductions have been dramatic, with record low auction clearing prices of £40/MWh in the 2019 Contracts for Difference (CfD) auctions. Dogger Bank (SSE Renewables share of 1.56GW) and (SSE Renewables share of 527MW) offshore wind farms were successful in the auction.</p> <p>The scale up of turbine technology is having a significant impact and progressing at pace, and SSE is working with its supply chain to implement new technology. For example,, SSE Renewables and its project partner Equinor announced it will use the ground-breaking 14MW Haliade-X turbine for the Dogger Bank offshore wind farm. This means one of the world’s most powerful wind turbines will be used to generate electricity at the world’s largest wind farm.</p> <p>Supply chain: examples of a substantial decision made that has been influenced by climate-related policy risks: To manage the risk of climate change, SSE set a series of new carbon targets in March 2020, that reflect the climate science and global and national momentum on climate</p>

		<p>change. These targets were approved by the Science Based Targets Initiative in April 2020. One of these targets is to engage with 50% of suppliers by spend to set an SBT by 2024. SSE actively manages its relationship with its key suppliers, and during 2020/21 SSE held 29 workshops with key suppliers to facilitate dialogue and knowledge-sharing around the setting of science-based carbon targets and the challenges and opportunities presented for various industries, with further sessions planned for the future and a commitment to continued dialogue between the companies on sustainability issues.</p>
Investment in R&D	Yes	<p>UK and Irish climate change legislation and policy shapes SSE's short, medium and long-term strategy, and in turn influences its approach to innovation and R&amp;D, which is required to deliver net zero.</p> <p>R&amp;D: examples of a substantial decision made that has been influenced by climate-related policy opportunities:</p> <p>In March 2021, as part of Innovate UK's Industrial Strategy Challenge Fund (ISCF), the UK Government announced support for the Zero Carbon Humber and Scotland's Net Zero Infrastructure cluster projects. In co-operation with Equinor, SSE Thermal is developing Keadby 3 Carbon Capture Power Station and Keadby Hydrogen Power Station in the Humber, and Peterhead Carbon Capture Power Station in Scotland, to plug into the shared CCS and hydrogen infrastructure within the clusters. In combination, these projects would capture an estimated 3 million tonnes of carbon dioxide annually, 30% of the overall target for 2030 set out in the Prime Minister's Ten Point Plan for a Green Economic Recovery, and deliver the world's first large-scale hydrogen fired power station.</p> <p>On the 3rd of June 2021, SSE was subject to protest by Extinction Rebellion Scotland and Glasgow Calls Out Polluters, whereby activists blocked the entrance to the Peterhead Power Station. The protestors targeted Peterhead as it had recently been identified by the Scottish Environmental Protection Agency (SEPA) as Scotland's largest greenhouse gas emitters. All of Scotland's other large thermal power stations such as Longannet have been decommissioned over the last five years, leaving Peterhead as the sole fossil fuel powered energy generator.</p> <p>Much of Scotland's electricity generation has been</p>

		<p>decarbonised over the past decade, with renewable generation in 2020 accounting for more than 97% of Scotland's gross electricity consumption. As Scotland's only major dispatchable and flexible power station, Peterhead Power Station provides critical flexibility to the electricity system, supporting intermittent renewable generation and maintaining security of supply. The announcement to develop CCS at the Peterhead Power Station shows SSE's commitment to decarbonise a large emitting, yet critical asset within Scotland's energy demand. The investment decisions at Keadby and Peterhead demonstrate SSE's ambition to be a provider of flexible thermal energy in a net zero world.</p>
Operations	Yes	<p>To deliver its strategy, SSE has had to implement initiatives into its operations in response to climate-related policy as well as the physical impacts of climate change.</p> <p>Examples of a substantial decision made that has been influenced by climate related policy opportunities in SSE's operations:</p> <p>In the long-term, as part of the UK Govt's net zero target, it is understood that SF6, a potent GHG, needs to be removed or replaced as far as possible by 2050. In the medium-term, Ofgem (the government regulator) has now included setting a science-based target (SBT) as a minimum requirement within the RIIO-T2 business plan guidance. This SBT covers SSEN Transmission's significant SF6 emissions.</p> <p>In the electricity industry, SF6 is widely used in substations, power transformers, wind turbines, circuit breakers and switchgear due to its excellent insulating properties. This policy impacts the operations of SSE's electricity networks businesses in the short and medium-term. SSEN must address the issue of SF6 as part of their respective science-based targets in their price controls (RIIO-T2 for Transmission and RIIO-ED2 for Distribution). SSEN Distribution maintain a strategy for SF6 switchgear to minimise leakage, involving: establishing a working group to address SF6 leakage; improvements utilising a more proactive approach to the SF6 switchgear repairs process; and changes to internal systems to target leaking SF6 assets. SSEN Transmission is taking part in an innovative trial for SF6 alternative gases for substations at a number of its sites, by installing GE's gas-insulated switchgear and busbars utilising g3 gas in place of SF6. As part of the New</p>

		Deer project in Aberdeenshire, SSEN Transmission worked with the GE and Amey consortium to energise the first g3 gas-insulated substation on its network, with the world's largest installation to date of g3 SF6 free gas. Also, the new Glen Kyllachy substation near Tomatin in the Scottish Highlands is home to the first SF6-free Siemens Clean Air Power Voltage Transformers on the GB Transmission network. Demonstrating these technologies, will reduce the environment impact of its network and demonstrate a viable alternative.
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### C3.4

#### (C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets Liabilities	<p>Climate-related risks and opportunities surrounding decarbonisation and the transition to a low-carbon economy are factored into all aspects of SSE's financial planning in the short, medium and long-term.</p> <p>For example in terms of SSE's revenues:</p> <p>SSE has a resilient and highly complementary business model built on a mix of market-based and economically regulated businesses, focused on supporting the delivery of net zero. The UK and Irish legislative and policy support for net zero means SSE's businesses are well placed to realise opportunities associated with the transition. Over recent years SSE has deliberately designed its business model to place renewables and electricity networks at the core – businesses which are key to enabling a net zero economy and have significant growth potential. While these businesses accounted for 22% of SSE's total revenue (adjusted) in 2020/21 they contribute 79% of SSE's operating profit. SSE believes that, because of high 'pass through' costs in the electricity sector, operating profit is a better indicator of economic activity than revenue.</p> <p>For example, in terms of SSE's direct and indirect costs:</p> <p>Severe adverse weather that causes damage or interrupts energy supply or generation is a climate-related risk for SSE that is factored into SSE's financial planning. For example, SSEN's distribution business' operations can be impacted by severe weather events which cause damage to infrastructure and interruption to electricity supply for its customers. The estimated financial impact of severe weather to the</p>

	<p>networks business is the estimated cost of faults and loss of incentive income over the next 10 years which may result in a potential reduction of earnings of up to £145m cumulatively.</p> <p>The opportunity of low carbon electricity system influences the development and expansion of SSE's off- and on-shore wind pipeline to support a low-carbon electricity system as well as Investment in transmission infrastructure in the north of Scotland to support the delivery of an accelerated low-carbon electricity system. This presents opportunities for SSE to raise funds using low carbon or sustainable access to capital.</p> <p>For example, in terms of SSE's capital expenditures:</p> <p>In June 2020 SSE announced a new five year programme of investment in core strategic infrastructure that will support the ongoing transition to net-zero emissions; contribute to wider economic recovery; and help achieve SSE's ambitious 2030 Goals on renewable energy and the wider electrification of the economy. This investment programme is currently expected to require total investment by SSE of £7.5bn in the period to March 2025, almost 90% of which will be in SSE's low-carbon electricity core consisting of electricity transmission, electricity distribution and renewable electricity generation.</p> <p>In 202/21, SSE's investment and capital expenditure totalled £912m, 86% of which was in renewables and electricity networks.</p> <p>For example, in terms of SSE's capital allocation:</p> <p>In March 2021, SSEN Transmission issued a new £500m Green Bond, the proceeds of which were directly allocated to fund part of SSEN Transmission's programme of critical investments in transmission network infrastructure that will help accommodate the significant increase in renewables. This was SSE's fourth green bond in five years, reaffirming its position as the largest issuer of Green Bonds in the FTSE 100 and bringing the total outstanding to £2bn. These Green Bonds help SSEN Transmission and the SSE Group as a whole take a leading role in supporting the transition to net zero through continued investment in renewable energy generation and the infrastructure needed to transport it to homes and businesses across the country.</p> <p>For example, in terms of SSE's acquisitions and divestments:</p> <p>SSE's strategy is to support the transition to a low carbon electricity system. Core to this is focusing on its low-carbon businesses of renewable generation and regulated energy networks. Climate-related</p>
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		<p>risks and opportunities surrounding decarbonisation are factored into SSE's acquisitions and divestments.</p> <p>SSE's model is to partner with an increasing number of significant Joint Ventures (operated and non-operated) rather than to acquire businesses. The importance of joint ventures and partner management continues to increase in SSE as its Business Units pursue their strategic and business objectives in association with other companies and organisations, both in the UK and Ireland and in some cases other carefully selected international markets.</p> <p>In June 2020, SSE set out plans to secure proceeds of at least £2bn from disposals of assets and businesses considered to be 'non-core' on the basis they are less aligned with the transition to net zero emissions or because SSE is not the principal operator. For example, in October, SSE entered into an agreement to sell its 50% share in energy-from-waste ventures Multifuel Energy Limited (MEL1) and Multifuel Energy 2 Limited (MEL2) to European Diversified Infrastructure Fund III, an infrastructure fund managed by First Sentier Investors, for a total cash consideration of £995m. An another example occurred in December 2020, where the Company agreed to sell all of its interests in its portfolio of gas exploration and production (E&amp;P) assets to Viaro Energy via its subsidiary RockRose Energy Limited for a total consideration of £120m. This transaction, subject to regulatory approval and partner consent, is expected to be complete by the end of the 2021 calendar year.</p> <p>For example, in terms of SSE's assets:</p> <p>The 'Balanced Net Zero Pathway' scenario in the Climate Change Committee's 6th Carbon Budget, recommends phasing out of unabated gas generation by 2035, subject to security of supply considerations. SSE's existing 5.3GW fleet of installed gas- and oil-fired generation will be nearing the end of its expected life by the end of the 2020s. However, 2.1GW of Combined Cycle Gas Turbine (CCGT) capacity will still be in operation in the 2030s.</p> <p>SSE has identified the potential risk of seeing more aggressive climate change policy being introduced, which could bring forward the closure of unabated gas generation from 2030. This has influenced SSE's financial planning as in April 2021, a new partnership with Equinor was announced to jointly develop two first-of-a-kind power stations in North Lincolnshire: Keadby CCS and Keadby Hydrogen, which could be the world's first 100% hydrogen-fuelled power station. In May, SSE and Equinor announced a similar partnership to develop a further cutting-edge CCS power station at Peterhead in Aberdeenshire. These would</p>
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		be key projects in the Humber and northeast Scotland clusters, and are well located to underpin emerging transport and storage infrastructure, which in can in turn support broader industrial decarbonisation.
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### C3.4a

**(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

## C4. Targets and performance

### C4.1

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Both absolute and intensity targets

### C4.1a

**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

**Target reference number**

Abs 1

**Year target was set**

2020

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Scope 1+2 (location-based)

**Base year**

2018

**Covered emissions in base year (metric tons CO<sub>2</sub>e)**

11,062,493

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

**Target year**

2030

**Targeted reduction from base year (%)**

40

**Covered emissions in target year (metric tons CO<sub>2</sub>e) [auto-calculated]**

6,637,495.8

**Covered emissions in reporting year (metric tons CO<sub>2</sub>e)**

7,633,849

**% of target achieved [auto-calculated]**

77.4835292551

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, and this target has been approved by the Science-Based Targets initiative

**Target ambition**

Well-below 2°C aligned

**Please explain (including target coverage)**

This target covers: Direct GHG emissions (scope 1): GHG emissions from the consumption of oil, gas and biomass in SSE's thermal generation plant (including Power Purchase Agreements) to generate electricity, gas consumption in buildings, network and company vehicle fuel (petrol, diesel or gas oil) consumed and fugitive emissions (use of sulphur hexafluoride (SF<sub>6</sub>) in the transmission and distribution networks for conductivity (used in the switchgears and substations)); and Indirect GHG emissions (scope 2): GHG emissions from electricity consumption in buildings, networks and thermal power stations as well as distribution losses (this is the electricity lost in SSE's distribution network in the north of Scotland (SHEPD) and southern central England (SEPD) transporting electricity to the customer).

Performance against the target: SSE's target is to reduce Scope 1 and 2 GHG emissions by 40% by 2030, based on 2018 levels. In comparison to the baseline year of 2017/18, SSE's Scope 1 and 2 GHG emissions fell by 31%. The main contributing factors to this decrease included:

- Emissions from electricity generation activities: emissions fell as a direct result of the decarbonisation of the fuels used to generate electricity. The main cause for the emissions decrease was the closure of Fiddler's Ferry. With the closure of its last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal.
- Emissions from SSE's electricity and gas consumption: SSE's buildings and operations used less gas and electricity in comparison to the base year as a result of continued investments in energy efficiency measures combined with significantly lower emissions from electricity consumption as COVID-19 restrictions saw temporary closures of SSE's non-operational buildings.



It is important to note that SSE does not expect the achievement of this target in 2030 to have followed a linear year-to-year reduction path. Market driven and weather-related fluctuations may mean there are some years in which emissions may increase. However, SSE fully expects to achieve its 2030 target and the long-term trend continues to be significant reduction in the absolute emissions from the electricity it generates.

This target covers SSE's scope 1 and 2 emissions and is a science-based target, validated by the SBTi.

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**Target reference number**

Abs 2

**Year target was set**

2020

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Scope 3: Use of sold products

**Base year**

2018

**Covered emissions in base year (metric tons CO<sub>2</sub>e)**

2,538,729

**Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

62

**Target year**

2034

**Targeted reduction from base year (%)**

50

**Covered emissions in target year (metric tons CO<sub>2</sub>e) [auto-calculated]**

1,269,364.5

**Covered emissions in reporting year (metric tons CO<sub>2</sub>e)**

2,350,011

**% of target achieved [auto-calculated]**

14.8671244548

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, and this target has been approved by the Science-Based Targets initiative

**Target ambition**

Well-below 2°C aligned

**Please explain (including target coverage)**

This target covers: The indirect emissions (scope 3) use of sold products which relates to the 'gas sold to customers by SSE'. This relates to the amount of gas sold to customers (industrial and commercial business customers in the UK and Ireland and domestic customers in Northern Ireland and the Republic of Ireland) that is then used by our customers for heating and power purposes. This figure is calculated by taking the amount of gas sold (millions therms) converting it to kWh and then applying a carbon dioxide conversion factor provided by BEIS reporting guidelines.

At present, SSE's scope 3 emissions are 40% or more of total scope 1, 2, and 3 emissions, and therefore a scope 3 target is required. SSE is involved in the sale and distribution of natural gas and so a scope 3 target for the use of sold products irrespective of the share of these emissions compared to the total scope 1, 2, and 3 emissions is applicable.

SSE's gas sold target covers all the emissions in this category. The target also aligns to the 'well below 2 degree' scenario and so is ambitious in its approach.

Performance against the target: SSE's target is to reduce absolute GHG emissions from use of products sold by 50% by 2034 from a 2018 base year. This means that SSE's use of products sold is forecast to be around 1.3 million tonnes CO<sub>2</sub>e by 2030.

SSE's Scope 3 GHG emissions decreased by nearly 7% between 2017/18 and 2020/21.

It is important to note that SSE does not expect the achievement of this target in 2034 to have followed a linear year-to-year reduction path. Market driven and weather-related fluctuations may mean there are some years in which emissions may increase. However, SSE fully expects to achieve its 2034 target and the long-term trend continues to be to move to lower carbon sources of heat during this time period.

This target covers SSE's scope 3 emissions and is a science-based target, validated by the SBTi.

SSE has a suite of targets which together meet the SBTi criteria.

