Welcome to your CDP Climate Change Questionnaire 2020

C0. Introduction

C0.1

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

SSE plc is one of the UK and Ireland's leading energy companies, involved in the generation, transmission, distribution and supply of electricity, the production, storage, distribution and supply of gas and in the provision of energy-related services. It is a developer, operator and owner of energy assets. SSE's purpose is to provide energy needed today while building a better world of energy for tomorrow. SSE's vision is to be a leading energy company in a net-zero world. SSE's strategy is to create value for shareholders and society in a sustainable way through successful development, efficient operation and responsible ownership of energy infrastructure and businesses.
At the core of SSE's business is a portfolio of world-class renewable generation assets and electricity network businesses. These businesses are particularly well placed to seize the opportunities presented by decarbonisation and electrification. The strategy is therefore focussed on developing, operating and owning assets that create long-term value and are vital to the low-carbon transition.
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 the 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 – including Airtricity - which provides energy and related services to households, businesses and public sector organisations across the island of Ireland – and SSE Business Energy (GB), which 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.
SSE's business model is founded on its purpose, vision and strategy, underpinned by the four strategic pillars of: focusing on the electricity core; successful development, efficient operation and responsible ownership; creating value for shareholders and society; and delivering in a sustainable way. SSE fulfils its purpose, works towards its vision and executes its strategy through an evolving group of principally electricity businesses that are aligned to the core purpose of providing energy needed today while building a better world of energy for tomorrow; and, in particular, have a core or complementary role in enabling the transition to net-zero emissions and can be remunerated for it in a way that is fair to shareholders and other stakeholders alike.
Through its Sustainable Development Goals (SDGs), the United Nations has created a blueprint for a sustainable world and SSE plc has aligned its business strategy to them, in particular, by prioritising SDG13, Climate Action; SDG7, Affordable and Clean Energy; SDG9 Industry, Innovation and Infrastructure; and, SDG8 Decent Work and Economic Growth. SSE set four fundamental business goals of its own linked to these UN SDGs. 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. SSE has also committed to the long-term principles of Fair Tax and a real Living Wage. 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.
SSE's 2030 Goal for climate action was updated in 2019/20 to align with the company's Science based Target, becoming more stretching from 2020/21 onwards. It is now targeting a reduction in the carbon intensity of electricity generated of 60% by 2030, compared to 2018 levels (the previous target was a 50% reduction from 2018 the baseline).
CDP Climate Change Report: SSE has been reporting to CDP on climate-related issues and opportunities since its inception over 10 years ago. 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, 2019	March 31, 2020	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
Gas extraction and production

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)	Climate-related issues are 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 (a member of the SSE plc Board) has ultimate responsibility in their executive capacity for climate-related issues. As an Executive Director of the Company, and in line with the SSE plc Board's responsibility for strategy, the CHIEF EXECUTIVE is involved in setting the Group strategy direction and leading on its implementation as head of SSE's Group Executive Committee. SSE's strategy underpins 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. An example of the CHIEF EXECUTIVE and SSE Board making a prominent climate-related decision in FY19/20 is the adoption of SSE's Science Based Target (SBT), which was validated by the Science Based Target Initiative. The Group Executive Committee, which the CHIEF EXECUTIVE leads, agreed SSE's SBT on 12 March 2020, which were then endorsed by the SSE plc Board in April 2020.
Chief Financial Officer (CFO)	SSE's Finance Director deputises for the Chief Executive (see above) and is responsible for setting SSE's financial strategy and overseeing financial performance. The presence of climate-related issues within this role includes: • Sustainable debt financing, such as the issuance of 'green bonds' and the use of ESG linked finance facilities. In 2019/20 a £350m Green Bond was issued to support the delivery of key electricity transmission infrastructure that supports the connection of more renewable electricity to the network in the north of Scotland. 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). • 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. • 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 signs-off on SSE's CDP Climate Change programme response and also on the scenario analysis for the potential financial impacts of SSE's climate-related risks and opportunities, which is part of SSE's TCFD disclosure.
Board-level committee	The Safety, Health and Environment Advisory Committee (SHEAC) is a sub-Committee of the SSE plc Board. Climate Change is a highly material environmental issue to SSE, and is a matter within the SHEAC's remit. The SHEAC is responsible for reviewing and monitoring the implementation of SSE's Environment and Climate Change Policy. It consists of four Non-Executive Directors of the SSE plc Board and five Senior Executives. The Chair of the Safety, Health and Environment Advisory Committee (a Non-Executive Director) is responsible for advising the Board on matters relating to safety, health and environment.
Board Chair	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 has been agreed to be: the creation of value for shareholders and society in a sustainable way through successful development, efficient operation and responsible ownership of energy infrastructure and businesses. In 2019/20 the Board agreed a number of strategic priorities to support this founded on the transition to Net Zero, including: growth plans to support SSE's position and portfolio as a developer, owner and operator of renewable assets; business plan priorities for the next RIIO-2 price control period in Networks; and longer term options for the evolving role of thermal, including electricity system flexibility to support the maximum possible deployment of renewable energy. In line with the Group's financial governance framework, the Board has also signed off a number of supporting projects and investments such as: the Dogger Bank (3,600MW, SSE share = 50%) and Seagreen 1 (1,075MW, SSE share = 49%) offshore wind projects.

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
Scheduled – all meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding annual budgets Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Overseeing major capital expenditures, acquisitions and divestitures	SSE's Schedule of Reserved matters outlines the Board's responsibilities, core to which is the definition of the company purpose and strategy. Strategy is on every Board agenda, which stems from the annual strategy review and climate-related issues are key to SSE's strategy, so are covered at every Board meeting. Within the Board's financial governance framework, they sign off major projects that materially impact the Group's strategy. Strategic decision-making is supported by analyses from subject-matter experts, covering the external operating environment and relevant external trends. This includes climate-related risks and opportunities in relation to policy, environment social and governance matters. In 2019/20 key developments covered: offshore wind development opportunities, impact and dependency of weather, the role of hydro assets in the net-zero transition and reporting requirements on climate-related financial disclosure. In 2019/20, the Board's strategic focus was on growth opportunities presented by decarbonisation and how they should be funded. Outcomes agreed included: growth plans to support SSE's position and portfolio as a developer, owner and operator of renewable assets; SSE's approach to

	Monitoring and overseeing progress against goals and targets for addressing climate-related issues	financial partnering and divestments to focus on its core businesses; and longer-term options for the evolving role of thermal energy. Effective identification, understanding and mitigation of Group Principal Risks (GPRs) underpins the Board's approach to setting strategic objectives and informing decision making. The Board aims to consider all material influencing factors, including those relating to climate change, and to do so 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 related mitigation strategies adopted. Material changes in the nature and potential impacts of SSE's GPRs are continuously assessed with appropriate mitigations implemented. Climate-related Board activities in 2019/20 included: overseeing strategic implementation by business units; agreeing a sustainability plan inc. supporting progress in SSE's 2030 Goals (focused on addressing climate change) and TCFD compliance; overseeing the release of SSE's climate scenarios report for its gas business; approving the adoption of science-based targets; approving the GPRs, which included the new Climate Change GPR for 2019/20. 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.

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, and in conjunction with the Board, is responsible for setting the strategic direction of SSE; the implementation of which is the responsibility of the Group Executive Committee (GEC) which is led by the Chief Executive. The Chief Executive has overall lead responsibility for sustainability issues, including climate change. As climate change is highly material to SSE's strategy, the Chief Executive and relevant sub-Committees have a responsibility to manage climate-related issues and low-carbon opportunities.

The Chief Sustainability Officer is responsible for advising the Board, GEC and business units on sustainability-related issues and strategy (including climate change). The Chief Sustainability Officer reports directly to the Chief Executive, has been appointed to the SHEAC, and is a member of two of the three SSE Group-wide sub-committees of the GEC: Group Safety, Health and Environment Committee (SHEC) and the Group Risk Committee. The Chief Sustainability Officer is also a non-executive Director of the Board of SSEPD, the subsidiary company which is responsible for SSE's electricity networks businesses. The CSO has responsibilities for climate-related issues due to highly significant nature of climate change to sustainability and the long-term success of the company. The CSO's responsibilities mean there is a continuous focus on sustainability issues through the direct reporting link to the Board and executive, ensuring these issues are elevated to the most senior level.

Members of the GEC include the: Chief Executive; Finance Director; Energy Director; Managing Director, SSEN; Managing Director, Transmission; and Managing Director, SSE Renewables. The GEC has responsibility for climate-related issues because it implements Group strategy and sustainability strategy set by the Board through the operational management of SSE's businesses. This committee and the Executive sub-Committees with relevant delegated authorities support SSE's focus on its low-carbon core and complementary businesses. The members of the GEC ensure that each business within the Group are equipped with the necessary resources to deliver the 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 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 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 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 inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward		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 agreed to align 20% of the AIP to progress against the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals. 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. 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.
Chief Financial Officer (CFO)	Monetary reward		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 agreed to align 20% of the AIP to progress against the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals. 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.

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Other, please specify Energy Director (Board member)	Monetary reward		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 agreed to align 20% of the AIP to progress against the achievement of SSE's four business goals aligned to the UN Sustainable Development Goals. 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. 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.
Other, please specify Group Executive Committee	Monetary reward		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.
All employees	Monetary reward		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 NB: Activity incentivised is reported as Other: Achievement of SSE's sustainability value.
All employees	Non-monetary reward		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		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	4	12	SSE's medium-term horizon for considering climate-related risks and opportunities is 4 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 stepping stones 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 gCO2/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 gCO2/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. An example of SSE using this horizon in its planning is through the setting of its new Science Based Target : to reduce the carbon intensity of the electricity it produces by 60% by 2030, based on 2018 levels. 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.
Long-term	13	30	Most of SSE's assets have lifetimes that exceeds 20 years, therefore SSE naturally has a long-term business outlook. The long-term horizon runs beyond 13 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. The period from 2030 and beyond, is the period where there is far less clarity or certainty around the market and policy. Nevertheless, it is possible for SSE to understand and consider a number of permutations of both opportunities and threats it may face in that period, which are detailed 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 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.