## **C4.1b**

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

**Target reference number**

Int 1

**Year target was set**

2018

**Target coverage**

Company-wide

**Scope(s) (or Scope 3 category)**

Scope 1

**Intensity metric**

Metric tons CO<sub>2</sub>e per megawatt hour (MWh)

**Base year**

2018

**Intensity figure in base year (metric tons CO<sub>2</sub>e per unit of activity)**

305

**% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

99

**Target year**

2030

**Targeted reduction from base year (%)**

60

**Intensity figure in target year (metric tons CO<sub>2</sub>e per unit of activity) [auto-calculated]**

122

**% change anticipated in absolute Scope 1+2 emissions**

60

**% change anticipated in absolute Scope 3 emissions**

0

**Intensity figure in reporting year (metric tons CO<sub>2</sub>e per unit of activity)**

255

**% of target achieved [auto-calculated]**

27.3224043716

**Target status in reporting year**

Underway

**Is this a science-based target?**

Yes, and this target has been approved by the Science Based Targets initiative

## Target ambition

Well-below 2°C aligned

### Please explain (including target coverage)

This target covers SSE's carbon emissions that arise from the consumption of coal, oil, gas and biomass in SSE's thermal generation plant (including Power Purchase Agreements). The intensity ratio covers the total output from SSE's thermal (oil, gas, coal, multifuel) and renewable (wind, both onshore and offshore, hydro including pumped storage and biomass) electricity generation portfolio.

Performance against the target: SSE's target is to reduce the carbon intensity of electricity generated (gCO<sub>2</sub>e/kWh) by 60% by 2030, compared to 2018 levels. This means that SSE's electricity generation carbon intensity is now forecast to be around 120gCO<sub>2</sub>e/kWh by 2030.

It is important to note that SSE does not expect the achievement of this target in 2030 to have followed a linear year-to-year reduction path. Market driven and weather-related fluctuations may mean there are some years in which emissions may increase. However, SSE fully expects to achieve its 2030 target and the long-term trend continues to be significant reduction in the carbon intensity of the electricity it generates.

In 2020/21, the carbon intensity of SSE's generated electricity decreased to 255gCO<sub>2</sub>e/kWh in comparison to 288gCO<sub>2</sub>e/kWh in 2019/20. However, overall SSE's carbon intensity was 16% lower in 2020/21 than the base year (2017/18).

Scope 1 and 2 emissions fell 14% from 8.2 million tonnes CO<sub>2</sub>e to 7.1 million tonnes CO<sub>2</sub>e. The largest contributor to this emissions decrease was the closure of Fiddler's Ferry in March 2020. With the closure of SSE's last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal.

With renewables and natural gas (which is far less carbon intensive than coal) making up a far larger share of SSE's generation mix in 2020/21, the emissions per megawatt hour generated has decreased significantly. The carbon intensity of SSE's generated reduced by 11% to 255 gCO<sub>2</sub>e/kWh in comparison to 288 gCO<sub>2</sub>e/kWh in the previous year and was the lowest since SSE's records began.

This target covers SSE's scope 1 emissions and is a science-based target, validated by the SBTi.

SSE has a suite of targets which together meet the SBTi criteria.

## C4.2

### (C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

Net-zero target(s)  
Other climate-related target(s)

## C4.2a

**(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.**

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**Target reference number**

Low 1

**Year target was set**

2018

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: energy carrier**

Electricity

**Target type: activity**

Consumption

**Target type: energy source**

Renewable energy source(s) only

**Metric (target numerator if reporting an intensity target)**

Percentage

**Target denominator (intensity targets only)**

**Base year**

2018

**Figure or percentage in base year**

0

**Target year**

2021

**Figure or percentage in target year**

100

**Figure or percentage in reporting year**

46

**% of target achieved [auto-calculated]**

46

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

This target is part of the RE100 initiative.

**Is this target part of an overarching initiative?**

RE100

**Please explain (including target coverage)**

While the Climate Group's RE100 is targeted at non-renewable energy providers, SSE has joined in spirit and, as of 31 March 2021, 46% of the electricity it requires for consumption at its non-operational buildings comes from renewable sources, backed by renewable guarantees of origin (REGO) certificates.

## C4.2b

**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

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**Target reference number**

Oth 1

**Year target was set**

2020

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Engagement with suppliers

Percentage of suppliers with a science-based target

**Target denominator (intensity targets only)**

**Base year**

2018

**Figure or percentage in base year**

0

**Target year**

2024

**Figure or percentage in target year**

50

**Figure or percentage in reporting year**

29

**% of target achieved [auto-calculated]**

58

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

This target covers SSE's scope 3 emissions and is a science-based target, validated by the SBTi.

SSE has a suite of targets which together meet the SBTi criteria.

**Is this target part of an overarching initiative?**

Science Based Targets initiative

**Please explain (including target coverage)**

At present, SSE's scope 3 emissions are 40% or more of total scope 1, 2, and 3 emissions, and therefore a scope 3 target is required.

SSE's engagement target covers the suppliers that are in the top 50% by spend of SSE's total procurement spend. The vast majority of SSE's total supplier spend is in the 'Services' industry (over 70%) and the majority of the top 50% of SSE's procurement spend in any given year is also in the 'Services' industry (over 90%). The 'Services' industry makes up nearly 90% of the total carbon emissions from SSE's supply chain. This target is ambitious as it covers the dominant carbon emitting 'Services' industry suppliers. Therefore, if those suppliers that are in the top 50% of spend have an SBT then those suppliers would cover over 70% of the supplier scope 3 emissions.

This means that the combination of the gas sold target and the supplier engagement target will cover the significant emissions in the scope 3 category.

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**Target reference number**

Oth 2

**Year target was set**

2019

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Low-carbon vehicles

Other, please specify

Number of company owned electric vehicles

**Target denominator (intensity targets only)**

**Base year**

2018

**Figure or percentage in base year**

138

**Target year**

2030

**Figure or percentage in target year**

3,500

**Figure or percentage in reporting year**

458

**% of target achieved [auto-calculated]**

9.5181439619

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

In July 2019, SSE joined The Climate Group's EV100 initiative and committed to electrify its vehicle fleet. In joining the EV100, SSE has committed that by 2030 it will switch 3,500 of its vehicles to electric and install charging points at its sites.

**Is this target part of an overarching initiative?**

EV100

**Please explain (including target coverage)**

In July 2019, SSE joined The Climate Group's EV100 initiative and committed to electrify its vehicle fleet. In joining the EV100, SSE has committed that by 2030 it will switch 3,500 of its vehicles to electric and install charging points at its sites.

By the end of 2020/21, SSE's vehicle fleet had 458 fully electric or hybrid vehicles (434 cars and 24 vans) compared to 290 the year before. SSE has also installed 184 charging points across 20 of its offices and depots with further plans in place for more installations across the SSE estate and home chargers for operational staff when they move to a fully electric van.



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**Target reference number**

Oth 3

**Year target was set**

2019

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Energy productivity

Other, please specify

£/GJ

**Target denominator (intensity targets only)**

**Base year**

2011

**Figure or percentage in base year**

47,149

**Target year**

2030

**Figure or percentage in target year**

94,298

**Figure or percentage in reporting year**

116,790

**% of target achieved [auto-calculated]**

147.7040870432

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

In 2019, SSE joined the Climate Group's initiative to encourage more businesses to improve their energy productivity through their pledge, the EP100.

**Is this target part of an overarching initiative?**

EP100

**Please explain (including target coverage)**

SSE has pledged to double its energy productivity in its offices and depots by 2030. To ensure the success of this pledge, SSE has also set targets for carbon reductions from these sites of 20% by 2030 from a 2018 baseline. Our internal carbon emissions targets are aligned to SSE's overall sustainability strategy and 2030 goals.

The EP100 pledge is on target so far with SSE's offices and depots' annual electricity consumption in 2020/21 being 30,427MWh and gas consumption 3,560 MWh.

SSE seeks to cut carbon from its offices and depots through a combination of investment in physical measures and building user engagement through its 'Better Off' behaviour change campaign. SSE's runs its 'Better Off' behavioural change programme to engage employees on energy efficiency activities. To complement these activities energy efficiency and building renewable generation project investments have totalled £12.8m since 2010/11. During 2021/22, investments included £150,000 in energy efficient LED lighting at several depot sites. At the end of year two three of the programme to deliver an internal 2030 target of a 20% reduction in carbon emissions, a total investment of £900,000 has been made across a diverse range of projects, including solar PV generation, LED lighting, free cooling systems, chillers and air conditioning systems. As part of SSE's new agile working arrangements, SSE has also invested significantly in its property portfolio, consolidating multiple non-operational sites into modern buildings which use energy more efficiently.

## C4.2c

### (C4.2c) Provide details of your net-zero target(s).

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#### Target reference number

#### Target coverage

Company-wide

#### Absolute/intensity emission target(s) linked to this net-zero target

Abs1

Abs2

Int1

#### Target year for achieving net zero

2050

#### Is this a science-based target?

Yes, and we have committed to seek validation of this target by the Science Based Targets initiative in the next 2 years

#### Please explain (including target coverage)

In October 2020, SSE joined the 'Race to Zero' campaign by committing to reaching net-zero emissions by 2050. This pledge, agreed by the SSE plc Board, will see the

business reduce its direct and indirect, or its scope 1, 2 and 3 greenhouse gas emissions, to net zero by 2050 at the latest.

In the short to medium term, SSE has already set four interim science-based targets that are aligned with a well-below 2oC scenario. These targets set the company's ambition to significantly reduce emissions into the 2030s. SSE are aware that these current targets, whilst Paris-aligned, are set on a 'well-below 2 degree' pathway and not the required 1.5 degree pathway (i.e. a net zero pathway). As such, SSE will consider increasing the ambition of our current science-based targets and will aim to set 1.5 degree aligned targets within the next two years.

The SBTi are currently developing the first global standard for net zero businesses, which is expected in November 2021. In the longer term, SSE are monitoring the requirements for an SBTi approved net zero science-based target and will review the mechanisms put in place to neutralise the emissions that are currently unfeasible to be eliminated.

## C4.3

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

### C4.3a

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO<sub>2</sub>e savings.**

	Number of initiatives	Total estimated annual CO <sub>2</sub> e savings in metric tonnes CO <sub>2</sub> e (only for rows marked *)
Under investigation	9	2,270,507
To be implemented*	0	0
Implementation commenced*	7	1,012,847
Implemented*	1	36
Not to be implemented	0	0

### C4.3b

**(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.**

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#### Initiative category & Initiative type

Energy efficiency in buildings

Building Energy Management Systems (BEMS)

**Estimated annual CO<sub>2</sub>e savings (metric tonnes CO<sub>2</sub>e)**

36

**Scope(s)**

- Scope 1
- Scope 2 (location-based)
- Scope 2 (market-based)
- Scope 3

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

20,000

**Investment required (unit currency – as specified in C0.4)**

150,000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

21-30 years

**Comment**

SSE seeks to cut carbon from its offices and depots through a combination of investment in physical measures and building user engagement through its 'Better Off' behaviour change campaign.

SSE's runs its 'Better Off' behavioural change programme to engage employees on energy efficiency activities. To complement these activities energy efficiency and building renewable generation project investments have totalled £12.8m since 2010/11.

SSE has an internal 2030 target of a 20% reduction in carbon emissions based on 2018 levels in relation to its non-operational buildings. This is year 3 of the investment programme and a total investment of £900,000 has been made across a diverse range of projects including solar PV generation, LED lighting, free cooling systems, chillers and air conditioning systems. As part of SSE's new agile working arrangements, SSE has also invested significantly in its property portfolio, consolidating multiple non-operational sites into modern buildings which use energy more efficiently.

During 2020/21, investments included £150,000 in energy efficient LED lighting at several depot sites.

**C4.3c**

**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Compliance with regulatory requirements/standards	<p>Examples include, Contracts for Difference, meeting EU ETS allocations and Electricity Market Reform requirements.</p> <p>For example, the result of 2019 UK Contracts for Difference auction marks an important milestone in the competitiveness of renewable energy compared to fossil fuel generation. The strike prices of £39.65 per MWh and £41.61 per MWh for Dogger Bank offshore wind farm and Seagreen offshore wind farm represents a 30% reduction in energy costs from the previous auction round in 2017 and a 65% reduction from the 2015 auction. This makes offshore wind energy amongst the cheapest forms of electricity generation available.</p> <p>As a generator of electricity, SSE is subject to national and international policies that impact the price of carbon, which means the price of carbon is an explicit consideration in investment decisions. SSE's generation activities in Ireland are subject to the EU Emissions Trading System (ETS). SSE's generation activities in the UK operated under the EU Emissions Trading Scheme (EU ETS) until 1 January 2021, when a new UK Emissions Trading Scheme (UK ETS) carbon pricing system came into operation to replace the EU ETS in the UK, following Brexit. The UK ETS is a cap and trade emissions scheme, similar in design and aims of the EU ETS. SSE welcomed the establishing a UK Emissions Trading System (ETS) and has called upon the UK and the European Union to agree a link between the UK ETS and EU ETS as soon as possible in order to benefit from a wide ranging, liquid and mature carbon market.</p>
Dedicated budget for energy efficiency	<p>We have an annual budget for energy efficiency investments in larger projects within our wider property budget. We also have a separate budget for smaller scale energy efficiency improvement works which is used following onsite energy audits.</p> <p>SSE acts to reduce energy use and thereby cut carbon from its assets through a combination of physical improvements and building user engagement. Between 2019/20 and 2020/21, the energy SSE purchased for use in its assets (offices, depots, power stations and data centres) fell by almost 30%, from 334GWh to 234GWh. This was largely because of a reduction in electricity used to operate SSE's thermal generation plant, because of the closure of SSE's last coal-fired power plant. In 2020/21, 46% of the electricity that SSE purchased for its assets was from renewable sources, up from 28% the previous year.</p> <p>For example, SSE seeks to cut carbon from its offices and depots through a combination of investment in physical measures and building user engagement through its 'Better Off' behaviour change</p>

	<p>campaign. SSE's runs its 'Better Off' behavioural change programme to engage employees on energy efficiency activities. To complement these activities energy efficiency and building renewable generation project investments have totalled £12.65m since 2011/12. During 2021/22, investments included £150,000 in energy efficient LED lighting at several depot sites</p>
<p>Dedicated budget for low-carbon product R&amp;D</p>	<p>SSE's portfolio of Partnership Funding projects straddles multiple years and currently represent £57.4m worth of innovation funds across all projects and partners, providing a significant contribution to SSE's future development as well as society's progress towards a net zero future. Funding has been secured from BEIS, Innovate UK and the Sustainable Energy Authority Ireland across a variety of high-profile competitive funding calls.</p> <p>For example, in March 2019 SSEN's Project Local Energy Oxfordshire (LEO) received £13.8m of funding from the UK Government's Industrial Strategy Challenge fund. LEO will explore how the growth in local renewables, electric vehicles (EVs, battery storage, vehicle-to-grid (V2G) technology and demand side response can be supported by a local, flexible and responsive electricity grid. Project LEO will run concurrently with Project TRANSITION, funded by £11m Ofgem grant, which will replicate and trial one of the elements of one of the proposed DSO models. Additionally, SSE also has 42 FTE's working in research and development roles.</p>
<p>Employee engagement</p>	<p>SSE has ongoing, two-way channels for engaging with its employees, including:</p> <p>Structured career conversations; annual all-employee engagement surveys; internal social media platforms; employee forums; and structured engagement with trade unions. Over the year calls and townhall events held by the Chief Executive and members of the Group Executive Committee (GEC) were held for SSE's senior leadership team to provide updates on key financial milestones and strategic matters which included SSE's 2030 Goals which address climate change at their core (by cutting carbon emissions, trebling renewable energy output and helping to accommodate electric vehicles).</p> <p>In addition, SSE has numerous local employee engagement initiatives throughout the year focusing on sustainability and the environment, highlighting issues such as energy efficiency, business and commuter travel. Examples of this include our energy reduction initiatives, which involves SSE's Better Off campaign.</p>

Internal incentives/recognition programs	The Generation Innovation initiative is led by SSE Thermal Engineering and Innovation and has been designed to promote innovative thinking and engagement whilst providing a channel for ideas to be supported and developed. Some of these ideas are already generating a return, with over £350,000 achieved in 2020 and forecasting £300,000 annually going forward. This includes the hot standby capability at Keadby 2.
Partnering with governments on technology development	<p>SSE works with governments and other partners to develop low carbon technologies.</p> <p>For example: SSEN's Project Local Energy Oxfordshire (LEO) and Project Transition are exploring partnerships with Local Authorities. LEO's Smart and Fair Neighbourhood programme. Working with five different communities in Oxfordshire, LEO is co-creating locally relevant trials of different flexibility services. Project LEO is also concerned to ensure fairness for all electricity market participants.</p> <p>In addition, throughout 2020/21, SSE worked with governments, regulators and industry partners to create the right policy framework to accelerate the development of Carbon Capture, Use and Storage (CCUS) and hydrogen which is considered vital in the transition to net zero. SSE Thermal is part of a consortium which aims to transform the Humber region into the first "zero-carbon cluster" by 2040. SSE Thermal has announced an agreement with Equinor to co-develop low-carbon thermal options at its Keadby site, in North Lincolnshire, and at its Peterhead site, in Aberdeenshire.</p>

## C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

## C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

### Level of aggregation

Company-wide

### Description of product/Group of products

Support of low carbon energy infrastructure: In total, including that connected at a distribution level, SSE has 6.7GW of renewable generation capacity connected to its electricity transmission network. This reduces third party scope 2 emissions as it

supports the decarbonisation of electricity generation and the carbon emissions associated with grid electricity mix.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify  
Scope 2 GHG Protocol

**% revenue from low carbon product(s) in the reporting year**

18

**Comment**

The emissions saved by third parties are related to the scope 2 emissions. The amount of electricity consumed by a customer will be reduced as a result of a reduction in the carbon emission conversion factor which will be lowered because of a higher proportion of renewable electricity generation in the grid.

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**Level of aggregation**

Company-wide

**Description of product/Group of products**

Move to low carbon generation: Core to SSE's business strategy, is growth in the development of additional renewable energy generation to support the low-carbon transition. SSE increased its renewable generation capacity from 3.7GW to 4GW. Renewable energy accounted for almost 38% of SSE's total generation output in 2019/20. SSE has a renewable generation capacity of 3.9GW. Renewables generated 10,242GWh of electricity and accounted for almost 35% of SSE's total generation output in 2020/21. This was a small decrease from 11,442GWh in 2019/20, mainly due to unfavourable weather conditions across both wind and hydro.

For all energy customers the increasing proportion of renewable energy in SSE's generation mix plays a role in helping its customers reduce scope 2 emissions as the carbon emissions associated with the grid electricity mix is lowered.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product and avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify  
Renewable electricity capacity and output (MW and MWh)

**% revenue from low carbon product(s) in the reporting year**

4



**Comment**

The emissions saved by third parties are related to the scope 2 emissions. The amount of electricity consumed by a customer will be reduced as a result of a reduction in the carbon emission conversion factor which will be lowered because of a higher proportion of renewable electricity generation in the grid.

**Level of aggregation**

Company-wide

**Description of product/Group of products**

SSE's Business Energy, Airtricity and Enterprise businesses provide energy and energy-related services to customers across the UK and Ireland.

As well as providing tailored energy efficiency advice to its customers, SSE Business Energy offers a 100% renewable energy tariff – SSE Green . In 2020/21 SSE Business Energy increased the number of customer premises on its green electricity tariff, with 62,742 meters supplied with 100% renewable electricity in March 2021, compared to 49,080 in March 2020.

SSE Enterprise Provides integrated energy-related services to industrial and commercial customers, with a focus on distributed energy it has over 10,500 heat network customer accounts. For example, SSE Enterprise signed a joint development agreement with Goldsmiths, University of London to design and deliver low-carbon campus infrastructure in pursuit of the university's ambitious target to become completely carbon neutral by 2025. The project will combine the 11 major gas consuming sites on campus onto a unified campus wide heat network that will supply over 80% of the campus wide heat load. This is estimated to save the institution an average of 1,375 tCO2 per year - the equivalent annual energy use of 144 homes.

**Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product and avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Other, please specify  
 Scope 2 GHG protocol

**% revenue from low carbon product(s) in the reporting year**

49

**Comment**

The emissions saved by third parties are related to the scope 2 emissions (indirect emissions: electricity consumption). For third party contracts that sign up to renewable energy contracts the renewable energy is zero carbon emissions, and this will reduce the scope 2 carbon emissions associated with electricity consumption for that customer. The terms of the contract that is entered into by customers and the volumes of electricity used will affect the carbon saved by customers.

## C-EU4.6

### (C-EU4.6) Describe your organization's efforts to reduce methane emissions from your activities.

SSE has identified that carbon dioxide emissions are its material greenhouse gas. Therefore, SSE prioritises programmes to reduce carbon dioxide emissions from its generation activities and other indirect sources of carbon dioxide emissions. Methane is highlighted as an issue however by addressing the issue of carbon dioxide emissions in its thermal generation portfolio SSE also addresses the emission of methane emissions at its thermal assets (these assets include gas, and oil-fired power stations).

For all GHG emissions SSE reviews the risks of each are reviewed annually. Overwhelmingly carbon dioxide emissions are the most material greenhouse gas priority. SSE remains vigilant regarding the emergence of higher priority risks relating to greenhouse gases.

## C5. Emissions methodology

### C5.1

#### (C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

##### Scope 1

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##### Base year start

April 1, 2017

##### Base year end

March 31, 2018

##### Base year emissions (metric tons CO<sub>2</sub>e)

10,154,749

##### Comment

The direct GHG emissions (scope 1) cover:

- Generation power stations – oil, gas and biomass consumed in SSE's thermal power generation plant (including Power Purchase Agreements) to generate electricity.
- Gas consumption in buildings – this is the gas consumed by SSE's non-operational buildings (offices, depots, call centres) to maintain building temperatures.
- Network fuel consumed – this includes diesel and gas oil used by fixed generators on islands and mobile generators to generate electricity to maintain the distribution network.
- Company vehicles – this is the petrol or diesel used by SSE's operational vehicles for business activities (operational vehicles are those vehicles that are owned by SSE and used by employees for SSE business activities).
- Fugitive emissions – use of sulphur hexafluoride (SF<sub>6</sub>) in the transmission and distribution networks for conductivity (used in the switchgears and substations).

## Scope 2 (location-based)

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### Base year start

April 1, 2017

### Base year end

March 31, 2018

### Base year emissions (metric tons CO<sub>2</sub>e)

907,745

### Comment

The location-based scope 2 figure is calculated using BEIS conversion factors.

The indirect emissions (scope 2) cover:

- Electricity consumption in buildings – this is the electricity consumed by SSE's non-operational buildings (customer call centres, offices). This data excludes leased buildings (which represent less than 1% of employees).
- Electricity consumption in networks – this is the electricity used by SSE's operational buildings (e.g. substations) in the transmission and distribution network.
- Electricity consumption in thermal power stations – this is the electricity used by SSE's GB thermal power stations for the generation of electricity. This data excludes power stations below 100MW which do not have metering and thermal power stations in Ireland.
- Distribution losses – this is the electricity lost in SSE's distribution network in the north of Scotland (SHEPD) and southern central England (SEPD) transporting electricity to the customer.

## Scope 2 (market-based)

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### Base year start

April 1, 2017

### Base year end

March 31, 2018

### Base year emissions (metric tons CO<sub>2</sub>e)

907,745

### Comment

The market-based scope 2 figure is calculated using BEIS residual conversion factors and this is the same as the location based conversion factors.

The indirect emissions (scope 2) cover:

- Electricity consumption in buildings – this is the electricity consumed by SSE's non-operational buildings (customer call centres, offices). This data excludes leased buildings (which represent less than 1% of employees).
- Electricity consumption in networks – this is the electricity used by SSE's operational buildings (e.g. substations) in the transmission and distribution network.

- Electricity consumption in thermal power stations – this is the electricity used by SSE’s GB thermal power stations for the generation of electricity. This data excludes power stations below 100MW which do not have metering and thermal power stations in Ireland.
- Distribution losses – this is the electricity lost in SSE’s distribution network in the north of Scotland (SHEPD) and southern central England (SEPD) transporting electricity to the customer.

## C5.2

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

Defra Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance, 2019

European Union Emission Trading System (EU ETS): The Monitoring and Reporting Regulation (MMR) – General guidance for installations

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

## C6. Emissions data

### C6.1

**(C6.1) What were your organization’s gross global Scope 1 emissions in metric tons CO<sub>2</sub>e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO<sub>2</sub>e)**

7,098,037

**Comment**

### C6.2

**(C6.2) Describe your organization’s approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We are reporting a Scope 2, market-based figure

**Comment**

The indirect emissions (scope 2) cover:

- Electricity consumption in buildings – this is the electricity consumed by SSE’s non-operational buildings (customer call centres, offices). This data excludes leased buildings (which represent less than 1% of employees).
- Electricity consumption in networks – this is the electricity used by SSE’s operational buildings (e.g. substations) in the transmission and distribution network.
- Electricity consumption in thermal power stations – this is the electricity used by SSE’s GB thermal power stations for the generation of electricity. This data excludes power stations below 100MW which do not have metering and thermal power stations in Ireland.
- Distribution losses – this is the electricity lost in SSE’s distribution network in the north of Scotland (SHEPD) and southern central England (SEPD) transporting electricity to the customer.

## C6.3

**(C6.3) What were your organization’s gross global Scope 2 emissions in metric tons CO<sub>2</sub>e?**

**Reporting year**

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**Scope 2, location-based**

535,812

**Scope 2, market-based (if applicable)**

535,812

**Comment**

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

### C6.4a

**(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

---

**Source**

Joint ventures

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

Emissions are not relevant

**Explain why this source is excluded**

This report excludes any joint ventures in which SSE does not have operational control. Below is an example of the largest business unit excluded from the inventory. For a full list of SSE’s subsidiary undertakings, partnerships, joint ventures and associates, please refer to pages 262 to 267 of SSE’s Annual Report 2021. Scotia Gas Networks (SGN): SGN is a Joint Venture and SSE does not have operational control over these operations. Covering Scotland and the south of England, SGN is the gas network company distributing natural and green gas to 5.9 million homes and businesses through a network of 74,000km of mains and services. SSE has 33% shareholding. However, in light of market developments, and in consideration of the RIIO-T2 price control referral to the CMA, in March 2021 SSE stated its intention to divest all of its equity stake in SGN. It now expects to commence a formal sale process in mid-summer 2021, with the intention of having an agreed sale by the end of the calendar year. SGN reports its greenhouse gas emissions in its environmental reports annually. The percentage of total emissions contained within SGN’s annual environment report represents less than 1% of SSE’s total carbon emissions.

SSE E&P UK Limited is excluded as although this company is wholly owned by SSE, it does not hold a controlling stake in any assets. SSE announced its intention to sell this business in May 2019. SSE agreed the sale of all of its interests in its portfolio of gas exploration and production in December 2020, and at 31 March 2021 these assets were accounted for as held for sale in SSE’s financial statements (see SSE’s Annual Report 2021, Pages 262 to 266).

In January 2020, the SSE Group completed the sale of SSE Energy Services to OVO. This business, which had been held for sale for the duration of financial year 2019/20, supplied gas and electricity to domestic customers in GB. SSE Energy Services has been excluded from SSE Group’s previous reporting years back to baseline.

**C6.5**

**(C6.5) Account for your organization’s gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

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**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

8,000,000

**Emissions calculation methodology**

SSE has used the CDP supply chain questionnaire and methodology to calculate the carbon emissions associated with SSE's supply chain. To calculate SSE's supply chain emissions data was gathered from: those supply chain companies that feature in the top 100 of suppliers by spend (which makes up around 60% of SSE's total procurement spend) and are companies that are high carbon emitters (defined by the CDP carbon intensity industry averages: manufacturing, services and infrastructure). The carbon emissions for the supply chain are calculated using a combination of allocated and intensity emission numbers as defined by CDP supply chain methodology. These emissions are reported in SSE's scope 3 emission inventory and cover the 'Products and Services' and 'Capital Goods' categories.

### **Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

#### **Please explain**

SSE is working with its suppliers and CDP to understand how it can get a more accurate picture of its supplier carbon emissions in the future. SSE has set a verified SBT target to engage with 50% of suppliers by spend to set an SBT by 2024.

### **Capital goods**

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#### **Evaluation status**

Not relevant, explanation provided

#### **Please explain**

Capital goods are reported as part of the emissions reported in 'purchased goods and services' above. SSE has no other emissions associated with this category not already reported in the above category or in other categories.

### **Fuel-and-energy-related activities (not included in Scope 1 or 2)**

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#### **Evaluation status**

Relevant, calculated

#### **Metric tonnes CO<sub>2</sub>e**

926,032

#### **Emissions calculation methodology**

Transmission and Distribution losses for electricity use in non-operational buildings: This is the transmission and distribution losses (the energy loss that occurs getting the electricity to SSE non-operational buildings from the power plant) associated with the electricity consumed by SSE's operational (power stations) and non-operational buildings (offices, depots, call centres). This figure is calculated by taking the scope 2 electricity consumption figure for non-operational buildings and applying a carbon dioxide conversion factor provided by BEIS reporting guidelines. As defined by DEFRA's reporting guidelines the transmission and distribution losses are included in this section instead of scope 2.

Transmission and Distribution losses for electricity use in substations: This is the transmission and distribution losses (the energy loss that occurs getting the electricity to SHE Transmission, SEPD and SHEPD substations from the power plant) associated with the electricity consumed in SHE Transmission, SEPD and SHEPD substations. This figure is calculated by taking the scope 2 substation electricity consumption and applying a carbon dioxide conversion factor provided by BEIS reporting guidelines. As defined by DEFRA's reporting guidelines the transmission and distribution losses are included in this section instead of scope 2.

Well to tank emissions: Fuel purchased during the financial year (coal, oil, gas and biomass) is measured through meters and weight tickets and converted into kWh using standard industry recognised conversion factors. Power Purchase Agreements are reported as Scope 1 emissions as the energy generated from these facilities is 100% used by SSE. PwC assures this data.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

PwC assure this data. The assurance statement can be found in the answer to C10.1c.

**Upstream transportation and distribution**

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**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

5,777

**Emissions calculation methodology**

There are two Joint Ventures that are operational and use vessels to maintain offshore windfarms in the UK and Ireland. Fuel data is collected from the third party that owns and operates the vessels. Scottish Fuels supply all the fuel data for Beatrice Offshore Windfarm Limited (BOWL) and ASCO provide fuel data for Greater Gabbard Offshore Windfarm Limited (GGOWL). This data is sent by each third party and collected by BOWL and GGOWL SHE teams. The fuel data is stored by Renewables SHE and consolidated into one report to cover all offshore vessel activities. The sum of all vessel fuels consumed within 2020/21 is applied to an emission factor for Gas Oil, which is sourced from the 2020 UK Government GHG Conversion Factors for Company Reporting database.

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

All data is verified by PwC using monthly invoices.



## Waste generated in operations

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### Evaluation status

Not relevant, explanation provided

### Please explain

The carbon impact of our waste was less than 1% of the total carbon emissions and therefore it is not incorporated into our footprint.

## Business travel

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### Evaluation status

Not relevant, calculated

### Metric tonnes CO<sub>2</sub>e

1,930

### Emissions calculation methodology

Km for flights (domestic, short haul, long haul and international), rail and company car travel are reported, and relevant DECC/DEFRA conversion factors are applied to calculate CO<sub>2</sub>e for each type of travel. PwC assure this data.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Please explain

The carbon impact of SSE's business travel (flights and rail) is less than 1% of the total carbon emissions. SSE reports this data and PwC assures this data. The assurance statement can be found in the answer to C10.1c.

## Employee commuting

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### Evaluation status

Not relevant, explanation provided

### Please explain

SSE has programmes in place to support our employees to make low carbon travel options when commuting, for example Bike to Work scheme. In comparison to our other scope 3 emissions, these emissions are not material (less than 1% of total scope 3 emissions) and the data quality would be based on employee commuting surveys and estimated mileage data from sample data sets. Furthermore, due to the temporary closure of our offices as a result of the COVID-19 pandemic, most of our staff were working from home and not commuting in 2020/21.

## Upstream leased assets

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### Evaluation status

Not relevant, explanation provided

### Please explain

SSE does not have any activities associated with this activity.