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. It's 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; 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 SSE SET 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. SSE's Group Executive Committee (GEC) and its sub-Committees have responsibility for overseeing SSE's Principal Risks. During 2019/20, the Board reviewed the Principal Risks and Climate Change was a risk that was formally recognised as one of the 11 Principal Risks recognised by SSE.
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 RMF and goes into more detail to identify and assess the climate-related risks and opportunities. This specialist TCFD risk 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:
• The time frame in which the risk or opportunity is likely to impact SSE: low – one in 10 year event; medium – one in 5 year event; and high – one in 3 year event.
• The financial impact of the risk or opportunity: low – <£50m earnings annually; medium – >£50m <£100m earnings annually; and high >£100m earnings 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 to be the combination of a high likelihood and high financial impact.

C2.2

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

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

A specific climate-related risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Process to determine if a risk or opportunity is mitigated, transferred, accepted or controlled
The decision to mitigate, transfer, accept or control identified risks or opportunities is completed 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:

Physical risk: For instance the TCFD risk assessment process identified that chronic long term changes in climate patterns can cause sustained seasonal fluctuations in temperatures that may result in lower rainfall and reduced wind which ultimately impacts the supply/ demand of electricity. This risk materialised in 2018/19 when SSE experienced lower than expected renewable energy outputs, extreme weather along with higher than expected gas prices. SSE's risk assessment process reviewed that whilst the opportunity to mitigate against year-to-year weather variability is limited, SSE has 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.

Transition opportunity: For example, SSE's TCFD risk assessment process identified that the UK Government commitments through the Climate Change Act 2008, Clean Growth Strategy (published 2017), and its industrial strategy for investment in new renewable generation. SSE's risk assessment process identified this as a highly significant business opportunity and SSE has an off- and on-shore wind pipeline at varying stages of development to take advantage of this opportunity. And this forms part of SSE's strategy to be 'a leading energy company in a low carbon world'.Process for identifying and assessing climate-related risks and opportunities

SSE's Group Risk Management framework (RMF) integrates a process for identifying and assessing climate-related risks and opportunities. In addition to this RMF process and complementary to this RMF, SSE also undertakes a TCFD climate-related risk and opportunity assessment process which is conducted by the TCFD Steering Group. This specialist TCFD risk 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 climate-related risk and opportunity assessment process identifies the significant 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 as to its impact over the short (up to 3 years), medium (four to 10 years) and long term (up to 30 years).

Process to determine which risks and opportunities could have a substantive financial or strategic impact
To determine which risk and opportunity could have a substantive financial or strategic impact to the organisation, the TCFD climate-related risk and opportunity assessment process identifies and assesses the potential financial impact of the risks and opportunities that are material to SSE. 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) along with the cost of mitigation 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 and balanced against the costs of implementation again over the timeframe that the opportunity is perceived to be realised by the business.

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.

To support this process, a risk rating matrix provides the framework to rank each risk and opportunity by likelihood of impact and significance of potential financial impact. This helps to identify the importance of each material risk or opportunity to the business. The risk rating matrix evaluates the material risk or opportunity in terms of:

• The time frame in which the risk or opportunity is likely to impact SSE: low – one in 10 year event; medium – one in 5 year event; and high – one in 3 year event.
• The potential financial impact of the risk or opportunity to SSE: low – <£50m earnings annually; medium – >£50m <£100m earnings annually; and high >£100m earnings annually.

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 an annual review of the outputs. 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 and approved by SSE's Company Secretary, Finance Director and the Chief Sustainability Officer.

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	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. 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. In September 2019, the results for the UK's third Contracts for Difference (CfD) Allocation Round for renewable energy projects were announced, with SSE Renewables-backed offshore wind projects at Dogger Bank and Seagreen securing 15-year contracts for delivery between 2023 and 2025. SSE is involved in two offshore prospects Seagreen (Phase 1, up to 1,050MW) and Dogger Bank (up to 3,600MW)) as well as Viking Wind Farm (up to 457MW) which is eligible to compete as a 'remote island wind' project. 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.
Emerging regulation	Relevant, always included	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. 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. 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. For example, in Ireland the policy process for renewable development was awaiting State Aid approval in 2019. This impacts SSE's Arklow Bank Wind Park which has a lease but is awaiting details regarding the auction process for new Renewable Electricity Support Scheme (RESS). In Ireland, the Department of Communication, Climate Action and Environment completed the prequalification process for the first auction under the new Renewable Electricity Support Scheme (RESS) due to be in August 2020. Successful projects will be awarded contracts for up to 15 years of support. The risk that SSE faces is that key off-shore developments fail to succeed in the new RESS scheme, which in turn risks the viability of the projects.
Technology	Relevant, always included	The climate-related risks relating to technology are identified through the Group Principal Risk review process for the 'Development and Change' and 'Major Projects Quality' Principal Risks as well as a risk in the risk and opportunities assessment process. SSE's 'Development and 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 'Major Projects Quality' 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. 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 (SSEN), 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. SSEN'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. The risk is that SSEN'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 SSEN 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.
Legal	Relevant, always included	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. International and national agreements such as the 2015 Paris 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. For example, not meeting legislative requirements such as the current Emissions Performance Standard would represent a legal risk for SSE. This risk of non-compliance with this legislation and the

		impact of fines or other legal consequences is considered low because SSE has a transition plan where no electricity generation from coal will occur after 2025. However, a greater risk might be where carbon targets across the country are failing to be met and this could lead to the risk of the introduction of new legislation that impacts SSE's strategy, finance and investment decisions.
Market	Relevant, always included	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 such as the 2015 Paris Agreement on Climate Change have been identified as a material influencing factor 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. 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 there are a number market forces that 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. 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 Estate Scotland have signalled their intent to make new seabed rights available to offshore wind developers to ensure new projects can start to operate from the late 2020s. 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 CfD auctions to date are proven to be highly competitive resulting in aggressive cost reductions.
Reputation	Relevant, always included	Reputational risk is not identified 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, evident the Committee on Climate Change report on Net Zero. SSE publicly supports the aims Net Zero report 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 new, 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.
Acute physical	Relevant, always included	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. In late February/early March 2018, SSE's Network's business was impacted by severe weather conditions when a cold wave, named the 'Beast from the East', combined with Storm Emma to bring high winds and significant snowfall to the UK and Ireland. Power needed to be restored to over 22,500 customers in its central southern England network region.
Chronic physical	Relevant, always included	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.

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.

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 2,533MW of on-and off-shore wind generation capacity.

In total, SSE has over 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

Medium

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, 2,533MW 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 in 2019/20 to achieve its highest-ever year of electricity generation from renewable sources with 11.4TWh of output compared to 10.4TWh in 2018/19 (including biomass, pumped storage and constrained off wind in GB).

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 hydro generation activities in a different way to the way it did 5 to 10 years ago (ie storing water in different seasons depending on rainfall).

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

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 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, causing power supplies to customers to be disrupted (for example flooding of one substation can impact around 10,000 of SSEN's customers). In late February/early March 2018, SSEN's Distribution business was impacted by severe weather conditions when a cold wave, named the 'Beast from the East', combined with Storm Emma to bring high winds and significant snowfall to the UK and Ireland impacting 22,500 customers in its central southern England network area.

Time horizon

Short-term

Likelihood

Very likely

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 assumes that for three years fault costs will increase by 10% with a corresponding 10% decrease in annual incentive revenue; and for a further three years fault costs will increase by 20% with a 20% annual incentive revenue reduction.
• The second scenario assumes that an additional 10% fault cost will be 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.

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

57,400,000

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. (this includes overhead line replacement and refurbishment). In 2019/20, SSEN invested £4.6m on flood protection. A number of projectswere undertaken in 2019/20 to support flood mitigation this included relocating substations in both Melksham and Osney Island, a riverside village in Oxfordshire, to safeguard them from the risk of flood damage. The works involve replacing outdoor equipment which is sensitive to flood levels by constructing an elevated building on part of the existing site. This will ensure that the power supply to customers in these local area is protected.

Another example in 2019, SSEN Transmission saw an increase in the number and impact of wildfires on its electricity network infrastructure in the north of Scotland. SSEN is working to understand whether these events are being exacerbated by climate change. SSE established a Wildfires subgroup to assess risk 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 has 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.

Asset resilience is currently being reviewed using climate projections for the next 30 years and 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. using the Met Office's Climate Projections. 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 is the combination of costs associated with investment in overhead line replacement and refurbishment (£26.5m), tree cutting (which is fundamental to the ongoing maintenance of SSE's assets) (£26.6m) and flood protection (£4.3m). The combination of these costs was £57.4m in 2019/20 as reported in Sustainability Report 2020.

Comment

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: Stretching climate change policy results in the closure of unabated gas assets from 2030 onwards.
The low-carbon transition requires a significant increase in renewable generation. Flexible generation is required to provide electricity when renewable output is low. In the short-term (by the end of 2020s) gas generation is likely to provide that flexibility. However, to meet climate change commitments the UK and Irish governments may strengthen climate change policies and require thermal generation to be removed or abated in the medium- to long-term (beyond 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 natural life during the 2020s. In May 2018, SSE announced its intention to invest £350m in a new CCGT power station at Keadby, Lincolnshire, and construction is underway. This asset will use state-of-the-art technology, making it the most efficient gas-fired power station on the UK power system, and making a significant contribution to securing Britain's electricity supplies through the 2020s, particularly as increased intermitted wind generation contributes to the GB electricity system..

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. 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 will still be in operation in 2030 and beyond).

Time horizon

Long-term

Likelihood

Unlikely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

305,000,000

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 £305m cumulatively over five years after 2030.

Cost of response to risk

300,000

Description of response and explanation of cost calculation

First and foremost, 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 transitionary 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.

Finally, 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

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Technology
Unsuccessful investment in new technologies

Primary potential financial impact

Other, please specify
Capital investments in technology development

Company-specific description

Technology risk: Electrification takes place at such speed it overwhelms the distribution network.
National Grid's 'Two Degree' Future Energy Scenario 2018 expects electric vehicles (EVs) to grow in GB to around 10 million by 2030 and SSE's Distribution business is preparing for such a scenario.