## Downstream transportation and distribution

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### Evaluation status

Relevant, calculated

### Metric tonnes CO<sub>2</sub>e

107,250

### Emissions calculation methodology

Transmission losses – the electricity lost in the Scottish Hydro Electric (SHE) Transmission network (the network between the generator and the distribution company) in the north of Scotland. The transmission of electricity is managed by the network operator, National Grid. When transferring power across the SHE Transmission System, some of the power is 'lost' known as 'Transmission Losses'. Figures for transmission losses are calculated using standard transmission losses guidance (produced by Elexon) to compute the losses in the transmission system. This data is reported by National Grid as the system operator. They report this figure for the financial year to SSE for its assets. The figure is for the previous financial year as a result of the timing of the data capture process. This means for the financial year April 2020 to March 2021 the data will be based on the previous financial year April 2019 to March 2020. The data is verified by an independent third party, WSP, for National Grid.

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

### Please explain

When transferring power across the SHE Transmission System, some of the power is 'lost' known as 'Transmission Losses'. Figures for transmission losses are calculated using standard transmission losses guidance (produced by Elexon) to compute the losses in the transmission system. This data is reported by National Grid as the system operator. They report this figure for the financial year to SSE for its assets. The figure is for the previous financial year as a result of the timing of the data capture process. . This means for the financial year April 2020 to March 2021 the data will be based on the previous financial year April 2019 to March 2020. The data is verified by an independent third party, WSP, for National Grid. PwC assure this data. The assurance statement can be found in the answer to C10.1c.

## Processing of sold products

---

### Evaluation status

Not relevant, explanation provided

### Please explain

SSE does not have any activities associated with this activity.

## Use of sold products

---

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

2,350,011

**Emissions calculation methodology**

Gas sold to customers – the amount of gas sold to customers (retail and business customers) that is then used by our customers for heating and power purposes. This figure is calculated by taking the amount of gas sold (millions therms) converting it to kWh and then applying a carbon dioxide conversion factor provided by BEIS reporting guidelines (<https://www.gov.uk/guidance/measuring-and-reporting-environmental-impacts-guidance-for-businesses>).

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

Gas volumes are based on settlements data published by Xoserve. SSE receive an allocation of the settlements data based on the total amount of gas used by the local distribution zone based on its portfolio of customers. This number covers both domestic and business customers in Ireland and business customers in GB. To calculate the domestic usage values, the monthly demand totals are divided by the mid-month customer number and then totalled for the financial year to give the total energy sold to customers. The carbon emissions are calculated by taking the scope 3 gas sold to customers figure and applying the carbon dioxide conversion factor provided by BEIS reporting guidelines. PwC assure this data. The assurance statement can be found in the answer to C10.1c.

**End of life treatment of sold products**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE does not have any activities associated with this activity.

**Downstream leased assets**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE does not have any activities associated with this activity.

**Franchises**

---

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE does not have any activities associated with this activity.

**Investments**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE invests in gas production assets in the North Sea and west of Shetland, all of which are owned by SSE E&P (UK) Limited. Although this company is wholly owned by SSE, it does not hold a controlling stake in any assets. SSE agreed the sale of all of its interests in its portfolio of gas exploration and production in December 2020, and at 31 March 2021 these assets were accounted for as held for sale in SSE’s financial statements (see SSE’s Annual Report 2021, Pages 262 to 266). As this investment is up for sale, the decision was taken to exclude the emissions associated with SSE E&P from our Scope 3 emissions.

**Other (upstream)**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE does not have any activities associated with this activity.

**Other (downstream)**

**Evaluation status**

Not relevant, explanation provided

**Please explain**

SSE does not have any activities associated with this activity.

**C6.7**

**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

Yes

**C6.7a**

**(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.**

	<b>CO2 emissions from biogenic carbon (metric tons CO2)</b>	<b>Comment</b>
Row 1	11,959	Emissions captured under the EU ETS and/or UK ETS from biomass combustion at our Slough Heat & Power facility.

## C6.10

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO<sub>2</sub>e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

---

**Intensity figure**

0.00112

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

7,633,849

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

6,826,400,000

**Scope 2 figure used**

Location-based

**% change from previous year**

15

**Direction of change**

Decreased

**Reason for change**

In 2020/21, SSE's total carbon emissions consisted of 64% scope 1 emissions, 5% scope 2 emissions and 31% scope 3 emissions.

Scope 1 and 2 emissions fell 14% from 8.9 million tonnes CO<sub>2</sub>e to 7.6 million tonnes CO<sub>2</sub>e. The largest contributor to this emissions decrease was the decision to close Fiddler's Ferry in March 2020. With the closure of SSE's last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal. With no coal generation output, less electricity was required to operate the thermal generation plants and as a result scope 2 emissions relating to electricity use in power stations reduced by around 45%.

SSE's total revenue increased marginally from £6.801 billion in 2019/20 to £6.826 billion in 2020/21. The reduction in both revenue and emissions meant that SSE's carbon intensity of total revenue decreased.

---

**Intensity figure**

0.276

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

7,633,849

**Metric denominator**

megawatt hour generated (MWh)

**Metric denominator: Unit total**

27,694,000

**Scope 2 figure used**

Location-based

**% change from previous year**

12

**Direction of change**

Decreased

**Reason for change**

In 2020/21, SSE's total carbon emissions consisted of 64% scope 1 emissions, 5% scope 2 emissions and 31% scope 3 emissions.

Scope 1 and 2 emissions fell 14% from 8.9 million tonnes CO<sub>2</sub>e to 7.6 million tonnes CO<sub>2</sub>e. The largest contributor to this emissions decrease was the closure of Fiddler's Ferry in March 2020. With the closure of SSE's last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal. With no coal generation output, less electricity was required to operate the thermal generation plants and as a result scope 2 emissions relating to electricity use in power stations reduced by around 45%.

With renewables and natural gas (which is far less carbon intensive than coal) making up a far larger share of SSE's generation mix in 2020/21, the emissions per megawatt hour generated has decreased significantly. The carbon intensity of SSE's generated reduced by 11% to 255 gCO<sub>2</sub>e/kWh in comparison to 288 gCO<sub>2</sub>e/kWh in the previous year and was the lowest since SSE's records began.

---

**Intensity figure**

611

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO<sub>2</sub>e)**

7,633,849

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

12,489

**Scope 2 figure used**

Location-based

**% change from previous year**

17

**Direction of change**

Decreased

**Reason for change**

In 2020/21, SSE's total carbon emissions consisted of 64% scope 1 emissions, 5% scope 2 emissions and 31% scope 3 emissions.

Scope 1 and 2 emissions fell 14% from 8.9 million tonnes CO<sub>2</sub>e to 7.6 million tonnes CO<sub>2</sub>e. The largest contributor to this emissions decrease was the closure of Fiddler's Ferry in March 2020. With the closure of SSE's last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal. With no coal generation output, less electricity was required to operate the thermal generation plants and as a result scope 2 emissions relating to electricity use in power stations reduced by around 45%.

SSE's FTE numbers increased from 12,133 in 2019/20 to 12,489 in 2020/21. The combination of an increase in the number of FTEs and significant decrease in emissions has led to a reduction in the carbon intensity per full time equivalent employee.

## C7. Emissions breakdowns

### C7.1

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

### C7.1a

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

Greenhouse gas	Scope 1 emissions (metric tons of CO <sub>2</sub> e)	GWP Reference
CO <sub>2</sub>	7,063,671	IPCC Fourth Assessment Report (AR4 - 100 year)
CH <sub>4</sub>	8,559	IPCC Fourth Assessment Report (AR4 - 100 year)

N2O	10,834	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	6,709	IPCC Fourth Assessment Report (AR4 - 100 year)

## C-EU7.1b

**(C-EU7.1b) Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.**

	Gross Scope 1 CO2 emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Total gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	6,709	6,709	Fugitive emissions – use of sulphur hexafluoride (SF6) in the transmission and distribution networks for conductivity (used in the switchgears and substations).
Combustion (Electric utilities)	7,043,113	8,555	0	7,051,668	Generation power stations – coal, oil and gas consumed in SSE's thermal power generation plant (including Power Purchase Agreements) to generate electricity.  This excludes biomass as this is reported in C6.7.
Combustion (Gas utilities)	0	0	0	0	Not applicable.
Combustion (Other)	28,722	12	0	28,734	• Gas consumption in buildings – this is the gas consumed by SSE's non-operational buildings (offices, depots, call centres) to maintain building temperatures.



					<ul style="list-style-type: none"> <li>• Distribution network fuel consumed – this includes diesel and gas oil used by generators and mobile generators to generate electricity to maintain the distribution network.</li> <li>• Company vehicles – this is the petrol or diesel used by SSE’s operational vehicles for business activities (operational vehicles are those vehicles that are owned by SSE and used by employees for SSE business activities).</li> </ul>
Emissions not elsewhere classified	0	0	0	10,926	These emissions are associated with the N2O emissions from SSE’s Scope 1 activities within 2020/21.

## C7.2

**(C7.2) Break down your total gross global Scope 1 emissions by country/region.**

Country/Region	Scope 1 emissions (metric tons CO2e)
United Kingdom of Great Britain and Northern Ireland	5,993,600
Ireland	1,104,437

## C7.3

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By activity

### C7.3c

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

Activity	Scope 1 emissions (metric tons CO2e)
Generation (excludes biomass)	7,062,227
Operational vehicles and plant	19,301
Mobile plant - gas oil	8,191

SF6 for transmission and distribution	6,709
Fixed generation in distribution	921
Gas consumed in non-operational buildings	687

## C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4

(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO<sub>2</sub>e.

	Gross Scope 1 emissions, metric tons CO <sub>2</sub> e	Comment
Electric utility activities	7,050,251	Excludes biomass

## C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
United Kingdom of Great Britain and Northern Ireland	535,429	535,429	233,204	14,052
Ireland	383	383	1,060	0

## C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By activity

### C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO <sub>2</sub> e)	Scope 2, market-based (metric tons CO <sub>2</sub> e)
Electricity consumed in buildings (operational and non-operational)	54,004	54,004
Electricity consumed by substations in the transmission and distribution networks	10,193	10,193

Losses in the distribution network in the north of Scotland and south of England	471,614	471,614
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## C7.9

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Decreased

### C7.9a

**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	11,997	Decreased	0.13	The consumption of renewable electricity within SSE's operational buildings increased from 8,906 MWh in 2019/20 to 14,052 in 2020/32. This displaced 5,146 MWh from a standard (or brown) tariff to a renewable (or green) tariff. Assuming that this 5,146 MWh would have been supplied from the grid average fuel mix, the BEIS carbon equivalent conversion factor for electricity generation for 2020/21 was used (0.23314 kg per kWh) giving the result of 11,997 tCO2e (51,460,000 * 0.23314 = 11,997 tCO2e).
Other emissions reduction activities	1,261,643	Decreased	14.2	<p>Scope 1 and 2 emissions fell from 8.9 million tonnes CO2e to 7.6 million tonnes CO2e. This is equivalent to a 14% decrease (1,261,643 / 8,895,492)</p> <p>The largest contributor to this emissions decrease was the closure of Fiddler's Ferry in March 2020.</p> <p>As part of its low-carbon strategy, SSE Thermal closed its last remaining operational coal-fired generation units (1,510MW) at Fiddlers Ferry on 31 March 2020, opening the way for a decommissioning programme. The</p>

				<p>closure of Fiddlers Ferry is part of SSE's commitment to a net-zero emissions future and materialised five years ahead of the UK Government's target to end unabated coal-fired electricity generation by 2025.</p> <p>With the closure of SSE's last remaining coal-fired power station, 2020/21 was the first year since 2005 that SSE's generation fleet contained no electricity output from coal. With no coal generation output, less electricity was required to operate the thermal generation plants and as a result scope 2 emissions relating to electricity use in power stations reduced by around 45%.</p> <p>During 2020/21, investments included £150,000 in energy efficient LED lighting at several depot sites. Investments in more efficient lighting is expected to result in new emission reductions of almost 36 tCO<sub>2</sub>.</p> <p>SSE has an internal 2030 target of a 20% reduction in carbon emissions based on 2018 levels in relation to its non-operational buildings. This is year 3 of the investment programme and a total investment of £900,000 has been made across a diverse range of projects including solar PV generation, LED lighting, free cooling systems, chillers and air conditioning systems. As part of SSE's new agile working arrangements, SSE has also invested significantly in its property portfolio, consolidating multiple non-operational sites into modern buildings which use energy more efficiently.</p>
Divestment	0	No change	0	Not applicable.
Acquisitions	0	No change	0	Not applicable.
Mergers	0	No change	0	Not applicable.

Change in output	0	No change	0	Not applicable.
Change in methodology	0	No change	0	Not applicable.
Change in boundary	0	No change	0	Not applicable.
Change in physical operating conditions	0	No change	0	Not applicable.
Unidentified	0	No change	0	Not applicable.
Other				Not applicable.

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 0% but less than or equal to 5%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No

Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

## C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	71,000	17,599,000	17,670,000
Consumption of purchased or acquired electricity		0	274,513	274,513
Consumption of purchased or acquired heat		0	3,737	3,737
Consumption of self-generated non-fuel renewable energy		9,577,900		9,577,900
Total energy consumption		9,648,900	17,877,250	27,526,150

## C8.2b

**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

## C8.2c

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

---

**Fuels (excluding feedstocks)**

Natural Gas

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

17,337,800

**MWh fuel consumed for self-generation of electricity**

17,337,800

**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

0.18

**Unit**

metric tons CO<sub>2</sub>e per MWh

**Emissions factor source**

EU ETS

**Comment**

---

**Fuels (excluding feedstocks)**

Residual Fuel Oil

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

261,200

**MWh fuel consumed for self-generation of electricity**

261,200

**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

0.25

**Unit**

metric tons CO2e per MWh

**Emissions factor source**

EU ETS

**Comment**

**Fuels (excluding feedstocks)**

General Municipal Waste

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

251,200

**MWh fuel consumed for self-generation of electricity**

251,200

**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

0

**Unit**

metric tons CO2e per MWh

**Emissions factor source**

EU ETS

**Comment**

**Fuels (excluding feedstocks)**

Biomass Municipal Waste

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

71,000

**MWh fuel consumed for self-generation of electricity**

71,000



**MWh fuel consumed for self-generation of heat**

0

**Emission factor**

0.17

**Unit**

metric tons CO2e per MWh

**Emissions factor source**

EU ETS

**Comment**

## C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	10,319,700	274,513	9,648,900	0
Heat	17,374,318	3,737	0	0
Steam	0	0	0	0
Cooling	0	0	0	0

## C-EU8.2d

(C-EU8.2d) For your electric utility activities, provide a breakdown of your total power plant capacity, generation, and related emissions during the reporting year by source.

**Coal – hard**

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

NOTE: SSE's reported capacities on 31st March 2021 in line with its Annual Report 2021. SSE's last remaining coal-fired generation power station was closed on 31 March 2020 and is recorded as 0MW in SSE's Annual Report 2021 and this has been reflected in its CDP Climate Change submission.

**Lignite**

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

0

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

0

**Comment**

**Oil**

---

**Nameplate capacity (MW)**

983

**Gross electricity generation (GWh)**

420

**Net electricity generation (GWh)**

420

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

415,943

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

991

**Comment**

**Gas**

---

**Nameplate capacity (MW)**

4,320

**Gross electricity generation (GWh)**

17,374

**Net electricity generation (GWh)**

17,374

**Absolute scope 1 emissions (metric tons CO2e)**

6,631,389

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

382

**Comment**

**Biomass**

---

**Nameplate capacity (MW)**

15

**Gross electricity generation (GWh)**

71

**Net electricity generation (GWh)**

71

**Absolute scope 1 emissions (metric tons CO2e)**

11,976

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

169

**Comment**

**Waste (non-biomass)**

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

257

**Net electricity generation (GWh)**

257

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

NOTE: SSE's reported capacities are at 31 March 2021 in line with its Annual Report 2021. SSE's disposed of its share at the energy from multifuel facility prior to 31 March 2021 and is recorded as 0MW in SSE's Annual Report 2021 and this has been reflected in its CDP Climate Change submission. However, this plant was active during 2020/21 and its climate-related activities are included in the data.