The number of EVs on SSEN's network up to the end of 2018 was estimated to be around 25,000, however this is expected to grow rapidly in the coming years in response to ambitious targets set by the UK and Scottish Governments to phase out petrol and diesel vehicles by 2035 and 2032 respectively. National Grid's 2018 Future Energy Scenarios (FES) report estimates a maximum potential for 38.5 million EVs in Britain by 2050.

SSEN is undertaking work to prepare for this transition, however, if the uptake in EVs takes place at a pace which is dramatically higher than expected in the current models, this could pose challenges to SSEN's distribution networks. The risk is that a disorderly and faster-than expected increase in the uptake of EVs has the potential to affect the reliability of SSEN's distribution network.

For example, SSE's My Electric Avenue study showed that when 40-70% of a distribution network's customers have EVs 32% of the low voltage network (totalling 312,000 circuits) will need additional intervention (upgrading or replacement) to support the charging. This study also identified that a high number of EVs in a local area (called a cluster) has the potential to cause emergency situations where local networks experience a fault or are likely to fault based on a rapid increase in electricity demand caused by these clusters or groups of EVs.

This speedy uptake of EVs could significantly increase the costs to reinforce the network to take account of electrification.

Time horizon

Medium-term

Likelihood

Unlikely

Magnitude of impact

Low

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)

50,000,000

Potential financial impact figure – maximum (currency)

100,000,000

Explanation of financial impact figure

An unexpected rapid and exponential uptake of EVs in GB will have the potential to disrupt the electricity network and impact the reliability of the network assets.

Additionally, there would likely be significant additional expenditure incurred due to the distressed nature of delivering capital investment as a result of a GB wide rapid uptake of EVs including the impact on the supply chain.

The financial impact of rapid electrification cumulatively over the next five years on earnings could be between £50m to £100m.

Cost of response to risk

1,500,000

Description of response and explanation of cost calculation

SSEN has set itself a 2030 target to ‘build network flexibility that helps accommodate 10 million electric vehicles in the UK’.

In March 2020, SSEN published its Electric Vehicle (EV) Strategy, which sets out the principles it will apply to support the decarbonisation of transport in line with SSE's 2030 Goal of building the infrastructure to accommodate 10m EVs on Great British roads. The EV Strategy sets five key principles to facilitate EV uptake and ensure 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.

SSEN is now seeking feedback from its stakeholders on the EV Strategy to ensure their priorities and requirements are instructive to the pathway to increased electrification of road transport.

In 2019/20, SSE made strong progress in the first year of Project LEO (Local Energy Oxfordshire), a £40m collaboration in which SSEN is the lead partner. Project LEO is one of the most ambitious projects to demonstrate how the growth in small scale renewables, EVs, battery storage and demand side response can be supported by a local, flexible and responsive electricity grid.

In addition SSE 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 2019/20, SSE's vehicle fleet had 290 fully electric or hybrid vehicles compared to 138 the year before. SSE has also installed over 100 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.

The costs associated with mitigating this risk is based on the management actions which are calculated as a percentage of the project risk of SSE's EV strategy which is 3-5% as defined by SSE’s Large Capital Project governance process. For this risk SSE has taken the lower cost of managing this risk at £1.5m per annum.

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.

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

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's sector deal has committed to reach 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 4GW (including pumped storage) and in 2019/20 achieved its highest ever output from renewable sources (including pumped storage) at 11.4TWh of output compared to 10.4TWh in 2018/19 (including biomass, pumped storage and constrained off wind in GB).

SSE believes its 8GW 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. SSE currently has an onshore and offshore wind pipeline of over 7GW. This includes offshore wind farms Dogger Bank (3,600MW, SSE Share = 50%) 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

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

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. Further CfD Allocation Rounds present significant new opportunities for SSE to develop more offshore and onshore wind potential in UK waters.

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.

SSE expects to give enhanced disclosures to CDP on the renewables pipeline opportunity in the future.

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

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

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 Committee on Climate Change report on net zero and a green recovery economic response to the coronavirus, an accelerated path towards further decarbonisation is highly 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. In 2019/20, SSEN Transmission invested in the construction of new substations at Fort Augustus, Rothienorman and New Deer, to enable renewable energy projects to connect to the network. SSEN Transmission connected new renewable generation capacity to its network in the north of Scotland, bringing the total connected to 6.3GW.

SSEN Transmission has a current pipeline of transmission projects with a total planned investment of over £400m up to 2021 as part of RIIO-T1.

For the next price control from 2021 to 2026 SSEN published its draft Business Plan for A Network for Net Zero that forms the basis of the RIIO-T2 business plan. This plan identifies potential investment in the transmission network of £2.4bn over the RIIO-2 period to increase renewables capacity from 6.3GW today to over 10GW by 2028. In addition to the £2.4bn, and subject to approval by Ofgem, SSEN Transmission also expects to invest in a new HVDC transmission link to connect the planned Viking onshore wind farm to the GB electricity grid with important benefits for communities and business across the Shetland islands.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-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

SSEN Transmission has a current pipeline of transmission projects with a total planned investment of over £400m up to 2021 as part of RIIO-T1.

For the next price control from 2021 to 2026 SSEN published its draft Business Plan for A Network for Net Zero that forms the basis of the RIIO-T2 business plan. This plan identifies potential investment in the transmission network of £2.4bn over the RIIO-2 period to increase renewables capacity from 6.3GW today to over 10GW by 2028. In addition, there is potential for investment in three island links of around £1.5bn.

Additional annual earnings of over £100m in comparison to the previous price control. 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. SSE also has a pipeline of transmission projects including a total planned investment of over £400m up to 2021.

In 2019/20, SSEN Transmission invested in the construction of new substations at Fort Augustus, Rothienorman and New Deer, to enable renewable energy projects to connect to the network. SSEN Transmission connected new renewable generation capacity to its network in the north of Scotland, bringing the total connected to 6.3GW.

For the next price control from 2021 to 2026 SSEN published its draft Business Plan for A Network for Net Zero that forms the basis of the RIIO-T2 business plan. This plan identifies potential investment in the transmission network of £2.4bn over the RIIO-2 period to increase renewables capacity from 6.3GW today to over 10GW by 2028. In addition, there is potential for investment in three island links of around £1.5bn.

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 only for this element is estimated at approximately For this opportunity the cost of management is around £5m - £8m per annum.

Comment

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 14% of its portfolio capacity), as it can be characterised as both renewable and flexible. In 2018/19, SSE's hydro stations delivered increased value from their flexibility, enabled by enhancements to SSE's commercial management of these assets. 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 600MW 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-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

450,000,000

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 600MW of pumped storage. 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 Coire Glas Pumped Hydro plant could potentially earn additional revenue from 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 £450m 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 7GW 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 600MW of pumped storage.

Finally in order to realise this strategy, in 2019/20, and despite challenging weather conditions, SSE's hydro fleet delivered increased 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 14% of the Group's electricity generation output in 2019/20. Generation output from SSE's hydro generation assets by nearly 10% between 2018/19 and 2019/20. In addition, in 2019/20 SSE Renewables' (hydro and wind generation) accounted for 38% 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

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

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 ambitious targets set by the UK and Scottish Governments to phase out petrol and diesel vehicles by 2040 and 2032 respectively. 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 . 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.
Increased uptake of EVs has the potential to provide opportunities for SSEN as a network operator. In SSEN there is the opportunity to invest in and develop the network infrastructure required to support the roll out of EVs. This includes 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, in December 2018, SSEN adopted a 'flexibility first commitment' setting out that SSEN Distribution will consider flexible solutions in all scenarios where traditional network reinforcement may have been required. In addition, 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 which are in central Southern England and the north of Scotland.

Time horizon

Medium-term

Likelihood

Very likely

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)

400,000,000

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. SSE aims to help support an additional 10 million EV in GB by 2030 (rising from the end of 2018 estimate of 25,000). 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 of a fast and average uptake of EVs over the period up to 2030 and this is between £200m and £400m increase in cumulative revenue up to 2030.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

SSEN has set itself a 2030 target to 'build network flexibility that helps accommodate 10 million EVs in the UK'.
In March 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.

In 2019/20, SSE made strong progress in the first year of Project LEO (Local Energy Oxfordshire), a £40m collaboration in which SSEN is the lead partner. This is one of the most ambitious projects to demonstrate how the growth in small scale renewables, EVs, battery storage and demand side response can be supported by a local, flexible and responsive electricity grid.

In August 2019 in Scotland, SSEN joined the Scottish Government, Transport Scotland and SP Energy Networks on a £7.5m strategic EV infrastructure partnership.

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 2019/20, SSE's vehicle fleet had 290 fully electric or hybrid vehicles compared to 138 the year before. SSE has installed over 100 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.

The management costs associated with preparing SSEN's distribution networks for the mass roll out of EVs in the UK are, currently, unable to be extracted from management costs associated with constructing the new business plan for the regulatory period between 2023 and 2028. This business plan is in the process of being constructed in conjunction with a detailed stakeholder engagement. It is expect that in future CDP disclosures, there will be greater visibility of these costs, as the price control process becomes more developed.

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) Does your organization use climate-related scenario analysis to inform its strategy?

Yes, qualitative and quantitative

C3.1b

(C3.1b) 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	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. 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 & 4°C) over the short-, medium- and 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 4 to 12 years; and long term 13 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. CCUS 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 Thermal is working with 10 other energy and industrial companies, to transform the Humber region into a leading 'zero-carbon cluster' by 2040. The consortium is focused on using both CCUS and hydrogen technology to decarbonise energy and industry. SSE Thermal has a significant presence in the Humber area, with the Keadby 1 CCGT (Combined Cycle Gas Turbine) Power Station in North Lincolnshire, as well as two gas storage sites at Atwick and Aldbrough in East Yorkshire. The Post Paris Report results showed that the combination, and balanced range, of valuable distribution, transmission and generating assets were vital to GB's electricity system over the time horizons and in every climate scenario assessed. The report also found that the optionality of SSE's development pipeline (eg investment of over £4.2bn in renewables since 2010) is in an advantageous place to respond to new opportunities that climate change mitigation may bring. This was reaffirmed this year (2019/20) as SSE Renewables' focus on core strategic projects in offshore wind and onshore wind with a significant pipeline of over 7GW of on- and off-shore projects including Dogger Bank (3,600MW, SSE share = 50%) and Seagreen (1,075MW, SSE share = 49%), and the onshore Viking wind farm (443MW) which SSE approved a final investment decision for in June 2020. These and other projects will support SSE's 2030 Goal of developing and building enough renewable capacity to treble annual output of electricity from renewable sources to 30TWh. 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.