## Nuclear

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

0

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

0

**Comment**

## Fossil-fuel plants fitted with CCS

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

0

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

0

**Comment**

## Geothermal

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

## Hydropower

---

**Nameplate capacity (MW)**

1,459

**Gross electricity generation (GWh)**

3,720

**Net electricity generation (GWh)**

3,720

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

## Wind

---

**Nameplate capacity (MW)**

2,423

**Gross electricity generation (GWh)**

5,858

**Net electricity generation (GWh)**

5,858

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

## Solar

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

## Marine

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO2e per GWh)**

0

**Comment**

## Other renewable

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO2e)**

0

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

0

**Comment**

**Other non-renewable**

---

**Nameplate capacity (MW)**

0

**Gross electricity generation (GWh)**

0

**Net electricity generation (GWh)**

0

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

0

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

0

**Comment**

**Total**

---

**Nameplate capacity (MW)**

9,201

**Gross electricity generation (GWh)**

27,694

**Net electricity generation (GWh)**

27,694

**Absolute scope 1 emissions (metric tons CO<sub>2</sub>e)**

7,059,308

**Scope 1 emissions intensity (metric tons CO<sub>2</sub>e per GWh)**

255

**Comment**

## C8.2e

**(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.**

---

### Sourcing method

Green electricity products (e.g. green tariffs) from an energy supplier, supported by energy attribute certificates

### Low-carbon technology type

Wind

### Country/area of consumption of low-carbon electricity, heat, steam or cooling

United Kingdom of Great Britain and Northern Ireland

### MWh consumed accounted for at a zero emission factor

14,052

### Comment

While the Climate Group's RE100 is targeted at non-renewable energy providers, SSE has joined in spirit and, as of 31 March 2020, 46% of the electricity it requires for operational purposes comes from renewable sources, backed by renewable guarantees of origin (REGO) certificates.

## C-EU8.4

**(C-EU8.4) Does your electric utility organization have a transmission and distribution business?**

Yes

## C-EU8.4a

**(C-EU8.4a) Disclose the following information about your transmission and distribution business.**

---

### Country/Region

United Kingdom of Great Britain and Northern Ireland

### Voltage level

Transmission (high voltage)

### Annual load (GWh)

5,800

### Annual energy losses (% of annual load)



8

**Scope where emissions from energy losses are accounted for**

Scope 2 (location-based)

**Emissions from energy losses (metric tons CO<sub>2</sub>e)**

107,250

**Length of network (km)**

5,172

**Number of connections**

113

**Area covered (km<sup>2</sup>)**

57,347.7

**Comment**

SSE is the sole-owner of three economically-regulated electricity network licensees that are jointly operated under the brand of Scottish and Southern Electricity Networks (SSEN). The three networks are:

1. Scottish Hydro Electric Transmission plc which owns the high voltage network in the north of Scotland.
2. Scottish Hydro Electric Power Distribution plc which owns the low voltage network in the north of Scotland.
3. Southern Electric Power Distribution which owns the low voltage network in central southern England.

This data refers to Sottish Hydro Electricity Transmission Plc.

Scope 2 emissions cover:

- Petrol and diesel used by SSE's vehicles.
- Use of sulphur hexafluoride (SF<sub>6</sub>) in the transmission and distribution networks for conductivity (used in the switchgears and substations).
- Electricity consumption in buildings and substations to manage the transmission electricity system.
- Business travel (flights and rail).
- Transmission losses – the electricity lost in the SHE Transmission network (the network between the generator and the distribution company) in the north of Scotland. The transmission of electricity is managed by the network operator, National Grid.
- Transmission and distribution losses associated with the electricity consumed in buildings and substations and is separate to the transmission losses reported.

Length of network is defined as the total route length. The total circuit length for SSE's transmission business is 5344.7 km.

SSE's transmission losses are classified as scope 3 emissions and reported in question C6.5. These emissions are classified as scope 3 because SSE does not operate these

transmission assets. SSE's transmission losses emissions in 2020/21 were 107,250 tonnes CO<sub>2</sub>e.

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**Country/Region**

United Kingdom of Great Britain and Northern Ireland

**Voltage level**

Distribution (low voltage)

**Annual load (GWh)**

36,148.5

**Annual energy losses (% of annual load)**

5.52

**Scope where emissions from energy losses are accounted for**

Scope 2 (location-based)

**Emissions from energy losses (metric tons CO<sub>2</sub>e)**

471,614

**Length of network (km)**

127,388.16

**Number of connections**

32,060

**Area covered (km<sup>2</sup>)**

79,524.28

**Comment**

SSE is the sole-owner of three economically-regulated electricity network licensees that are jointly operated under the brand of Scottish and Southern Electricity Networks (SSEN). The three networks are:

1. Scottish Hydro Electric Transmission plc which owns the high voltage network in the north of Scotland.
2. Scottish Hydro Electric Power Distribution plc which owns the low voltage network in the north of Scotland.
3. Southern Electric Power Distribution which owns the low voltage network in central southern England.

This data refers to the totals for Scottish Hydro Electric Power Distribution plc and Southern Electric Power Distribution. Data can be provided for each license area and this can be found in regulatory reports for these businesses.

Scope 2 emissions cover:

- Petrol and diesel used by SSE's vehicles.

- Use of sulphur hexafluoride (SF6) in the transmission and distribution networks for conductivity (used in the switchgears and substations).
- Electricity consumption in buildings and substations to manage the distribution electricity system.
- Distribution losses – this is the electricity lost in SSE’s distribution network in the north of Scotland (SHEPD) and southern central England (SEPD) transporting electricity to the customer.
- Business travel (flights and rail).
- Transmission and distribution losses associated with the electricity consumed in buildings and substations and is separate to the transmission losses reported.

Number of connections: Details both the total number of connections by DNO and by Third Parties on SSE’s behalf and the Totals split by License Area as these are the splits reported to OFGEM. The number of connections, 25,024 refers to the total number for both SHEPD (6,825) and SEPD (18,199) and excludes third parties. The total number of connections by third parties in SHEPD (135) and SEPD (6,901) is: 7,036.

## C9. Additional metrics

### C9.1

**(C9.1) Provide any additional climate-related metrics relevant to your business.**

### C-EU9.5a

**(C-EU9.5a) Break down, by source, your total planned CAPEX in your current CAPEX plan for power generation.**

Primary power generation source	CAPEX planned for power generation from this source	Percentage of total CAPEX planned for power generation	End year of CAPEX plan	Comment
Wind	2,000,000,000	27	2025	<p>Numbers approximate and based on SSE equity contribution before project finance development refunds.</p> <p>SSE is now in the second year of its £7.5bn capital investment plan to March 2025.</p> <p>During the year to 31 March 2021, SSE’s investment and capital expenditure (net of project financing development expenditure refunds) totalled £912.0m. As indicated in</p>

				<p>SSE's interim results in November, this lower run rate is expected to reverse in 2021/22 when investment and capital expenditure (net of project financing development expenditure refunds) is expected to be around £2bn.</p> <p>Final investment decisions taken on projects in early 2020/21, and ongoing construction, mean SSE is now building more offshore wind than any other company in the world. SSE reached a final investment decision (FID) on Dogger Bank A and B offshore wind farms (with Dogger Bank C aiming to reach financial close later this calendar year), Seagreen, and Viking in Shetland. These projects will be, respectively, the largest offshore wind farm in the world, the largest offshore wind farm in Scotland and one of the highest-yielding onshore wind farms in Europe.</p>
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## C-EU9.5b

**(C-EU9.5b) Break down your total planned CAPEX in your current CAPEX plan for products and services (e.g. smart grids, digitalization, etc.).**

Products and services	Description of product/service	CAPEX planned for product/service	Percentage of total CAPEX planned products and services	End of year CAPEX plan
Other, please specify Transmission and Distribution	All numbers are approximate.  During the year to 31 March 2021, SSE's investment and capital expenditure (net of project financing development expenditure refunds) totalled £912.0m. Over £786 of this, representing 86% was on its core networks (Transmission and Distribution) businesses.	4,500,000,000	60	2025

	<p>SSE continued to invest significantly across both of its distribution networks in the north of Scotland and central southern England. These investments support a flexible electricity system which will be central to delivering an electrified low-carbon economy and support the electrification of heat and transport in the future.</p> <p>With the North of Scotland home to some of the world's greatest resources of renewable energy, SSEN Transmission is uniquely placed to play a leading role in the transition to net zero and the significant growth opportunities this presents. During the RIIO-T2 period, SSEN Transmission expects to progress several investments over and above its £2.8bn Certain View.</p> <p>These investments include:</p> <ul style="list-style-type: none"> <li>• Development and early construction expenditure for the first East Coast HVDC link from Peterhead to the north east of England.</li> <li>• Upgrading the Argyll transmission network to 275kV operation, as well as the replacement of the Fort-Augustus to Skye transmission line. Initial Needs Cases for both projects are expected to be submitted to Ofgem this year.</li> <li>• Further expenditure to connect new renewable generation, rail electrification and system security</li> </ul>			
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Other, please specify Waste, Solar, Large-scale storage, CCS, charging networks and heating systems	All numbers are approximate.  SSE's Enterprise segment is primarily focused on distributed energy and developing 'whole system thinking' solutions which will enable the decarbonisation of transport and heating. Planned investments include in the key areas of: distributed generation, energy optimisation, heat and cooling networks, electrical networks, smart buildings and EV charging. (p49. Prelim Statement FY21)	375,000,000	5	2025
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## C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6

(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

	Investment in low-carbon R&D	Comment
Row 1	Yes	Research costs in 2021 were £12m as shown in SSE's annual report page 2020.

## C-CO9.6a/C-EU9.6a/C-OG9.6a

(C-CO9.6a/C-EU9.6a/C-OG9.6a) Provide details of your organization's investments in low-carbon R&D for your sector activities over the last three years.

Technology area	Stage of development in the reporting year	Average % of total R&D investment over the last 3 years	R&D investment figure in the reporting year (optional)	Comment
Energy storage	Applied research and development	81-100%	3,400,000	SSE has invested in low carbon products and services in relation to energy storage over the past year. For example, in March 2019 SSEN's Project Local Energy Oxfordshire (LEO) received a total of £13.8m of

				<p>funding from the UK Government's Industrial Strategy Challenge fund. LEO will explore how the growth in local renewables, electric vehicles (EVs, battery storage, vehicle-to-grid (V2G) technology and demand side response can be supported by a local, flexible and responsive electricity grid. In addition, in Ireland SSE was involved in advanced renewable generation forecasting models (FREMI: Forecasting Renewable Energy with Machine Intelligence) to enable the industry to respond to and manage the Irish Single Energy Market requirements. This forecasting tool reduces financial risk exposure for suppliers and generators and enables consumers to benefit from cost savings.</p>
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## C10. Verification

### C10.1

**(C10.1) Indicate the verification/assurance status that applies to your reported emissions.**

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

### C10.1a

**(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.**

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**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

**Page/ section reference**

1

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

## C10.1b

**(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.**

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**Scope 2 approach**

Scope 2 location-based

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

**Page/ section reference**

1

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100



## C10.1c

**(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.**

---

**Scope 3 category**

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

**Page/section reference**

1

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

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**Scope 3 category**

Scope 3: Business travel

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

**Page/section reference**

1

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

---

**Scope 3 category**

Scope 3: Downstream transportation and distribution

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

**Attach the statement**

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

**Page/section reference**

1

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

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**Scope 3 category**

Scope 3: Use of sold products

**Verification or assurance cycle in place**

Annual process


**Status in the current reporting year**


Complete

**Type of verification or assurance**

Limited assurance

### Attach the statement

 SSE PwC Assurance Report (GHG and Water) 202021.pdf

 SSE PwC Signed Letter (GHG and Water) 202021.pdf

### Page/section reference

1

### Relevant standard

ISAE 3410

### Proportion of reported emissions verified (%)

100


## C10.2

**(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?**


Yes

## C10.2a

**(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?**

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Year on year emissions intensity figure	ISAE3000 and ISAE3410	PwC assure SSE's carbon intensity as part of the annual assurance process.  1, 2

 <sup>1</sup>SSE PwC Assurance Report (GHG and Water) 202021.pdf

 <sup>2</sup>SSE PwC Signed Letter (GHG and Water) 202021.pdf

## C11. Carbon pricing

### C11.1

**(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?**

Yes

## C11.1a

**(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

EU ETS

Other carbon tax, please specify

Carbon Price Support (CPS) - GB only

## C11.1b

**(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.**

### EU ETS

---

**% of Scope 1 emissions covered by the ETS**

100

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1, 2020

**Period end date**

December 31, 2020

**Allowances allocated**

9,680

**Allowances purchased**

7,033,433

**Verified Scope 1 emissions in metric tons CO<sub>2</sub>e**

7,043,113

**Verified Scope 2 emissions in metric tons CO<sub>2</sub>e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

Examples of facilities that SSE owns and operates include some joint ventures such as Marchwood and Seabank power stations.

## C11.1c

**(C11.1c) Complete the following table for each of the tax systems you are regulated by.**

**Other carbon tax, please specify**

---

**Period start date**

April 1, 2020

**Period end date**

March 31, 2021

**% of total Scope 1 emissions covered by tax**

100

**Total cost of tax paid**

107

**Comment**

£107m of CPS Tax was paid by SSE plc for Gas and Oil consumed to produce electricity. Gas paid and expensed when consumed and Oil offsets fuel duty reclaims and expensed when consumed.

## C11.1d

### **(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

Emissions trading schemes apply to SSE's generation business, which has by far the greatest carbon emitting impact of our entire business. SSE's overall strategy is to seek to comply through a mix of allowance purchase, abatement and use of project credits. Emissions under the EU ETS are treated as a cost of generation, similar to fuel, for the purposes of managing our energy portfolio. Therefore, the trading of emissions allowances is carried out in conjunction with trading associated commodities; electricity, gas and coal.

SSE's generation activities in the UK operated under the EU Emissions Trading Scheme (EU ETS) until 1 January 2021, when a new UK Emissions Trading Scheme (UK ETS) carbon pricing system came into operation to replace the EU ETS in the UK, following Brexit. The UK ETS is a cap and trade emissions scheme, similar in design and aims of the EU ETS. As such, our strategy for complying with the UK ETS will be the same as our strategy to comply with the EU ETS. SSE's generation assets in Ireland continue to operate under the EU ETS. SSE welcomed the establishing a UK Emissions Trading System (ETS) and has called upon the UK and the European Union to agree a link between the UK ETS and EU ETS as soon as possible in order to benefit from a wide ranging, liquid and mature carbon market.

In order to comply with targets SSE is constantly trying to improve the efficiency of its power stations and trialling various carbon abatement technologies. For example, SSE Thermal's £350m 893MW CCGT at Keadby 2 in Lincolnshire which is on track to be fully commissioned in 2022. This project will introduce Siemens' first-of-a-kind, high efficiency, gas-fired generation technology to the UK, which will displace older, less efficient gas generation including SSE's existing assets. As part of the co-operation agreement with Equinor, SSE Thermal is also developing options to blend hydrogen at Keadby 2.

To further reduce the emissions of SSE’s and the UK’s gas generation fleet, SSE is developing low carbon thermal options across its sites and will not develop any gas generation project without a low carbon pathway to ensure it fits well within the respective jurisdiction’s climate commitments, including if they commitments were tightened at a later date. In co-operation with Equinor, SSE Thermal is developing Keadby 3 Carbon Capture Power Station and Keadby Hydrogen Power Station in the Humber, and Peterhead Carbon Capture Power Station in Scotland, to plug into the shared CCS and hydrogen infrastructure within the clusters. In combination, these projects would capture an estimated 3 million tonnes of carbon dioxide annually, 30% of the overall target for 2030 set out in the Prime Minister’s Ten Point Plan for a Green Economic Recovery, and deliver the world’s first large-scale hydrogen fired power station.

SSE’s first low-carbon thermal station, Keadby 3, is under development and would capture over 90% of its emissions. Importantly, Keadby is located near the Scunthorpe steel works, which is the second largest single emitter of CO2 in the UK, meaning that not only would Keadby 3 provide firm, dispatchable low carbon power, it would support the development of infrastructure that would provide decarbonisation opportunities for sectors which are harder to abate. Keadby 3 is part of the Zero Carbon Humber cluster, which is seeking to make the Humber the world’s first net zero industrial cluster by 2040.

## C11.2

**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

## C11.3

**(C11.3) Does your organization use an internal price on carbon?**

Yes

## C11.3a

**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

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### **Objective for implementing an internal carbon price**

- Navigate GHG regulations
- Drive low-carbon investment
- Stress test investments
- Identify and seize low-carbon opportunities

### **GHG Scope**

- Scope 1
- Scope 3

### **Application**

Scope of emissions: The use of a carbon price impacts SSE's scope 1 (in particular generation emissions) and scope 3 (transmission and distribution losses) emission categories.

Rationale for using a carbon price: SSE's main emissions in the UK and Ireland relating to electricity generation are subject to a carbon price, through the UK Emissions Trading System (UK ETS), UK Carbon Price Support (CPS) and EU Emissions Trading System (EU ETS). Considering a robust carbon price is a key component of many of SSE's operational and capital investment decisions; indeed given SSE's low carbon investment it is more subject to risk through a low carbon price environment. The price of carbon is reflected in decisions to invest in and operate thermal generation plant and renewable generation technologies, the investments made in capital projects and how we perform in the energy markets. Robust carbon pricing will be particularly important to support our activities in CCS and hydrogen.

### **Actual price(s) used (Currency /metric ton)**

62

### **Variance of price(s) used**

SSE views that a robust carbon price in the electricity system is a critical role in meeting the UK's net zero commitments, and a net zero electricity in the 2030s. SSE believes that the combination of the UK ETS and CPS in Great Britain is one of the most important policy tools the government has to help industry continue to deliver reliable and lower carbon electricity cost-effectively, and as a critical driver for pushing coal off the electricity system.

### **Type of internal carbon price**

Implicit price

### **Impact & implication**

Where and how SSE uses a carbon price, for example:

- SSE's Energy Portfolio Management team internalises the price of carbon in its energy market models for the electricity markets in Great Britain and the Single Electricity Market (SEM) between Ireland and Northern Ireland.
- Trading team are pricing carbon into their trades when setting the prices that they are willing to sell thermal generation at.
- Risk Management team are considering value of carbon in their short-medium term valuation models.
- Energy Economics are considering carbon price scenarios in long-term price and revenue modelling used in investments and long-term asset valuation.
- SSE's capital investment decisions in future electricity generation are supported by the Contracts for Difference (CfD) in the UK and the Renewable Energy Support Scheme (RESS) in Ireland. These long-term support mechanisms for low carbon generation influence the way in which SSE develops and invests in new renewable technologies.

For example, SSE has already committed to invest £7.5bn between March 2020 and March 2025, almost 90% of which will be in SSE’s core businesses of electricity transmission, electricity distribution and renewable sources of electricity. SSE has the largest renewable energy capacity across the UK and Ireland at around 3.9GW (including pumped storage).

Actual price and process to determine the price: 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 a robust carbon price in the electricity system is a critical role in meeting the UK’s net zero commitments, and a net zero electricity in the 2030s. SSE continued to promote a robust carbon price with BEIS, HMT and No.10 in the UK, the Irish Government and MEPs, along with the European Commission , and in particular has supported the increases to the UK and EU’s 2030 ambition ahead of COP26 which directly impacts the UK ETS and EU ETS through determining the supply of allowances. SSE will continue actively encourage both the UK and EU to align their ETS’s with their net zero targets as soon as possible, both bilaterally and through our trade associations.

## C12. Engagement

### C12.1

**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers

### C12.1a

**(C12.1a) Provide details of your climate-related supplier engagement strategy.**

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**Type of engagement**

Information collection (understanding supplier behavior)

**Details of engagement**

Collect climate change and carbon information at least annually from suppliers

**% of suppliers by number**

50

**% total procurement spend (direct and indirect)**

70

**% of supplier-related Scope 3 emissions as reported in C6.5**

100

**Rationale for the coverage of your engagement**



61 suppliers responded (out of 158 suppliers that were asked to take part) to the CDP supply chain programme to SSE's request for climate change data in 2020/21. Total scope 1 and 2 and 3 allocated emissions for these suppliers was 8 million tonnes tCO<sub>2</sub>e. The carbon emissions calculated covers all the scope 1, 2 and 3 allocated emissions reported by these 61 companies. SSE will be one of many customers for each of these suppliers. These suppliers represent around 40% of SSE's total procurement expenditure in 2019/20 (which was around £2.4 billion in 2020/21). These suppliers feature in SSE's top 250 and were selected based on the level relevance/ impact of climate change to the supplier as well as the level of spend in SSE's supplier programme. In other words, these are the suppliers that, like SSE, their biggest environment impact is carbon emissions and the suppliers with which SSE spend the most. These suppliers support SSE's capital projects for renewable generation projects, transmission and distribution operations as well as IT, human resource and financial services. These suppliers provide capital goods (such as wind turbines and steel lattice towers) to SSE.

In 2020, SSE joined the 'Race to Zero' campaign by committing to reaching net zero emissions (both direct and indirect) across all of our operations by 2050 and setting a relevant Science Based Target. The SBTi are currently developing the first global standard for net zero businesses, which is expected in November 2021. SSE are monitoring the requirements for a net zero science-based target, including the criteria covering value chain emission (of which our supplier emissions are a significant portion). We are looking to increase the share of our suppliers that we engage with, not only to improve emissions data gathering but to also to collaborate in order to identify opportunities to reduce our suppliers' emissions. The company have now partnered with the Supply Chain School to aid our communication and collaboration with our supply chain. SSE will be aiming to partake in webinars and e-events with our suppliers, with progress to be disclosed in the 2021/22 disclosure.

NB: This data has not been assured. This was the fourth year SSE has taken part in the CDP supply chain request and SSE is taking part in this programme in 2020/21.

### **Impact of engagement, including measures of success**

The impact of SSE's supplier engagement strategy is measured through a series of indicators including: 1. Number/ percentage of suppliers responding to the CDP request for data on climate change; 2. Number/ percentage of suppliers providing scope 1 and 2 emissions data; and 3. SSE's ability to improve its scope 3 data reporting to include suppliers.

As a result of the 2019/20 CDP supply chain programme the impact of the engagement included: 1. Over 50% of SSE's suppliers responded; 2. 40% reported scope 1 and 2 emissions enabling SSE to continue to report its scope 3 emissions related to its suppliers; 3. 22% of our suppliers reported an emissions intensity or allocated emissions to SSE; 4. 35% of our suppliers reported a target; 5. SSE's suppliers reported reducing emissions by 6.5 million tonnes of carbon dioxide as a result of emission reduction activities and 6. 40% of SSE's suppliers reported buying renewable electricity or a percentage of their energy from a renewable electricity mix.

In addition, during 2020/21, SSE continued to make progress against its supplier engagement science-based target. These targets meet the strict SBTi criteria and were approved by SBTi in April 2020, meaning SSE's target reflect the latest climate science. As part of the SBT, SSE has set a target to "Engage with 50% of suppliers by spend to set an SBT by 2024". Over the reporting year, SSE held 29 workshops with key suppliers to facilitate dialogue and knowledge-sharing around the setting of science-based carbon targets and the challenges and opportunities presented for various industries. As of the 31st of March 2021, 29% of SSE's suppliers (by value) had set their own science-based targets. This is a significant increase from the 4% of suppliers in the base year (2019/20). For SSE to achieve this target it will continue to engage with its supply chain in the coming years and will report its progress against this goal annually in its Sustainability Report.

## Comment

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### Type of engagement

Compliance & onboarding

### Details of engagement

Included climate change in supplier selection / management mechanism

Code of conduct featuring climate change KPIs

Climate change is integrated into supplier evaluation processes

### % of suppliers by number

50

### % total procurement spend (direct and indirect)

70

### % of supplier-related Scope 3 emissions as reported in C6.5

100

### Rationale for the coverage of your engagement

SSE has developed a range of tools to encourage responsible business practices in its supply chain, including its Sustainable Procurement Code; responsibility dashboard, sustainability criteria in pre-qualification process; and introduction of clauses on topics in its standard contract forms for new suppliers.

At the core of SSE's sustainable procurement strategy is its new Sustainable Procurement Code and accompanying Supplier Guidance, which were developed over 2020/21 and published in early 2021/22. The Code sets out SSE's expectations of the companies that supply SSE with goods and services. As well as minimum standards, the Code outlines the role of suppliers in delivering common sustainability goals, from paying a real Living Wage to helping the Company achieve net-zero carbon emissions by 2050. The Code has been designed to feed into SSE's own sustainability approach,

with clear alignment to the UN's SDGs which are most material to SSE.

SSE also employs a Strategic Supplier Relationship Management programme which is aimed at SSE's top 40 suppliers. Our strategic suppliers are defined as those who provide an essential/ unique service to our business. In addition, the Strategic Supplier Relationship Management programme engages its suppliers through Joint Steering Groups held at Managing Director level. The groups discuss and initiate sustainability initiatives to drive better performance, product development and value engineered sustainable propositions. Examples include: the development and introduction of innovative and often disruptive technologies that reduce the carbon footprint of a product and improve carbon emissions performance.

During 2020/21, SSE utilised these relationships by introducing key areas of sustainability, such as modern slavery, into our current SRM sessions and held over 30 additional direct meetings with the environmental and sustainability teams within these companies. Having this enhanced engagement with suppliers has generated a greater understanding of their capabilities, journey and aims in this space, which have been considered when developing the new sustainable procurement model. SSE will continue to develop these relationships and engagement on sustainability topics over 2021/22.

### **Impact of engagement, including measures of success**

In March 2020, SSE reviewed its targets for reducing greenhouse gas emissions, including in its supply chain, through significant engagement with the Science Based Targets initiative (SBTi). The SBTi encourages companies to set greenhouse gas emissions reduction targets against strict criteria which ensure they are in line with the Paris Agreement to future-proof growth. An important part of SSE's low-carbon strategy is to track and report progress by setting stretching carbon targets. Following on from years of work with the CDP Supply Chain Programme, SSE set a new carbon target for its supply chain in April 2020 which was part of a series of targets were approved by the Science Based Target Initiative (SBTi). This target is to:

- Engage with 50% of suppliers by spend to set an SBT by 2024.

Over the reporting year, SSE held 29 workshops with key suppliers to facilitate dialogue and knowledge-sharing around the setting of science-based carbon targets and the challenges and opportunities presented for various industries. As of the 31st of March 2021, 29% of SSE's suppliers (by value) had set their own science-based targets. This is a significant increase from the 4% of suppliers in the base year (2019/20).

SSE will continue to engage with its supply chain in the coming years and will report its progress against this goal annually in its Sustainability Report.

### **Comment**

## C12.1b

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

### **Type of engagement**

Collaboration & innovation

### **Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

### **% of customers by number**

100

### **% of customer - related Scope 3 emissions as reported in C6.5**

69

### **Please explain the rationale for selecting this group of customers and scope of engagement**

In 2020, we conducted a survey with Quadrangle looking at the impact Covid-19 had on consumers' approach to sustainability and growing back greener. We selected groups of different size businesses to gain understanding across a broad range of customer types:

- Group 1 – micro business: 1 - 2 sites < £250 per month on energy. £100k- £250k turnover. <10 employees but not sole traders.
- Group 2 – micro business: 1-2 sites < £250 per month on energy £250k- £500k turnover. <10 employees but not sole traders.
- Group 3 – SME: 3-9 sites > £250 per month on energy £500k-£2.5M turnover. 10+ employees.
- Group 4 – SME: 10-25 sites > £250 per month on energy £500k- £5M turnover. 10+ employees.
- Group 5 – large business: - 25+ Sites > £4000 per month on energy £5M+ turnover 50+ employees

Using that insight, we developed a suite of new propositions to support all customers on the route towards net zero. These included:

- Created a carbon calculator for customers to input their annual electricity consumption and calculate and compare CO2 emissions for SSE residual and Green fuel mixes for Streamlined Energy and Carbon Reporting.
- Launched UD group portal, a new digital way of selling to smaller customers (Group 1-4) via energy brokers (TPIs) which is backed by 100% renewable electricity from SSE's own generation as standard. Contracts are only available with a smart meter, to help customers manage their energy usage.

- Launched Next Generation to our flexible customers, allowing them to buy green electricity in the form of Renewable Energy Guarantees of Origin (REGOs) from a specific SSE wind farm, to boost engagement through a local link.
- Created a corporate power purchase agreement proposition, allowing larger organisations and collective buying groups to purchase an agreed amount of renewable electricity from a specific SSE wind farm. We took part in a Future Net Zero webinar to explain the product to larger organisations and TPIs.
- Built out a green gas product suite to include carbon offsetting and partnering with a tree company in the UK as a more affordable option for SMEs, to complement our 100% renewable SSE Green Gas Plus plan.
- Offered green electricity as standard with fixed price contracts (July 2021) so SME customers can access 100% renewable energy included with their power plan. SSE Green Electricity is independently verified by EcoAct.

**Impact of engagement, including measures of success**

- 60,000 customers have switched to our 100% renewable electricity straight from our UK wind farms. Over 60,000-meter points signed up and 16TWh of renewable electricity supplied between April 2016 and April 2021, which has resulted in 6 million tonnes less carbon in the atmosphere compared to the equivalent power generated by fossil fuels. We shared this story online and reminded customers that they can request and display a green certificate. Our 100% renewable energy tariff allows organisations to report zero greenhouse gas (GHG Protocol) emissions for their purchased electricity (Scope 2).
- We were ranked number one by SME TPIs in Cornwall Insight’s annual survey (19% agreed) for the statement: “They can provide corporate power purchase agreements.”
- We are continually growing the number of energy brokers that have access to UD portal and therefore expanding the reach; this is set to double between mid-July and the end of August 2021.

**Type of engagement**

Education/information sharing

**Details of engagement**

Run an engagement campaign to education customers about your climate change performance and strategy

**% of customers by number**

27

**% of customer - related Scope 3 emissions as reported in C6.5**

69

## **Please explain the rationale for selecting this group of customers and scope of engagement**

During 2020/21, Covid-19 restrictions meant companies including SSE Energy Solutions were unable to attend events in person. However, we have engaged with customers and energy brokers (TPIs) through several platforms and virtual events. We promoted these in our weekly pricing email that TPIs receive.

### TELCA

We sponsored the first ever TELCA Net Zero Leader Award at The Energy Live Consultancy Conference.

- Pre-event, we published an awareness blog on the SSE Business Energy (BE) website
- Promoted the event on SSE BE digital channels to raise awareness: LinkedIn and Twitter
- The organisers (Energy Live News) promoted the event and SSE BE company profile as a sponsor on <https://www.energylivenews.com/tc-events/telca/> and social media platforms
- Nikki Flanders, SSE Energy Customer Solutions Managing Director, presented the award and announced the winner during the live event
- Post-event, we promoted Nikki's video and message to winner on SSE BE digital channels to raise awareness: LinkedIn and Twitter

### Future Net Zero

We are a founding partner of Future Net Zero, a thought leadership platform helping businesses to net zero.

We took part in the first ever Festival Net Zero and contributed to the Big Zero Report:

- The report, which was given to delegates at Festival Net Zero on 22 June 2021, compiles the thought leadership and views of Future Net Zero's corporate partners, and explores what actions their top experts think are needed to accelerate progress towards a more sustainable world. Three experts from SSE answered questions on the policy, technology and behaviour change needed to reach net zero.
- Our policy expert took part in an online panel debate with Gemserv and UK Power Networks at the Festival Net Zero event.

### Net Zero Week

We are taking part in Net Zero Week, a UK Government and industry-backed week aimed at helping consumers and business become net zero and to unlock the benefits. We'll be hosting two webinars: one to help companies with EV solutions and the second on the role of digitalisation when it comes to decarbonisation.

### Group

SSE is a Principal Partner for COP26. SSE officially joined the 'Race to Zero' campaign

and committed to reaching net-zero emissions by 2050 at the latest. This target sits alongside a relevant WB 2.0C Science Based Target, which covers Scope 1,2 and 3 emissions.