C3.1d

(C3.1d) 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	Climate-related risks and opportunities have shaped SSE's strategy, which is focused on its core businesses of economically-regulated electricity networks and renewables, complemented by thermal generation. These businesses have crucial roles to play in the net-zero transition. SSE's product-related strategy is influenced by climate change legislation and policy such as UK Climate Change Act 2008 and in Ireland the Climate Act 2015. Examples of a substantial decision made that has been influenced by climate related policy opportunity in SSE's products: The UK and Irish Governments have set 2030 ambitions for new offshore wind, targeting 40GW in the UK and at least 3.5GW in Ireland. This strong policy support means SSE's short and medium-term strategy has been influence. It is pursuing a number of offshore projects and has an offshore pipeline of 6GW, including 3.6GW Dogger Bank and 1,075MW Seagreen which were successful in the Sept 2019 CfD auction round and which both went in to construction in 2020. It also means SSE could set its 2030 Goal of trebling renewable output to 30TWh a year, to which offshore wind will make a significant contribution.find Examples of a substantial decision made that has been influenced by climate related policy risks in SSE's products: In Jan 2018, the UK Govt announced plans to phase out unabated coal generation by 2025. SSE's short-term strategy was impacted and in June 2019 it announced the closure of its last remaining coal-fired plant by March 2020. The UK Govt is targeting a ban on selling new petrol, diesel or hybrid cars by 2035. This policy will drive an increase in the uptake of EVs. This has impacted the short and medium-term strategy of SSE's electricity distribution business. In 2019 SSE set a core 2030 Goal to build the network flexibility and infrastructure that helps support 10m EVs in GB. In March 2020, SSEN Distribution published its EV Strategy for consultation, which sets 5 key principles to support the decarbonisation of transport. In 2019/20, it formed a strategic partnership with Scottish Government, Transport Scotland and SP Energy Networks to trial projects which widen access to EV charging networks. It also made progress on the £40m Project LEO, a practical demonstration of local, low-carbon networks of the future, the learnings will inform efficient management of EV charging in the future.

Supply chain and/or value chain	Yes	SSE's 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. 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 share 50%) and Seagreen (SSE share 49%) offshore wind farms were successful in the auction. 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 12MW 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. 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 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 2019/20 it held sessions with some of these suppliers to share practices and learnings on carbon reporting and reduction activities, with further sessions planned for the future and a commitment to continued dialogue between the companies on sustainability issues.
Investment in R&D	Yes	UK and Irish climate change legislation and policy shapes SSE's strategy, and in turn influences its approach to innovation and R&D, which is required to deliver net zero. R&D: examples of a substantial decision made that has been influenced by climate-related policy opportunities: UK and Irish Government offshore wind targets have influenced SSE's short and medium-term strategy and it is pursuing a number of offshore projects. SSE has been working with its supply chain to implement innovative technology, such as the 12MW Haliade-X turbine at Dogger Bank. Further innovation is crucial to develop and deploy large-scale offshore wind farms needed in UK and SSE has been engaging with partners, such as Offshore Renewable Energy Catapult, on offshore wind innovation. SSE is a founding member of Offshore Wind Accelerator, a core innovation driver for offshore developers. SSE is a member of two major industry innovation initiatives in support of the floating wind market. R&D: Examples of a substantial decision made that has been influenced by climate-related policy opportunities: The UK Govt's ban on new petrol, diesel or hybrid cars by 2035 will increase the uptake of EVs. This impacts SSE's electricity distribution business' short and medium-term strategy. Innovation is needed to ensure the rise in EVs does not overloaded the network. In 2019/20, SSEN Distribution formed a strategic partnership with Scottish Government, Transport Scotland and SP Energy Networks to trial projects that widen access to EV charging networks. It also progressed the £40m Project LEO, the most ambitious and holistic smart grid trials ever undertaken. The UK and Ireland have national carbon reduction targets but it is recognised that thermal generation has a role in the net-zero transition. In the medium term low-carbon technologies (eg CCUS and hydrogen) must be developed to be rolled out at scale in the long term. As a result SSE's current thermal development opportunities will only be progressed where they have a clear low-carbon pathway. That means its priority is to be an active participant in several collaborative efforts to decarbonise thermal generation in the future. It is working with 10 leading energy and industrial companies to transform the Humber region into a leading 'zero-carbon cluster' by 2040, by using CCUS and hydrogen technology.
Operations	Yes	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. Examples of a substantial decision made that has been influenced by climate related policy opportunities in SSE's operations: To achieve 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 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 targets in their price controls. In 2019/20 SSEN Distribution implemented a new strategy for SF6 switchgear to minimise leakage, involving: establishing a working group to address

		SF6 leakage; improvements utilising a more pro-active 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. Demonstrating these technologies, will reduce the environment impact of its network and demonstrate a viable alternative. Examples of a substantial decision made that has been influenced by physical climate-related weather risks in SSE's operations: The increased severity of extreme weather events, ie storms, floods and heat waves bringing prolonged extreme temperatures, wind or rainfall can cause damage or interrupt energy supply or generation in SSE's business. These weather related events impact the way SSE operates its assets. Eg SSE monitors short- and long-term weather conditions to identify extreme events and implement its crisis management and business continuity plans. Monitoring the longer-term weather trends helps SSE implement resilience response strategies ie flood protection, overhead line replacement and tree cutting. In 2018/19, SSEN Distribution's weather-related resilience spend was £57.4m, with flood protection spend rising to £4.3m from £0.8m in 2018/19.

C3.1e

(C3.1e) 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	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. For example in terms of SSE's revenues: SSE is a leading renewable energy generator in the UK and Ireland. It develops, owns and operates a diverse and sustainable portfolio of renewable and generation plant. SSE is one of the largest renewable energy operators across the UK and Ireland and, at 31 March 2020, it has a renewable generation capacity of over 3.7GW. Support for renewable energy has allowed SSE to generate revenue from a strong portfolio of renewable generation assets. With the increase in renewable energy connecting to the electricity system in GB, SSEN's transmission business is investing in infrastructure to support the low-carbon transition and connect renewable generation projects to its network. During 2019/20 revenue for the core businesses of electricity networks and renewables was over £1.4bn. 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 core businesses of electricity transmission, electricity distribution and renewable sources of electricity. In 2019/20, SSE's investment and capital expenditure totalled £1.36bn, 76% of which was in renewables and electricity networks. In relation to the direct and indirect costs, 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 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. 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. In September 2019, SSEN's Transmission business issued its inaugural £350m Green Bond. The proceeds of this Green Bond were fully allocated at issuance to refinance part of SSE's £1.3bn portfolio of eligible transmission projects, including the 1,200MW Caithness-Moray transmission project. The 2019 Green Bond is in addition to SSE's previous two Green Bonds of a combined €1.25bn which were issued in 2017 and 2018. The issuance of the third Green Bond reaffirms SSE as the largest issuer of Green

		Bonds in the UK corporate sector, with a total of £1.5bn raised. 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. 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 risks and opportunities surrounding decarbonisation are factored into SSE's acquisitions and divestments. For example, in November 2018 SSE stated that Gas production is a non-core activity that is ultimately inconsistent with its focus on decarbonisation and it is taking active steps to prepare for disposal of its investment in Gas Production and the process for the disposal of these assets is underway.

C3.1f

(C3.1f) 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 CO2e)

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 CO2e) [auto-calculated]

6,637,495.8

Covered emissions in reporting year (metric tons CO2e)

8,907,635

% of target achieved [auto-calculated]

48.6973867464

Target status in reporting year

Underway

Is this a science-based target?

Yes, this target has been approved as science-based by the Science-Based Targets initiative

Please explain (including target coverage)

This target covers: Direct GHG emissions (scope 1): GHG emissions from the consumption of coal, 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 (SF6) 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 nearly 20%. The main contributing factors to this decrease included:
• Emissions from electricity generation activities: these emissions fell as a direct result of the decarbonisation of the fuels used to generate electricity.
• Emissions from SSE's electricity and gas consumption: SSE's buildings and operations used less gas and electricity in comparison to the previous year as a result of continued investments in energy efficiency measures combined with lower output from thermal power station assets.

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

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 CO2e)
2,476,026

Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)
64

Target year
2034

Targeted reduction from base year (%)
50

Covered emissions in target year (metric tons CO2e) [auto-calculated]
1,238,013

Covered emissions in reporting year (metric tons CO2e)
2,690,877

% of target achieved [auto-calculated]
-17.3545027395

Target status in reporting year
Underway

Is this a science-based target?
Yes, this target has been approved as science-based by the Science-Based Targets initiative

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 CO2e by 2030.

SSE’s Scope 3 GHG emissions decreased by nearly 12% between 2017/18 and 2019/20. However, SSE’s gas sold to customers increased by 6% in this same period reflecting an increase in the number of customers that were sold gas between the base year and this reporting year.

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 CO2e per megawatt hour (MWh)

Base year
2018

Intensity figure in base year (metric tons CO2e 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 CO2e 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 CO2e per unit of activity)
288

% of target achieved [auto-calculated]

9.2896174863

Target status in reporting year

Underway

Is this a science-based target?

Yes, this target has been approved as science-based by the Science Based Targets initiative

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 (gCO2e/kWh) by 60% by 2030, compared to 2018 levels. . This means that SSE's electricity generation carbon intensity is now forecast to be around 120gCO2e/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 2019/20, the carbon intensity of SSE's generated electricity increased marginally to 288gCO2e/kWh in comparison to 284gCO2e/kWh in 2018/19. However, overall SSE's carbon intensity was 6% lower in 2019/20 than the base year (2017/18).