### **Impact of engagement, including measures of success**

- TELCA content shared by SSE Business Energy reached nearly 9,000 of our social media followers and website users. The live event promoted the brand to more than 200 TPIs. In the business energy market, around 70% of customers buy through brokers so engaging TPIs about net zero is important to reach those energy users.
- Our content on the Future Net Zero website had around 9,000 unique page views in 2020/21, and more than 34,000 impressions through their social media channels.
- Kwasi Kwarteng MP, Secretary of State for Business, Energy and Industrial Strategy (BEIS) responded to the future Net Zero 'Big Zero Report': "I was pleased to read the Big Zero Report. I share your belief that behavioural change will require leadership and the Government wants to make it easier for people to shift towards greener and more sustainable lifestyles while maintaining freedom of choice and fairness."

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### **Type of engagement**

Education/information sharing

### **Details of engagement**

Share information about your products and relevant certification schemes (i.e. Energy STAR)

### **% of customers by number**

43

### **% of customer - related Scope 3 emissions as reported in C6.5**

69

### **Please explain the rationale for selecting this group of customers and scope of engagement**

SSE's Business Energy and Distributed Energy divisions have come together and rebranded to SSE Energy Solutions. The work on this over the past year has included obtaining customer feedback at regular intervals to ensure they are enjoying the customer journeys we have curated. The new brand creates a joined-up shop front for SSE so that customers can access all our low carbon solutions in one place rather than having to navigate through disparate brand experiences.

To engage customers and energy procurement decision makers about our upcoming rebrand, we ran an ongoing paid campaign via the SSE Business Energy LinkedIn page – a 15 sec cut down video, supported with paid media, linked to a landing page. This allowed us to engage users in senior job positions, followed by entry and directors, who work in Sales, followed by Business Development and Operations job functions.

## **Impact of engagement, including measures of success**

SSE Energy Solutions brand and new website launched in July 2021.

Our EV Charging at Work product (launched in June 2021) is an example of collaboration between different areas within SSE and external partners to deliver a simplified solution to help customers decarbonise.

From May to June 2021, the LinkedIn brand awareness campaign delivered 42% more views than planned and over delivered impressions by 185%. In terms of traffic to the site, we surpassed the planned click through by 115%.

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## **Type of engagement**

Education/information sharing

## **Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

## **% of customers by number**

42

## **% of customer - related Scope 3 emissions as reported in C6.5**

69

## **Please explain the rationale for selecting this group of customers and scope of engagement**

With smart meters being the key enabler for a flexible and digital smart electric future, Business Energy met its obligations to roll out smart meters to its customers in 2020/2021 and continues progress with the rollout. Throughout the year we have continued to install smart meters, while complying with Covid-19 restrictions. This helps customers view their consumption so they can then make meaningful changes to their behaviour to reduce the amount of energy they use.

A positive example of customer engagement in terms of smart metering campaign is 'Book a call back slot' campaign variation.

Following a customer research project where we wanted to understand more about our customers' sentiment towards smart metering and blockers for smart acceptance, one of the outcomes was the customers' preference for having the ability to choose themselves the day and time when to have the smart conversation upgrade. This is a business audience particularity, as they have busy schedules during the day hence it's sometimes challenging to take an ad-hoc smart metering call.

Therefore, the team decided to go with a trial first and compare smart acceptance rates between standard journey (with ad-hoc calls) versus a bespoke journey (where customers receive a link to a landing page and a form to choose their preferred date and time for receiving a smart call from us). After a successful trial during summer of 2020, a



decision was taken to offer 'Book a call back slot' functionality for all customers, i.e. the functionality included in the standard journey.

**Impact of engagement, including measures of success**

Book a call back has been in place since 2020, giving our customers a quick and easy way to request a call back at their requested time. Since February 2021 the average number of requests per week has increased. 51% of call back requests have been converted to smart bookings. This conversion rate is among the highest we registered for specific/bespoke approaches as part of the smart campaign.

From the review of the large non-domestic market statistics, Business Energy installed ~18% of all SMETS2 meters in 2020/21. Business Energy smart meter operating volumes (gas and electricity) stood at 160,970 in March 2021.

**C12.3**

**(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

- Direct engagement with policy makers
- Trade associations
- Other

**C12.3a**

**(C12.3a) On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify Climate ambition	Support	<p>SSE strongly supports the UK's commitment to reaching net zero by 2050 and sees COP26 as a pivotal moment for the UK to demonstrate leadership on climate action.</p> <p>SSE is proud to be working with the UK Government as a Principal Partner of COP26 in Glasgow. SSE announced this partnership in November 2020 as the aims of this major international climate event align perfectly with our Group strategy.</p> <p>SSE has led calls for the governments in which it has a presence to build back better</p>	<p>SSE is supportive of the UK Government's commitment to reaching net zero by 2050, and 2045 in Scotland. SSE will continue to work with stakeholders as part of their economic recovery plans from Coronavirus. Additionally, as a Principal Partner for COP26, SSE will continue to work with the UK and Scottish Governments ahead of the summit in Glasgow in November 2021.</p>

		<p>and greener from Coronavirus. SSE published A Greenprint for a Cleaner, Resilient Economy in May 2020 and A Greenprint for Economic Recovery: Five priorities for Ireland’s energy future in July 2020. The contents of these position papers have formed the basis of SSE’s engagement with policy makers throughout 2020/21.</p> <p>SSE hosted the Prime Minister of the United Kingdom, Boris Johnson, at the wind turbine testing facility for Dogger Bank in December 2020, during which SSE’s Chief Executive engaged directly with the Prime Minister and his team on how SSE can support the UK in reaching climate targets. SSE also hosted virtual roundtable discussions with policymakers during which outlined SSE’s ambitions for COP26. This involved representation from the Secretary of State for BEIS, Scottish Cabinet Secretary for Climate Change, Members of the UK Parliament, Scottish Parliament, and Council Leaders representing a range of political parties.</p>	
Energy efficiency	Support	<p>The 2012 Energy Efficiency Directive was amended in 2018 to create a headline EU energy efficiency target for 2030 of at least 32.5% The comprehensive Fit for 55 Package, published in July 2021, includes an amendment to this Directive which SSE will monitor closely.</p>	<p>SSE has been consistent in its view of being fully supportive of energy efficiency targets. SSE remains supportive of a bottom up approach to expand upon and tighten existing legislation in order to implement cost-effective energy efficiency measures for the economy.</p>

		<p>SSE will continue to work, via Eurelectric, on this issue and has supported Eurelectric's work on the European Commission's Renovation Wave initiative which aims to improve the energy performance of buildings and guarantee that renovations lead to higher energy and resource efficiency</p>	<p>In September 2020, SSE engaged with and supported Eurelectric's position paper on the European Commission's Renovation Wave. The paper identified seven key enablers for the Renovation Wave to be a success, including: the prioritisation of direct electrification of heating and cooling in buildings, implementing measures to benefit low-income households who wish to make their homes more energy efficient, and creating the legislative framework to support building renovation.</p>
Energy efficiency	Support	<p>The 2012 Energy Efficiency Directive was amended in 2018 to create a headline EU energy efficiency target for 2030 of at least 32.5% The comprehensive Fit for 55 Package, published in July 2021, includes an amendment to this Directive which SSE will monitor closely.</p> <p>SSE will continue to work, via Eurelectric, on this issue and has supported Eurelectric's work on the European Commission's Renovation Wave initiative which aims to improve the energy performance of buildings and guarantee that renovations lead to higher energy and resource efficiency.</p>	<p>SSE has been consistent in its view of being fully supportive of energy efficiency targets. SSE remains supportive of a bottom up approach to expand upon and tighten existing legislation in order to implement cost-effective energy efficiency measures for the economy.</p> <p>In September 2020, SSE engaged with and supported Eurelectric's position paper on the European Commission's Renovation Wave. The paper identified seven key enablers for the Renovation Wave to be a success, including: the prioritisation of direct electrification of heating and cooling in buildings, implementing measures to benefit low-income households who wish to make their homes more energy efficient, and creating the legislative framework to support building renovation.</p>

Clean energy generation	Support	<p>SSE continues to play an active role via Eurelectric and Wind Europe in engaging with European stakeholders on the comprehensive European Green Deal.</p> <p>SSE is particularly supportive of the European Commission's efforts to implement a European Climate Law to enshrine a climate neutral EU by 2050 and has engaged with the Head of Cabinet for the Executive Vice President with responsibility for the European Green Deal. SSE has also engaged with the European Commission on the EU Offshore Renewable Energy Strategy and strategy on energy system integration. Through its position within Eurelectric and Wind Europe, SSE has also engaged with the relevant departments in the European Commission on the European Hydrogen Strategy, the revision of the TEN-E Regulation, and the assessment of the final National Energy and Climate Plans.</p>	<p>SSE welcomed the European Climate Law and the commitment from the European Commission to an EU-wide 2050 net zero emissions target. SSE strongly believes that a renewables-based energy system is the most efficient and cost-effective path to reaching this goal.</p> <p>In 2020, SSE called on the EU to scale up its ambition and revise the current 40% reduction target to 55% based on 1990 levels and was pleased to see the European Commission pledge to introduce the necessary legislation to enact this via the Fit for 55 Package.</p>
Other, please specify Low-carbon networks	Support	<p>SSE has a networks business, SSEN, that owns and operates transmission &amp; distribution networks across GB. SSEN has engaged directly with OFGEM as part of the current RIIO-1 price control and discussions on the next set of price controls in the 2020s. SSEN has also provided BEIS with evidence from demonstration projects into best practice for delivering low</p>	<p>SSEN fully supports the low carbon networks programmes. In a recent publication Supporting a Smarter Electricity System, SSEN set out a vision to transition from a Distributed Network Operator (DNO) to a Distributed System Operator (DSO), which acts as a neutral facilitator of new technologies. An example of SSEN supporting new technologies is the My Electric Avenue project,</p>

		<p>carbon networks. SSEN has recently issued tenders as part of business-as-usual to procure flexibility as an alternative to network reinforcement in constrained areas. For example, SSEN can provide incentives to energy efficiency projects that reduce peak demand.</p>	<p>which investigated the impact of Electric Vehicle (EV) clusters on the electricity network. Following on from the findings of this project a new project called 'Smart EV' is collaboration with other Network Operators, Government, Ofgem and representatives from automobile and digital industries. One of the key objectives is to agree standards for EV charging.</p>
Other, please specify TNUoS charging reform	Support	<p>SSEN Transmission has been engaging with the UK Government and wider stakeholders on the case for Transmission charging reform (TNUoS) to support net zero delivery.</p> <p>Our generation customers and wider stakeholders have been consistently telling us that charges for transmission access in the north of Scotland, as well as uncertainty about future charges, are acting as a barrier to the commercial viability of renewable energy projects.</p> <p>Ongoing engagement continues with BEIS, Ofgem and the Scottish Government to highlight concerns and call for review and reform of the current regime on behalf of our generation customers.</p>	<p>Due to higher costs compared to other areas in GB, TNUoS charging methodology continues to present barriers to the deployment of Scottish renewable projects. The volatility and unpredictability of future charges also creates challenges for the forecasting of future costs which fluctuate each year, impacting projects across GB.</p> <p>Our key objective is to continue to build the case for TNUoS reform led by stakeholder feedback, and encourage a review into the current methodology in the context of net zero delivery.</p>
Other, please specify Planning	Support	<p>SSEN Transmission continues to engage with the Scottish Government, customers and wider stakeholders as the next iteration of the Scottish Planning Framework (National</p>	<p>We continue to take an active role in shaping the next planning framework as the detail of NPF4 is developed. We believe that NPF4 should deliver a supportive and</p>

		Planning Framework 4 (NPF4)) is developed.	efficient planning framework that recognises the importance of sustainable development and supports net zero and green economic recovery ambitions
Clean energy generation	Support	<p>SSE has advocated for actions to enable deployment of 40GW of offshore wind by 2030 and 75GW by 2050, as set out by the Committee on Climate Change. This will ensure that the UK continues to be the global leader on offshore wind, attracting significant inward investment, whilst also ensuring that we are on track to meet our carbon budgets in line with achieving net zero by 2050. In 2020, SSE Renewables (SSER) published Delivering 40GW of offshore wind in the UK by 2030: A high level roadmap, which set out nine clear actions which must be taken to deliver the 2030 medium-term commitment. These include removing barriers to the consenting process, reforming electricity market design, promoting deeper cross-departmental collaboration and resource to mitigate aviation radar constraints, developing a more efficient approach to development of the grid infrastructure needed to integrate offshore wind into the electricity system, implementing annual CfD auction rounds, more regular and increased seabed leasing volume, strategic investment to support development of UK supply chain, developing a strategy for floating wind, and</p>	<p>SSE welcomed the manifesto commitment by the current UK Government to increase the UK's offshore wind target to 40GW by 2030. SSE believes that delivering this is only feasible provided enabling actions are taken by Government, regulators and stakeholders. Such a significant ramp up in deployment requires a corresponding increase in capabilities and cooperation across Government departments as well.</p> <p>The revenue stabilisation provided via the Contracts for Difference (CfD) will continue to play a vital role in developers delivering low cost projects and being able to secure project finance. However, there is already a strong case for moving to annual CfD auction rounds from the current biannual approach, as it maximises deployment of projects by allowing them to enter as and when ready. Achieving 40GW of fully constructed offshore wind projects by 2030, in SSER's view, is impossible to achieve without annual auctions from 2025.</p> <p>Long term wholesale energy price expectations, in particular the impact of increasing amounts of zero/low marginal</p>

		<p>ensuring geographical diversity of the wind fleet.</p>	<p>cost generation are a critical factor when considering investments in new projects, project life extensions and repowering of existing offshore wind farms after their CfD contract ends. Whilst the evolution of wholesale energy prices is uncertain, it would be prudent to undertake an in-depth assessment of whether policy and market design is fit for purpose to satisfy the Net Zero goals set by government in order to maintain investor confidence. SSER is encouraging the UK Government to start this process in earnest to ensure the attractiveness of the UK as a destination for inward investment in offshore wind is preserved into the future.</p> <p>Through the Offshore Transmission Network Review, SSER is also working closely with government and other key stakeholders to seek solutions to a more coordinated and accelerated grid connection process for offshore wind farms.</p> <p>Finally, the planning system, across all jurisdictions needs to better reflect and account for the climate emergency. The planning system should clearly signal that the priority of achieving Net Zero will necessarily entail a shift in the balance of planning judgement towards infrastructure necessary to meet Net Zero targets.</p>
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<p>Other, please specify Ireland's Climate Action Plan 2021 Other, please specify</p>	<p>Support</p>	<p>SSE engaged with government departments and parliamentary members on various aspects of Ireland's Climate Action Plan and its implementation. SSE advocated for a 80% renewable electricity target, early delivery of offshore wind target and measures the drive the decarbonisation of heat and transport.</p>	<p>SSE will continue to engage with the Government on the implementation of their Climate Plan on matters of relevance to various business units in SSE Ireland.</p>
<p>Other, please specify Onshore wind in Ireland</p>	<p>Support</p>	<p>SSE engaged with Government on policies and measures that need to be introduced to ensure Ireland is in a position to double its onshore wind capacity to 8GW by 2030 in line with Climate Action Plan ambition. This has included engaging with Government on wind planning guidelines to ensure planning rules are balanced and enable the sustainable development of onshore wind in Ireland. SSE has also engaged with the Irish Government on the design of Ireland's Renewable Electricity Support Scheme.</p>	<p>SSE will continue to engage with the Government on matters relating to onshore wind.</p>
<p>Other, please specify Offshore wind in Ireland</p>	<p>Support</p>	<p>SSE has been a leading advocate for offshore wind in Ireland. This year we have engaged with the Irish Government on marine planning matters including offshore grid policy, the National Marine Planning Framework and the Marine Area Planning Bill which will introduce a new offshore consent regime for Ireland.</p>	<p>SSE will continue to engage with the Government on matters relating to offshore wind.</p>
<p>Energy efficiency</p>	<p>Support with minor exceptions</p>	<p>SSE is part of an Energy Efficiency Obligation Scheme (EEOS) in Ireland which applies to both domestic and</p>	<p>SSE supports the overall aim of the scheme. SSE believes that energy efficiency measures are the best approach for</p>