In 2019/20, SSE's renewable generation portfolio had another record year in 2019/20, increasing output to 10.8 TWh (inc. pumped storage and biomass). In the same period, SSE's carbon emissions from thermal generation fell to 8.2 million tonnes CO2e in 2019/20. Renewable generation output increased and total emissions from thermal generation fell, this resulted in a reduction in SSE's carbon intensity from electricity generation from the base year level. The carbon intensity level in 2019/20 was in line with expectations as its approach was to use the remaining coal stocks at Fiddlers Ferry ahead of its closure in March 2020. This resulted in a change to thermal generation output mix compared to the previous year, with gas generation output reducing whilst more carbon intensive coal generation output increased.

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
Other climate-related target(s)

C4.2a

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

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

2020

Figure or percentage in target year

100

Figure or percentage in reporting year

100

% of target achieved [auto-calculated]

100

Target status in reporting year

Achieved

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 2020, 100% of the electricity it requires for operational purposes 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.

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
10

% of target achieved [auto-calculated]
20

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.

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)

Energy consumption or efficiency

Other, please specify

%

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

290

% of target achieved [auto-calculated]

4.5211183819

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 2019/20, SSE's vehicle fleet had 290 fully electric or hybrid vehicles compared to 138 the year before. SSE has also installed over 100 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.

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 consumption or efficiency

Other, please specify

Low-carbon energy source - %

Target denominator (intensity targets only)

Base year

2018

Figure or percentage in base year

0

Target year

2030

Figure or percentage in target year

20

Figure or percentage in reporting year

4

% of target achieved [auto-calculated]

20

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 set targets for carbon reductions from the these sites of 20% by 2030 from a 2018 baseline. The EP100 pledge is on target so far with SSE's offices and depots' annual energy consumption in 2019/20 being almost 27MWh, representing a 45% reduction compared to the previous year.

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 £12.65m since 2011/12. During 2019/20, investments included £200,000 in solar photovoltaic installations at SSE's Perth campus and various depot sites throughout its estate. Investments in solar PV generation are expected to result in new emission reductions of almost 200 tCO2. At the end of year two of the programme to deliver an internal 2030 target of a 20% reduction in carbon emissions, a total investment of £750,000 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.

C4.3

(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 CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	10	2,555,935
To be implemented*	0	0
Implementation commenced*	1	16,780
Implemented*	3	263,421
Not to be implemented	0	0

C4.3b

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

Initiative category & Initiative type

Low-carbon energy generation
Wind

Estimated annual CO2e savings (metric tonnes CO2e)

259,656

Scope(s)

Scope 1
Scope 2 (location-based)
Scope 3

Voluntary/Mandatory

Mandatory

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

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

342,700,000

Payback period

16-20 years

Estimated lifetime of the initiative

21-30 years

Comment

SSE increased its renewable generation capacity from 3.7GW to 4GW. The additional capacity was the energisation of Beatrice offshore wind farm which became fully operational in June 2019. SSE also began construction at its first subsidy free onshore windfarm, Gordonbush extension.

SSE's renewable generation portfolio had another record year in 2019/20, increasing output to 11.4TWh from 10.4TWh the previous year (including pumped storage, biomass and constrained off wind in GB) – an increase of over 10%. Renewable generation output accounted for almost 38% of SSE's total generation in this period, up from around 32% the previous year. This increase in SSE's renewable generation output was mainly due to a significant increase in output of electricity as a result of more favourable weather conditions and a net increase in wind energy capacity in operation over the period largely from Beatrice offshore wind farm which became fully operational in June 2019 (588MW, SSE share = 40%).

Initiative category & Initiative type

Energy efficiency in buildings
Building Energy Management Systems (BEMS)

Estimated annual CO2e savings (metric tonnes CO2e)

3,765

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)
272,000

Investment required (unit currency – as specified in C0.4)
300,000

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 £12.65m since 2011/12.

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 2 of the investment programme and a total investment of £750,000 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 2019/20, investments included £200,000 in solar photovoltaic installations at SSE's Perth campus and various depot sites throughout its estate. Investments in solar PV generation are expected to result in new emission reductions of almost 200 tCO2.

C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	Examples include, Contracts for Difference, meeting EU ETS allocations and Electricity Market Reform requirements. 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.
Dedicated budget for energy efficiency	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. 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 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 2019/20, investments included £200,000 in solar photovoltaic installations at SSE's Perth campus and various depot sites throughout its estate.
Dedicated budget for low-carbon product R&D	SSE's portfolio of Partnership Funding projects straddle 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.

	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.
Employee engagement	SSE has ongoing, two-way channels for engaging with its employees, including: 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). 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.
Internal incentives/recognition programs	Our employee 'Innovation station' scheme was launched a few years ago now, and rewards financially, and through recognition, good business improving ideas which are submitted. Many ideas are linked with carbon reduction.
Partnering with governments on technology development	SSE works with governments and other partners to develop low carbon technologies. For example: SSEN's Project Local Energy Oxfordshire and Project Transition will explore in partnership with Local Authorities, transport agencies and other organisations growth in local renewables, electric vehicles, battery storage, vehicle-to-grid technology and demand side response. In addition, throughout 2019/20, 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.

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, SSEN connected around 1GW of renewable electricity to its transmission network in 2018/19. 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

17

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

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.

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 2019/20 SSE Business Energy increased the number of customer premises on its green electricity tariff, with 49,080 meters supplied with 100% renewable electricity in March 2020, compared to 44,834 in March 2019.

SSE Enterprise delivers smart energy and telecoms solutions to a broad client base of business customers and public sector organisations across the UK and Ireland. For example, SSE Enterprise has been addressing decarbonisation and infrastructure challenges across London through a diverse range of projects. Supporting the city to green its transport, SSE Enterprise Contracting has installed over 650 electric vehicle charging points across London, and a major electric bus charging facility at Waterloo Bus Depot, assisting the deployment of London’s zero emission, single deck bus fleet.

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

57

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, coal and oi-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

Base year start

April 1, 2019

Base year end

March 31, 2020

Base year emissions (metric tons CO2e)

8,261,633

Comment

The direct GHG emissions (scope 1) cover:
• Generation power stations – coal, 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 (SF6) in the transmission and distribution networks for conductivity (used in the switchgears and substations).

Scope 2 (location-based)

Base year start
April 1, 2019

Base year end
March 31, 2020

Base year emissions (metric tons CO2e)
646,022

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)

Base year start
April 1, 2019

Base year end
March 31, 2020

Base year emissions (metric tons CO2e)
646,022

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 Voluntary 2017 Reporting Guidelines
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 CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

8,186,645

Comment

This excludes biomass

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 CO2e?

Reporting year

Scope 2, location-based

646,002

Scope 2, market-based (if applicable)

646,002

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

Join 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 252 to 257 of SSE's Annual Report 2020. 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. 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. The details of this are provided in SSE's key investor publications – annual results and accounts 2019 (page 53), interim results statement November 2019 and annual results and accounts 2020 (page 46 and 73).

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, supplies gas and electricity to domestic customers in GB. SSE Energy Services has been excluded from the SSE Group's 2019/20 GHG and Water assurance process, however material environmental KPIs for SSE Energy Services between 1 April 2019 up to the date of sale in January 2020 will be reported in the SSE Group's Sustainability Report 2020.

C6.5

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

Purchased goods and services

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.

In 2019/20 SSE's products and services and capital goods emissions were around 8 million tonnes CO2e and this compared to around 5.5 million tonnes CO2e in the previous year (2018/19).

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

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)

Evaluation status

Relevant, calculated

Metric tonnes CO2e

808,388

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.

Upstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Please explain

The Fuel and energy related scope 3 emissions cover this category and these are detailed in the above category. SSE has no other emissions associated with this category not already reported in the above category or in other categories.

Waste generated in operations

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

Evaluation status

Not relevant, calculated

Metric tonnes CO2e

9,117

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 CO2e 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.

Employee commuting

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.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Please explain

SSE does not have any activities associated with this activity.

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Metric tonnes CO2e

98,309

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 2019 to March 2020 the data will be based on the previous financial year April 2018 to March 2019. The data is verified by an independent third party, WSP, for National Grid. PwC assure this data.

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 2019 to March 2020 the data will be based on the previous financial year April 2018 to March 2019. The data is verified by an independent third party, WSP, for National Grid. PwC assure this data.

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

2,690,877

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.

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

Relevant, calculated

Metric tonnes CO2e

2,445,620

Emissions calculation methodology

SSE has investments in a number of companies, the most significant in terms of climate change reporting is SSE's E&P business. SSE E&P UK Limited is excluded from SSE's GHG emissions inventory 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. The details of this are provided in SSE's key investor publications – annual results and accounts 2019 (page 53), interim results statement November 2019 and annual results and accounts 2020 (page 46 and 73).

Total output for SSE's E&P business in 2019/20 was 456 million therms. The emissions figure is calculated by taking the total gas output (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).

This data has not been assured by PwC and is excluded from the GHG emission inventory due to the fact that this business is held for sale. The exclusion of this business is clearly outlined in SSE's GHG emission reporting criteria which is assured by PwC.

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

100

Please explain

SSE's E&P business has a diverse equity share in over 15 producing fields across 17 licenses in three regions. In November 2018, SSE announced that Gas Production is a non-core activity that is ultimately inconsistent with its focus on decarbonisation. This business is currently held for disposal as detailed in SSE's Annual Report 2020, page 73.

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.

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	23,966	

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.0013

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

8,907,635

Metric denominator

unit total revenue

Metric denominator: Unit total

6,801,000,000

Scope 2 figure used

Location-based

% change from previous year

0.8

Direction of change

Increased

Reason for change

In 2019/20, SSE's total carbon emissions consisted of 66% scope 1 emissions, 5% scope 2 emissions and 29% scope 3 emissions.

2019/20 was a record year for SSE's output of electricity from renewable sources, increasing to 10.8TWh from 9.8TWh the previous year (including biomass and pumped storage and excluding constrained output from GB wind). In addition, electricity output from thermal generation fell by around 12%, down to 17.7TWh from 21.1TWh the previous year.

Scope 1 and 2 emissions fell by nearly 7% from 9.5 million tonnes CO2e to 8.9 million tonnes CO2e. One of the main contributing factors to this fall in carbon emissions was a reduction in output from SSE's thermal generation plant, which resulted in a reduction in the emissions associated with thermal generation activities. SSE's output from thermal generation reduced by 12% and this meant that SSE burned less fuel to generate electricity.

SSE's total revenue fell by around 7% between 2018/19 and 2019/20 from £7.3 billion to £6.8 billion.
The reduction in revenue meant that SSE's carbon intensity of total revenue stayed the same at around 131 gCO2e/£.

Intensity figure

0.313

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

8,907,635

Metric denominator

megawatt hour generated (MWh)

Metric denominator: Unit total

28,486,000

Scope 2 figure used

Location-based

% change from previous year

1

Direction of change

Increased

Reason for change

In 2019/20, SSE's total carbon emissions consisted of 66% scope 1 emissions, 5% scope 2 emissions and 29% scope 3 emissions.

2019/20 was a record year for SSE's output of electricity from renewable sources, increasing to 10.8TWh from 9.8TWh the previous year (including biomass and pumped storage and excluding constrained output from GB wind). In addition, thermal generation emissions fell as a result of reduced electricity output, down to 17.7TWh from 21.1TWh the previous year.

Despite these two factors, the carbon intensity of SSE's generated electricity increased marginally in 2019/20 to 313gCO2 e/kWh in comparison to 309 gCO2e/kWh the previous year (2018/19).

This performance was in line with expectations, and was due to SSE’s approach to using coal stocks at Fiddler's Ferry ahead of its closure in March 2020,.

Intensity figure

734

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

8,907,635

Metric denominator

full time equivalent (FTE) employee

Metric denominator: Unit total

12,133

Scope 2 figure used

Location-based

% change from previous year

6.7

Direction of change

Decreased

Reason for change

In 2019/20, SSE’s total carbon emissions consisted of 66% scope 1 emissions, 5% scope 2 emissions and 29% scope 3 emissions.

SSE’s scope 1 and 2 emissions fell between 2018/19 and 2019/20 by nearly 7% from 9.5 million tonnes CO2e to 8.9 million tonnes CO2e. One of the main contributing factors to this fall in carbon emissions was a reduction in output from SSE’s thermal generation plant, which resulted in a reduction in the emissions associated with thermal generation activities. SSE’s output from thermal generation reduced by 12% and this meant that SSE burned less fuel to generate electricity and as a result its scope 1 emissions relating to generation reduced.

2019/20 was a record year for SSE’s output of electricity from renewable sources, increasing to 10.8TWh from 9.8TWh the previous year (including biomass and pumped storage and excluding constrained output from GB wind). In addition, thermal generation emissions fell as a result of reduced electricity output, down to 17.7TWh from 21.1TWh the previous year. The reduction in thermal generation output and associated emissions was a result of a combination of SSE’s strategy to switch to lower carbon intensive electricity generation activities and market conditions favouring renewable electricity.

SSE’s FTE numbers remained consistent at around 12,100 FTE.

The combination of a stable FTE count alongside a reduction in carbon emissions associated with SSE’s electricity generation 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 CO2e)	GWP Reference
CO2	8,166,599	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	8,921	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	11,124	IPCC Fifth Assessment Report (AR5 – 100 year)
SF6	13,582	IPCC Fifth Assessment Report (AR5 – 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	13,582	13,582	Fugitive emissions – use of sulphur hexafluoride (SF6) in the transmission and distribution networks for conductivity (used in the switchgears and substations).
Combustion (Electric utilities)	8,166,599	8,921	0	8,175,521	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)	28,128	0	0	28,128	• Gas consumption in buildings – this is the gas consumed by SSE's non-operational buildings (offices, depots, call centres) to maintain building temperatures. • Distribution network fuel consumed – this includes diesel and gas oil used by generators 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).
Emissions not elsewhere classified	11,124	0	0	11,124	Other GHG emissions (excluding carbon dioxide and methane) that arise from energy consumed in power generation 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.

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	7,339,290
Ireland	910,324

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)	8,186,645
Operational vehicles and plant	20,575
Mobile plant - gas oil	6,892
SF6 for transmission and distribution	13,582
Fixed generation in distribution	9,312
Gas consumed in non-operational buildings	660

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 CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comment
Electric utility activities	8,186,645	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 CO2e)	Scope 2, market-based (metric tons CO2e)	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	590,571	590,571	337,183	0
Ireland	715	715	1,757	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 CO2e)	Scope 2, market-based (metric tons CO2e)

Electricity consumed in buildings (operational and non-operational)	84,680	84,680
Electricity consumed by substations in the transmission and distribution networks	16,239	16,239
Losses in the distribution network in the north of Scotland and south of England	545,082	545,082

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	0	No change	0	
Other emissions reduction activities	288,578	Decreased	3	SSE's most material emission reduction in 2019/20 arose from its renewable and thermal generation mix. In 2018/19 SSE's total output was 30,835 GWh, in comparison to 28,486 GWh in 2019/20. A reduction of 2,263 GWh. Reduced output from thermal plant meant that SSE's scope 1 emissions relating to electricity generation activities fell by 6% (from 8.76m tCO2 e to 8.21m tCO2e). However, SSE's renewable energy generation increased by 974 GWh between the two periods. This generation displace thermal generation which was not needed in 2019/20 because of increased renewable generation. In order to calculate the emissions that this increase in renewable generation has displaced, the DEFRA carbon conversion factor for electricity generation for 2019/20 was used (0.28307 kg per kWh) giving the result of 275,710 tCO3e (974,000,000 * 0.28307=275,710tCO2e). This number can be combined with 12,868 tCO2e that were reduced through energy efficiency initiatives, resulting in a <1% reduction in overall scope 1 and 2 emissions (12,868/9,522,681*100=0.14). 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 2019/20, investments included £200,000 in solar photovoltaic installations at SSE's Perth campus and various depot sites throughout its estate. Investments in solar PV generation are expected to result in new emission reductions of almost 200 tCO2. At the end of year two of the programme to deliver an internal 2030 target of a 20% reduction in carbon emissions, a total investment of £750,000 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. The carbon reduction figure for these emission reduction initiatives were delivered a 3% reduction in Scope 1 and 2 emissions from the previous year - ((12,868+275,710)/9,522,681)*100=3%.
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	550,819	Decreased	12	Scope 1 and 2 emissions reduced from 9,522 ktCO2e to 8,907 ktCO2e between 2018/19 and 2019/20. This was a reduction of 615 ktCO2e. This reduction is partly attributed to a reduction in total output, as well as an increase in the amount of output from SSE's renewable generation

				assets: • In 2018/19 total output was 30,835 GWh, in comparison to 28,486 GWh in 2019/20. A reduction of 2,263 GWh. • Reduced output from thermal plant meant that SSE's scope 1 emissions relating to electricity generation activities fell by 6% (from 8.76m tCO2 e to 8.21m tCO2e). • Renewable energy generation increased by 974 GWh between the two periods. In comparing 2019/20 to 2018/19, 550,819CO2e were reduced by changes in output explained above, and our total S1 and S2 emissions in the previous year was 9,522,681tCO2e, therefore we arrived at 6% through (550,819/9,522,681*100= -6%)
Change in methodology	64,751	Decreased	0	In 2018/19, SSE reported 609,833 tCO2e in its Scope 2 emissions through losses in electricity distribution, this number was 545,082 tCO2e in 2019/20 – a reduction of 64,751 tCO2e. Therefore, 88% of the scope 2 emissions reduction between 2018/19 and 2019/20 come from a reduction in emissions from losses in electricity distribution (reduction in emissions from losses/total reduction in Scope 2*100 = 64,751/73,776*100=88%). A change in the carbon factors SSE uses to calculate its emissions also impacted emissions totals. These factors fell as a direct result of the decarbonisation of the GB electricity grid which impacted emissions associated with electricity consumption in buildings and operations and the associated electricity network losses in both the transmission and distribution networks. The DEFRA conversion factor for distribution losses was 0.28307 in 2018/19 and 0.2556 in 2019/20.
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	0	No change	0	
Other	0	No change	0	

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)	58,000	17,734,000	17,792,000
Consumption of purchased or acquired electricity		0	386,619	386,619
Consumption of purchased or acquired heat		0	7,467	7,467
Consumption of self-generated non-fuel renewable energy		10,694,000		10,694,000
Total energy consumption		10,752,000	18,128,086	28,880,086

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)

Coal

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

1,946,000

MWh fuel consumed for self-generation of electricity

1,946,000

MWh fuel consumed for self-generation of heat

0

Emission factor

Unit

Emissions factor source

Comment

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
15,393,000

MWh fuel consumed for self-generation of electricity
15,393,000

MWh fuel consumed for self-generation of heat
0

Emission factor

Unit
metric tons CO2e per MWh

Emissions factor source

Comment

Fuels (excluding feedstocks)
General Municipal Waste

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
395,000

MWh fuel consumed for self-generation of electricity
395,000

MWh fuel consumed for self-generation of heat

0

Emission factor

Unit

Emissions factor source

Comment

Fuels (excluding feedstocks)

Biomass Municipal Waste

Heating value

HHV (higher heating value)

Total fuel MWh consumed by the organization

58,000

MWh fuel consumed for self-generation of electricity

58,000

MWh fuel consumed for self-generation of heat

0

Emission factor

Unit

Emissions factor source

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	13,093,000	398,000	10,752,000	0
Heat	15,393,000	3,813	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)

1,946

Net electricity generation (GWh)

1,946

Absolute scope 1 emissions (metric tons CO2e)

2,210,874

Scope 1 emissions intensity (metric tons CO2e per GWh)

1,136

Comment

NOTE: SSE's reported capacities are at 31 March 2020 in line with its Annual Report 2020. 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 2020 and this has been reflected in its CDP Climate Change submission. However, this plant was active during 2019/20 and its climate-related activities are included in the data.