		<p>commercial sectors. The scheme has been successful in delivering energy savings.</p> <p>Consultation took place on the next phase of the EEOS scheme in April of this year which will bring the scheme in line with the new Energy Efficiency Directive 2018. Ireland's energy efficiency target will be higher in the next phase.</p>	<p>consumers to minimise their energy bills. SSE however believes that the way in which energy efficiency measures are implemented and funded should be reviewed, so they facilitate cost effective delivery.</p>
Other, please specify Microgeneration in Ireland	Support with minor exceptions	<p>Consumer involvement is critical if Ireland is to make the transition from a fossil fuel-based energy sector into a low carbon system by 2050. Enabling and facilitating consumers to generate their own green electricity and receive payment for what they do not consume is an important part of ensuring citizens can actively participate in the low carbon transition. We have engaged with Government on Ireland's microgeneration scheme and participated in a Departmental consultation earlier this year. Ireland's microgeneration support scheme should prioritise self-consumption, energy efficiency and equity for all electricity users and market participants. The roll out of the support scheme for microgeneration should be aligned to the National Smart Metering Programme and be developed.</p>	<p>SSE supports measures to facilitate microgeneration. Policies and measures need to be carefully considered to ensure fairness and equity for all electricity uses.</p>
Other, please specify Electric vehicle infrastructure	Support	<p>The Scottish parliamentary Economy, Energy and Fair Work Committee ran an energy inquiry (January 2020) about electric vehicles: their impact</p>	<p>SSEN recommended that network operators be allowed to invest in networks ahead of the surge in demand that is expected as a result of the</p>

		on electricity networks (positive and negative) and how consumer interest in purchasing EVs can be encouraged. The inquiry also covered local energy, covering the achievability of community and locally-owned energy targets, how community schemes could be encouraged and what more Distribution Network Operators (DNOs) like SSEN could do.	decarbonisation of transport (known as ‘anticipatory investment’) and emphasised the need for fairness to be embedded in the transition to net zero; SSEN is committed to ensuring that no-one is left behind.
Other, please specify Future energy system	Support	The Scottish Government consulted (December 2019) on their Local Energy Policy Statement which outlined the values and principles that will ensure a just, inclusive energy transition.	SSEN welcomes the focus on local energy policy within Scotland and agreed with the government’s approach. SSEN also seeks to put stakeholders at the heart of the future energy system, works to ensure that nobody is left behind in the transition to a net zero energy system and supports transparency to ensure a fair system. Our response called for anticipatory investment to be allowed in the electricity network, to prepare for the uptake of low carbon technologies such as electric vehicles and heat pumps.
Other, please specify Plan update (CCPu)	Support	The Scottish parliamentary Economy, Energy and Fair Work Committee ran an inquiry and call for views (December 2020) about the Scottish Government’s recently released Climate Change Plan update.	SSE Group provided both written and oral evidence to the Committee on the CCPu. We welcomed the plan which provides a promising and achievable series of commitments on what the Scottish Government intends to do but called for further development on how this will be delivered. Industry would benefit from a net zero delivery plan in order to be able to make a more detailed assessment of the extent to which this plan will

			deliver net-zero. Our response also called for reform of Scotland's planning system ahead of NPF4 in 2022 to achieve the commitments set out within the CCPu, and to fully unlock Scotland's low-carbon potential.
Other, please specify Scottish Government Draft Climate Change Public Engagement Strategy Consultation	Support	To support the delivery of the updated Climate Change Plan, a revised Draft Public Engagement Strategy was published for consultation setting out how the Scottish Government will continue to engage, support and encourage climate action amongst the public. SSE Group and SSEN provided responses to this consultation in March 2021.	SSE Group and SSEN's responses welcomed the Scottish Government's overall approach to engaging the public on climate change. Our response referenced the similarities between SSE's own just transition principles and those proposed by the Scottish Government in the Public Engagement Strategy. We welcomed the positive principle for communication that focusses on the opportunities offered by the transition to net zero. SSE also urged the Government to ensure its campaigns showcase the employment opportunities presented by the energy transition to current and future generations to help avoid skills shortages and support the development of a workforce for net zero.

## C12.3b

**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

## C12.3c

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Energy UK, Association of Decentralised Energy (ADE), Electricity Association of Ireland

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Energy UK and ADE supports the 2050 UK net zero target. EAI has called for a decarbonised electricity system and a cost-effective transition to a decarbonised electricity sector on the island of Ireland by 2050.

**How have you influenced, or are you attempting to influence their position?**

SSE has influenced adoption of positions in support of action via its Board position in Energy UK. SSE also has staff on various committees in these associations which helps to reinforce progressive positions on key issues. SSE is also represented on the Board of EAI and has engaged extensively on its policy positions for a decarbonised electricity system in Ireland.

**Trade association**

Eurelectric (members via Energy UK, Energy Networks Association and Electricity Association of Ireland)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Eurelectric's major objectives are to deliver carbon neutral electricity in Europe 'well before' 2050, ensuring a cost-effective, reliable supply through an integrated market and developing energy efficiency and the electrification of the demand side to mitigate climate change.

**How have you influenced, or are you attempting to influence their position?**

SSE has influenced adoption of positions in support of action via its Board position in Energy UK. Until recently, SSE's Chief Executive was Vice President of Eurelectric. SSE also has staff on various committees in these associations which helps to reinforce progressive positions on key issues. SSE has supported Eurelectric's engagement regarding fleet electrification, COP26, UK-EU energy relationship, and carbon pricing

**Trade association**

Renewables UK

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Renewable UK is the trade association representing renewable organisations in the UK (wind, solar, wave and tidal). Their aim is to create the conditions that will see the renewable sector continue to thrive. Renewables UK supports the 2050 UK net zero target.

**How have you influenced, or are you attempting to influence their position?**

As a member of this organisation, SSE has strongly advocated that Renewable UK make the case for, and support a policy environment that encourages, low-carbon investment. Since 2018, SSE Renewable's Director of Capital Projects has sat on the Board in a personal capacity. SSE was an event partner for RenewableUK's Onshore Wind Energy 2020 event which explored the resumption of Contract for Difference auctions for onshore wind, and a Strategic Event Partner for RenewableUK's Global Offshore Wind event during which SSE called for barriers to offshore wind to be addressed such as enabling timely grid connections, ensuring there is a skilled workforce and a predictable planning process.

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**Trade association**

Scottish renewables

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Scottish Renewables is the trade association representing Scotland's renewable energy industry. They work to grow Scotland's renewable energy sector to sustain its position at the forefront of the global clean energy industry. Scottish Renewables supports the 2050 UK net zero target.

**How have you influenced, or are you attempting to influence their position?**

As a member of this organisation, SSE has strongly advocated that Scottish Renewables make the case for, and support a policy environment that encourages, low-carbon investment in Scotland with a strong focus on guiding engagement around Scottish planning policy to support future onshore wind development. SSE Renewables was the event sponsor of Scottish Renewables' Annual Conference 2020 during which SSE representatives called on the Scottish and UK Governments to take bold political action and match net zero ambitions.

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**Trade association**

Confederation of British Industry (CBI) (in Northern Ireland only)  
IBEC – Ireland only

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

CBI and IBEC supports energy efficiency, future proofing business against climate threats and moving businesses towards carbon neutrality by enabling the market to develop the solutions that are needed to achieve these goals.

In the Republic of Ireland, IBEC has welcomed Ireland's Climate Action Plan. In March 2021, the Irish Government approved the final text of legislation to set Ireland on the path to net-zero emissions by 2050.

In Northern Ireland, engagement with the CBI has been focused on highlighting the need for an revised energy policy in NI. The Committee on Climate Change advised in December 2020 that Northern Ireland must cut its carbon emissions by 82% by 2050 in order to reach net zero. In March 2021.

**How have you influenced, or are you attempting to influence their position?**

SSE has advocated for IBEC to take a strong and supportive position on the Climate Action Plan and stands ready to help Ireland deliver on its net zero commitments. SSE's Chief Executive also participated in IBEC's Business Leaders Conference in February 2021 in support of IBEC's work on Irish climate policy in calling for the introduction of carbon budgets, sectoral emissions reduction targets, and a reinforced Climate Action Council. SSE's Chief Executive also set out SSE's offshore wind ambition for Ireland and desire for climate investment in the Irish economy which was covered in a feature for the Irish Times.

In Northern Ireland, SSE has fully supported the CBI's call for low carbon investment and has stressed the need for urgent action in Northern Ireland to tackle climate change and accelerate the transition to net zero. SSE also engaged with the CBI and supported its publication of its paper on 'Principles for a low-carbon, sustainable and net-zero aligned economic recovery post COVID-19'.

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**Trade association**

WindEurope

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Wind Europe is the trade association representing the wind industry and is actively promoting wind power in Europe and worldwide. WindEurope has called on the European Commission to include a 100% renewables scenario as part of the Impact Assessment for the EU Climate Law.

**How have you influenced, or are you attempting to influence their position?**

As a member of this organisation, SSE has strongly advocated that WindEurope make the case for, and support a policy environment that encourages, low-carbon investment. SSE Renewables has representatives on various WindEurope Working Groups in order to advocate our positions. SSE has been fully supportive of WindEurope's engagement on the European Green Deal, in particularly the EU Offshore Renewable Energy Strategy (ORES).

**Trade association**

Wind Energy Ireland (WEI)

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

WEI (previously IWEA) is the all-Ireland representative body for the Irish wind industry, working to promote wind energy as an essential, economical and environmentally friendly part of the country's low-carbon energy future. They work to grow Ireland's wind energy sector to sustain its position at the forefront of the global clean energy industry.

**How have you influenced, or are you attempting to influence their position?**

As a member of this organisation, SSE has strongly advocated that IWEA WEI make the case for an ambitious offshore and onshore wind policy, complemented by a policy environment that encourages, low-carbon investment in Ireland. SSE has Corporate Affairs representatives on WEI working groups which helps to reinforce progressive positions on key issues such as Irish planning policy to support future onshore and offshore wind development.

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**Trade association**

Business in the Community Ireland

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Business in the Community Ireland is the leading organisation driving the agenda for responsible business in Ireland and its purpose is to inspire and enable businesses to bring about a sustainable, low carbon economy and a more inclusive society where everyone thrives.

**How have you influenced, or are you attempting to influence their position?**

In line with our climate commitments to science-based targets, SSE has been signed up to the Business in the Community Ireland Low Carbon Pledge since 2019. Through this, SSE is part of a movement of over 60 companies in Ireland sharing knowledge and collaborating across all sectors to drive climate action. The key strength of the Pledge lies in the collaborative platform which enables signatory companies to learn from each other's successes and challenges. By working collectively, the Low Carbon Pledge movement builds capacity, fosters innovation and drives the ambition in delivering the changes needed. SSE has also played a key role in engaging with BITCI on responsible business, sustainability, and diversity and inclusion. SSE is proud to be certified by BITCI for the Business Working Responsibly Mark.

## C12.3e

### **(C12.3e) Provide details of the other engagement activities that you undertake.**

SSE engages with other organisations on an ad hoc basis in relation to climate-related issues and communications such as carbon pricing, net zero and the low carbon transition. For example:

- In June 2020, SSE also joined over 200 businesses in co-signing a letter, coordinated by The Prince of Wales's Corporate Leaders Group, to the UK Prime Minister stating that we believe that an ambitious low carbon growth and environmental improvement agenda can deliver a Coronavirus recovery plan, as well as make the UK economy better prepared to deal with future shocks such as those related to climate change.
- SSE joined other leading low carbon developers to write to the UK Government, encouraging them to adopt a robust approach to carbon pricing in their future energy plans. The letter outlined the need for stability and certainty, and called on HM Treasury to ensure efforts to reach net zero by 2050 are not undermined by any reduction to the carbon pricing level in Great Britain currently made up of the EU ETS and the Carbon Price Support (CPS).
- Since the 1st of January 2021, following Brexit, the UK Government has established a UK Emissions Trading Scheme (UK ETS) to replace the EU ETS, with the Group's UK generation assets now operating under the UK ETS carbon pricing system. SSE welcomed the establishment of a UK Emissions Trading System (ETS) in December 2020 and has called upon the UK and the European Union to agree a link between the UK ETS and EU ETS as soon as possible in order to benefit from a wide ranging, liquid and mature carbon market.
- In February 2021, SSEN Transmission, supported by Scottish Renewables, published a paper calling for a review and reform of the current transmission charging methodology to support decarbonisation at the scale and pace required to reach net zero.
- SSE engaged with the UK and Scottish governments on the current policy and market framework, which are not yet suitable for attracting investment in large-scale storage projects. SSE's proposed 1.5GW Coire Glas pumped hydro storage scheme could provide an invaluable low-carbon resource to help cost effectively manage the fluctuations of the electricity system.
- SSE urged the UK Government to increase ambition to multiple power CCS projects by 2025 and 2030. By delivering cutting-edge projects like SSE Thermal's Keadby 3 and Peterhead 2, the UK can accelerate the shift to net zero while maximising the benefits of a green recovery in the UK's industrial heartlands.

## C12.3f

### **(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**



SSE's business strategy and sustainability value (one of six of its core values) guides its overall approach on environment and climate change issues. SSE has policy and public affairs specialists based in Glasgow, Edinburgh, London, Belfast and Dublin who engage openly and constructively with legislators, officials and other policy makers on all aspects of environment (including water) and climate change policy. All communications across the business are managed by these experts and processes are in place to ensure consistency, quality and accuracy of communications across SSE. SSE has a commitment to responsible political engagement, and this is communicated through its political engagement policy. This policy is in place for all employees and is consistently applied across the SSE Group and governs both SSE's policies in this area – for example its policy on political contributions - and serves as a guide to how employees should conduct themselves when representing SSE to government or other institutions. SSE has also signed up to the voluntary membership of the Chartered Institute of Public Relations' UK Lobbying Register. A Lobby Register is in place in Ireland to which SSE is required to make quarterly updates. Alongside the SSE Group policy, employees are governed by its Code of Conduct. SSE also participates in mandatory registration for political engagement where such register exist (e.g. SSE's European Declaration). In 2020/21, SSE was a member of four principal 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 with the trade associations of which it is a member and engages with them on a continuous basis. As a result, its position on climate change is usually aligned to that of the trade associations. However, for prudence, SSE will undertake a thorough review of its trade association membership over 2021/22 to ensure explicit agreement that their positions on climate change are consistent with its own. Where a trade association may be identified as having a considerably different position on climate change which SSE believes to be detrimental, it will, in the first instance, work with the trade association to try and influence or strengthen their position on the issue. If the outcome of this proves unsatisfactory to SSE, it will end its membership of the particular trade association.

## C12.4

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

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### Publication

In mainstream reports, incorporating the TCFD recommendations

### Status

Complete

### Attach the document

-  Group Risk Report 2021.pdf
-  SSE Annual Report 2021.pdf

**Page/Section reference**

Environment (Annual Report pages 36 to 43; Sustainability Report pages 18 to 65); Labour (Annual Report pages 44 to 50; Sustainability Report pages 66 to 93); Human Rights (Annual Report page 47; Sustainability Report pages 75; and see also SSE’s Modern Slavery Statement 2021); and Anti-Corruption (see SSE’s Annual Report page 47). TCFD - Sustainability Report pages 26-35

**Content elements**

- Governance
- Strategy
- Risks & opportunities
- Emissions figures
- Emission targets

**Comment**

## C15. Signoff

### C-FI

**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

### C15.1

**(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Finance Director	Chief Financial Officer (CFO)

## SC. Supply chain module

### SC0.0

**(SC0.0) If you would like to do so, please provide a separate introduction to this module.**

### SC0.1

**(SC0.1) What is your company’s annual revenue for the stated reporting period?**

Annual Revenue
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Row 1	
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## SC0.2

**(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?**

Yes

## SC0.2a

**(SC0.2a) Please use the table below to share your ISIN.**

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1		

## SC1.1

**(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.**

## SC1.2

**(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).**

## SC1.3

**(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?**

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	The knowledge of sustainability data and information tends to be managed in different areas to the management of contracts and relationships. With large and diverse numbers of customers it is difficult to understand data requirements and then respond appropriately.

## SC1.4

**(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?**

Yes

## SC1.4a

### (SC1.4a) Describe how you plan to develop your capabilities.

Strong links between customer facing teams and sustainability teams are already being created. The next step is to understand customer requirements and then allocate resources to help provide this information and data.

## SC2.1

### (SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

## SC2.2

### (SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

## SC4.1

### (SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

## Submit your response

### In which language are you submitting your response?

English

### Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

### Please confirm below

I have read and accept the applicable Terms