Lignite

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

Oil

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

Gas

Nameplate capacity (MW)

5,296

Gross electricity generation (GWh)

15,393

Net electricity generation (GWh)

15,393

Absolute scope 1 emissions (metric tons CO2e)

5,975,771

Scope 1 emissions intensity (metric tons CO2e per GWh)

388

Comment

Biomass

Nameplate capacity (MW)

18

Gross electricity generation (GWh)

58

Net electricity generation (GWh)

58

Absolute scope 1 emissions (metric tons CO2e)

23,966

Scope 1 emissions intensity (metric tons CO2e per GWh)

413

Comment

Waste (non-biomass)

Nameplate capacity (MW)

68

Gross electricity generation (GWh)

395

Net electricity generation (GWh)

395

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Nuclear

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

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 CO2e)

0

Scope 1 emissions intensity (metric tons CO2e 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)

3,870

Net electricity generation (GWh)

3,870

Absolute scope 1 emissions (metric tons CO2e)

0

Scope 1 emissions intensity (metric tons CO2e per GWh)

0

Comment

Wind

Nameplate capacity (MW)

2,515

Gross electricity generation (GWh)

6,824

Net electricity generation (GWh)

6,284

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 CO2e 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 CO2e)
0

Scope 1 emissions intensity (metric tons CO2e per GWh)
0

Comment

Total

Nameplate capacity (MW)
9,356

Gross electricity generation (GWh)
28,486

Net electricity generation (GWh)
28,486

Absolute scope 1 emissions (metric tons CO2e)
8,210,611

Scope 1 emissions intensity (metric tons CO2e per GWh)
288

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/region 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
97,599

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, 100% 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)

4,640

Annual energy losses (% of annual load)

9.48

Scope where emissions from energy losses are accounted for

Scope 2 (location-based)

Emissions from energy losses (metric tons CO2e)

98,309

Length of network (km)

3,111.4

Number of connections

104

Area covered (km2)

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 (SF6) 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 4,838.4km.

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 2018/19 were 87,001 tonnes CO2e.

NB: SHE Transmission's losses as a percentage of annual load doesn't account for the large volumes of electricity transferred to demand centres in the south outside of our network area. A more representative picture of losses on our network would comprise losses as a percentage of total generation on our network (439.87 GWh divided by 20,070 GWh) = 2.19%. This is also similar to the ratio for losses across GB as a whole (e.g. total GB transmission losses accounts for ~2% of GB power consumed).

Country/Region

United Kingdom of Great Britain and Northern Ireland

Voltage level

Distribution (low voltage)

Annual load (GWh)

33,271.65

Annual energy losses (% of annual load)

6.34

Scope where emissions from energy losses are accounted for

Scope 2 (location-based)

Emissions from energy losses (metric tons CO2e)

545,082

Length of network (km)

127,388.16

Number of connections

48,912

Area covered (km2)

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, 53,460, refers to the total number for both SHEPD (6,615) and SEPD (46,845) and excludes third parties. The total number of connections by third parties in SHEPD (387) and SEPD (6,180) is: 6,567.

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	342,700,000	23	2020	During the year to 31 March 2020, SSE's investment and capital expenditure totalled £1.36bn. Over £1bn of this, representing 77% was on its core networks and renewables businesses. Since 2010, SSE has invested over £4.2bn in renewable energy, of which more than £340m was in 2019/20.

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 Connections of renewable energy (wind)	During the year to 31 March 2020, SSE's investment and capital expenditure totalled £1.36bn. Over £1bn of this, representing 77% was on its core networks and renewables businesses. SSE continued to invest significantly across both of its distribution networks in the north of Scotland and central southern England. During 2019/20, SSEN invested a total of £683m in its electricity distribution networks. 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. By the end of RIIO-1 in 2023, SSEN expects to have invested a total of £2.4bn in its electricity distribution networks over the price control period.	683,000,000	50	2020

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 2020 were £3.4m as shown in SSE's annual report page 197.

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 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.

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.

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 criteria document 201920.pdf

SSE PwC assurance report 201920.pdf

Page/ section reference

Relevant standard

Proportion of reported emissions verified (%)

C10.1b

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

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 criteria document 201920.pdf

SSE PwC assurance report 201920.pdf

Page/ section reference

Relevant standard

Proportion of reported emissions verified (%)

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 criteria document 201920.pdf

SSE PwC assurance report 201920.pdf

Page/section reference

Relevant standard

Proportion of reported emissions verified (%)

Scope 3 category

Scope 3: Business travel

Verification or assurance cycle in place

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

SSE PwC Assurance criteria document 201920.pdf

SSE PwC assurance report 201920.pdf

Page/section reference

Relevant standard

Proportion of reported emissions verified (%)

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 criteria document 201920.pdf
SSE PwC assurance report 201920.pdf

Page/section reference

Relevant standard

Proportion of reported emissions verified (%)

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 criteria document 201920.pdf
SSE PwC assurance report 201920.pdf

Page/section reference

Relevant standard

Proportion of reported emissions verified (%)

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?

SSE PwC Assurance criteria document 201920.pdf

SSE PwC assurance report 201920.pdf

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

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

Period start date

January 1, 2019

Period end date

December 31, 2019

Allowances allocated

0

Allowances purchased

8,190,529

Verified Scope 1 emissions in metric tons CO2e

8,190,529

Verified Scope 2 emissions in metric tons CO2e

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, 2019

Period end date

March 31, 2020

% of total Scope 1 emissions covered by tax

100

Total cost of tax paid

132.4

Comment

CPS Tax paid on Coal, Gas and Oil consumed to produce electricity.
Tax on Coal paid on delivery and expensed when consumed. 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?

The EU ETS scheme applies 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. 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, in 2018/19 SSE began construction at its 840MW CCGT at Keadby 2 in Lincolnshire. 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.
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. This includes ensuring the site for any new project has prospective access to a CO2 and/or a hydrogen pipeline.

SSE's first low-carbon thermal station, Keadby 3, has applied for planning permission and if built would capture over 90% of its emissions and compared to an equivalent gas power station would save 2mtCO2/year. 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.

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: The use of a carbon price is a key component of many of SSE's operational and capital investment decisions. The price of carbon is reflected in decisions to run generation plant and renewable generation technologies, the investments made in new and existing capital projects and how we perform in the energy markets.

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

18

Variance of price(s) used

The UK's Carbon Price Floor sets the carbon price up to 2021. SSE believes it is a critical part of the UK's energy policy. SSE believes that the UK's Carbon Price Floor is one of the most important policy tools the government has to help industry continue to deliver reliable and lower carbon electricity cost-effectively.

The actual price used above is £16.80/metric ton for the 2018/19 average EUETS and £18/metric ton refers to the CPS.

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.

• SSE's capital investment decisions in future electricity generation are supported by the renewables obligation and in the future contracts for difference. 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 invested over £4.2bn in renewable energy since 2010, of which more than £340m was in 2019/20. In 2019/20 SSE increased renewable output from 9.7TWh to 10.7TWh between 2018/19 and 2019/20 and this was a result of the continued investment in renewable generation. SSE has the largest renewable energy capacity across the UK and Ireland at around 4GW (including pumped storage).

Actual price and process to determine the price: The UK's Carbon Price Floor sets the carbon price up to 2021. SSE believes it is a critical part of the UK's energy policy. SSE believes that the UK's Carbon Price Floor is one of the most important policy tools the government has to help industry continue to deliver reliable and lower carbon electricity cost-effectively. SSE continued to promote a strong carbon price by advocating to the UK Chancellor, along with other power companies ahead of the Budget in November 2018, that the Government should keep the Total Carbon Price stable during the period of uncertainty around Brexit and continue the UK's future participation in the EU Emissions Trading Scheme (ETS). SSE welcomed the Government's commitment in May 2019 to a strong carbon price. SSE also supported carbon pricing through submissions to consultations on Ireland's National Energy and Climate Plan.

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.

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

67 suppliers responded (out of 130 suppliers that were asked to take part) to the CDP supply chain programme to SSE's request for climate change data in 2019/20. Total scope 1 and 2 and 3 allocated emissions for these suppliers was 8 million tonnes tCO2e. The carbon emissions calculated covers all the scope 1, 2 and 3 allocated emissions reported by these 67 companies. SSE will be one of many customers for each of these suppliers. These suppliers represent around 45% of SSE's total procurement expenditure in 2019/20 (which was around £2.8 billion in 2019/20). 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. This data has not been verified/ assured. This was the third 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 2019/20, SSE worked with the Science Based Target Initiative (SBTi) to set a series of new carbon targets that reflect the climate science and global and national momentum on climate change. 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". 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

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

60

% total procurement spend (direct and indirect)

80

% 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 Responsible Procurement Charter; responsibility dashboard, sustainability criteria in pre-qualification process; and introduction of clauses on topics in its standard contract forms for new suppliers. SSE also employs a Strategic Supplier Relationship Management programme which is aimed at SSE's top 10 to 15 suppliers. Our strategic suppliers are defined as those suppliers in the top 10 of SSE's procurement spend and provide an essential/ unique service to our business. emissions performance. 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.

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.
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
Education/information sharing

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

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
85

Please explain the rationale for selecting this group of customers and scope of engagement
Material issues for energy customers include: affordable and accessible energy; quality customer service; responsiveness to vulnerability; efficient energy use; and the impact of industry change. SSE engages with customers daily through customer calls and social media activity using various channels, written, spoken and visual communication as well as social media. It engages at a deeper level through qualitative research and detailed surveys, and holds customer forums and consultation events to gain customer feedback. One area of engagement is energy efficiency which in turn helps to reduce customer carbon emissions. For example for business customers, SSE has invested in new business activities in its contracting, energy solutions, and heat businesses to provide low carbon and energy efficiency products/ services to business customers and public sector organisations. Examples include: • SSE Enterprise which has expanded its business solutions into energy optimisation and demand side response where there is an opportunity to use data and technology to improve outcomes for customers; and has an energy performance team responsible for securing, structuring and delivering Energy Performance Certificates. • SSE Business Energy offers a 100% renewable energy tariff – SSE Green. It supplies renewable electricity matched to Renewable Energy Guarantee of Origins (REGOs), certifying that the purchased electricity has been generated exclusively through a portfolio of wind and hydro assets.

Impact of engagement, including measures of success
The impact of these measures includes: • SSE Green: SSE's 100% renewable energy tariff allows organisations to report zero emissions for their purchased electricity.

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
Clean energy generation 1	Support	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 ensuring geographical diversity of the wind fleet.	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. 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. Long term wholesale energy price expectations are a critical factor when considering project life extensions and repowering of existing offshore wind farms after their subsidy 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. SSER encourages the UK Government to start this work now via its long-awaited Energy White Paper due in 2020, which will provide confidence to investors in offshore wind projects that there will be a long-term market framework fit for a net zero electricity system.
Other, please specify Carbon pricing	Support	SSE has advocated for the UK to remain in the EU ETS post Brexit to maintain the benefits of a wide traded scheme and keep continuity. Should that not be possible politically, SSE has supported creation of a UK ETS but only the basis that it is linked to the EU ETS from the outset to maintain all of the benefits.	SSE has engaged with HM Treasury and BEIS on a bilateral basis and via Energy UK on a prospective Carbon Emissions Tax (CET) and the Carbon Price Support (CPS). SSE will also be contributing to HM Treasury's consultation on the CET.
Other, please specify Carbon pricing	Support	SSE supports the maintenance of the Carbon Floor Price (CFP), which has played a major part in reducing the UK's carbon emissions by triggering fuel switching in the electricity market from coal to gas. To transition from an average carbon intensity of electricity of 200g/kWh today to 50g/kWh in 2030 and on to net zero, a robust carbon price is critical. The carbon price has been central to driving the emissions reductions seen to date and even as coal generation closes in the UK, carbon pricing will continue to be required to provide a long-term clean electricity investment signal, to incentivise the move to low-carbon gases in power generation, and to ensure the lowest-carbon plants always run first.	SSE is engaging with HM Treasury on low-carbon investment opportunities. SSE has called for the UK Government's green recovery Budget in the Autumn to be built on a new green fiscal rule: a firm commitment to a net zero power sector by 2040, underpinned by a robust carbon price trajectory for the electricity system, rising to a level to drive negative emissions by 2040 (c£125/tonne, real 2020).
Other, please specify Climate ambition	Support	SSE strongly supports the UK's commitment to reaching net zero by 2050 and is calling on the UK Government to build back better from Coronavirus and sees COP26 as a pivotal moment for the UK to demonstrate leadership on climate action. In May 2020, SSE published its Greenprint for building a cleaner more resilient economy which called on the UK Government to enable low-carbon investment is a win-win, providing a vital economic boost, creating skilled, sustainable jobs in all UK regions to support a just transition, improving air quality and building our resilience while also driving progress towards our climate change targets. In July 2020, SSE held a public webinar, Delivering on the Promise of a Green Recovery with the UK Energy Minister, and stakeholders from Sustainability First, and the Energy Transitions Commission. SSE's Chief Executive also spoke on this topic at The British Academy's Future of the Corporation	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, SSE will continue to work with the UK and Scottish Governments ahead of COP26 in Glasgow in November 2021.

		Purpose summit on a panel event titled, 'Shifting the dial on purposeful business: what can we learn from crises, past and present, in solving the problems of people and planet?' and at the COP26 Business Leaders Event hosted by the Council for Sustainable Business in partnership with the Department for Environment, Food and Rural Affairs.	
Other, please specify Ireland's Climate Action Plan	Support	SSE engaged with government departments and parliamentary members on various aspects of Ireland's Climate Action Plan and its implementation. SSE advocated for a 70% renewable electricity target, an ambitious offshore wind target and measures the drive the decarbonisation of heat and transport.	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.
Energy efficiency	Support	Improving business energy efficiency by at least 20% by 2030: UK Government set out its ambition in the Clean Growth Strategy (2016). UK Government has since issued two call for evidence, the first on helping business to improve the way they use energy and the second focused on an energy efficiency scheme for SMEs. Three proposals for SMEs emerged: an energy efficiency auction; an energy efficiency obligation (obligated body not specified, but suppliers, networks and generators mooted); and opening up finance measures to SMEs. UK Government is considering responses to this call for evidence. SSE responded to both of these consultations, has met with BEIS officials responsible for developing policy and participated in industry roundtables/discussions. BEIS also issued a call for evidence on Energy Efficiency in the Electricity System (September 2019). This outlined the government's understanding of market barriers to energy efficiency and how markets can be better leveraged to support energy efficiency.	SSE supports the principle, and believes business energy efficiency needs to be addressed. Any such policy should be funded in a progressive manner, which avoids creating both distortions within the energy market and distortions within the sectors SMEs operate in. An auction scheme could be effective in supporting the Government's objective and support the development of supply chains for established and newer technologies (as per the Cfd and Capacity Market auctions). Consideration would need to be given to several areas during detailed policy design: • Quality and standards • Accessibility to a broad range of parties • Eligible measures • Ensuring certainty of delivery For an obligation, a DNO-led approach would be most appropriate given the geographic monopolies of network companies, the enduring customer relationship and the impact energy efficiency could have on network management activities. If introduced, this would need to be appropriately funded and incentivised.
Energy efficiency	Support	The 2012 Energy Efficiency Directive set out a number of binding measures to help the EU reach its 20% energy efficiency target by 2020. In order to achieve the EU's 20% energy efficiency target by 2020, EU countries have set individual national energy efficiency targets. SSE will continue to work, via Eurelectric, closely with the European Commission to contribute to the discussion on how this can be reached. The Clean Energy Package, involved a new amending Directive on Energy Efficiency (2018/2002) which updates the energy efficiency policy framework ahead of 2030 and beyond. This includes an energy efficiency target for 2030 of at least 32.5% across the EU. Importantly, the directive allows for a possible upward revision in the target in 2023, in case of substantial cost reductions as a result of economic or technological developments. Amendments to the Directive entered into force in December 2018 and need to be transposed into national law by Member States by 25 June 2020. SSE is engaging with the UK Government and other key stakeholders to understand the application of this law following the United Kingdom's withdrawal from the European Union.	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.
Clean energy generation	Support	SSE has played an active role via Eurelectric in engaging with European stakeholders on the comprehensive European Green Deal. SSE fully supports the European Commission's objectives of increasing climate ambition for 2030 and 2050, boosting the supply of clean, affordable and secure energy, and ensuring that the	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.

		transition to a low-carbon economy is a just transition. SSE responded to the Commission's consultation on the EU Climate Pact and is supportive of the European Climate Law's EU-wide climate neutrality target for 2050. SSE has also engaged with the European Commission on the upcoming 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 Hydrogen Strategy and the assessment of the final National Energy and Climate Plans.	In order to reach this bold target, SSE has called on the EU to scale up its ambition and revise the current 40% reduction target to 55% based on 1990 levels. This must be enacted well ahead of COP26 to show vital leadership when urging the rest of the world to accelerate efforts to tackle climate change.
Other, please specify Low-carbon networks	Support	SSE has a networks business, SSEN, that owns and operates transmission & 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 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.	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, 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.
Other, please specify Electric vehicle infrastructure	Support	The Scottish parliamentary Economy, Energy and Fair Work Committee ran an energy inquiry (January 2020) about electric vehicles: their impact 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.	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 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		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 Contracts for difference process	Support	SSEN Transmission engaged with customers and stakeholders to submit a stakeholder-led response to the UK Government (BEIS) Contracts for Difference (CfD) consultation, reflecting supportive views and highlighting potential barriers to delivery e.g higher Transmission Network Use of System (TNUoS) charges in the north of Scotland. Ongoing engagement continues with BEIS and the Scottish Government to influence this process as the detail of the next CfD auction (AR4) in 2021 is developed.	We support proposed changes to the CfD in AR4 which will widen technology eligibility to meet net zero targets. Due to higher costs, TNUoS charging methodology continues to present barriers for Scottish projects competing in the CfD process. On behalf of our generation customers, we continue to advocate for this to be reviewed to maximise opportunities for renewables growth in Scotland.
Other, please specify Offshore wind policy	Support	SSEN Transmission has participated in several offshore wind related policy consultations (at both UK Government (BEIS) and Scottish Government level) to provide support for the future ScotWind leasing round. We provided responses to: • Scottish Government's offshore wind policy statement consultation. • BEIS CfD proposed amends to the scheme consultation. • Scottish Government's draft sectoral marine plan consultation.	As a facilitator in the delivery of further offshore wind in Scotland we are keen to provide a supportive voice for our generation customers and work constructively with customers and stakeholders to seek and advocate for holistic grid solutions to meet net zero ambitions.

		• Submitted evidence to the UK Parliament's Environmental Audit Commons Select Committee as part of their offshore wind innovation inquiry.	
Other, please specify Planning	Support	SSEN Transmission continues to engage with the Scottish Government, customers and wider stakeholders as the next iteration of the Scottish Planning Framework (National Planning Framework 4 (NPF4)) is developed.	We will 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 efficient planning framework that recognises the importance of sustainable development and supports net zero and green economic recovery ambitions.
Other, please specify Onshore wind in Ireland	Support	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.	SSE will continue to engage with the Government on matters relating to onshore wind.
Other, please specify Offshore wind in Ireland	Support	SSE has been a leading advocate for offshore wind in Ireland. Following further SSE advocacy, the Irish Government has increased its offshore ambition to 5GW by 2030. This year we have engage with the Irish Government on marine planning matters including offshore grid policy, the National Marine Planning Framework and the Marine Planning and Development Management Bill which will introduce a new offshore consent regime for Ireland.	SSE will continue to engage with the Government on matters relating to offshore wind.
Energy efficiency 💬2	Support with minor exceptions	SSE is part of an Energy Efficiency Obligation Scheme (EEOS) in Ireland which applies to both domestic and commercial sectors. The scheme has been successful in delivering energy savings. Consultation is taking place on the next phase of the EEOS scheme for 2021-2030 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.	SSE supports the overall aim of the scheme. SSE believes that energy efficiency measures are the best approach for 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.
Other, please specify Microgeneration in Ireland	Support with minor exceptions	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. 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 in line with the requirements of the EU Clean Energy Package.	SSE supports measures to facilitate microgeneration. Policies and measures need to be carefully considered to ensure fairness and equity for all electricity users.

💬[1]Mandatory carbon reporting/Cap and trade/ carbon tax/ energy efficiency/ clean energy generation/ adaptation resilience/ climate finance

💬[2]In Ireland

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.

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.

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. SSE was also until recently been a Board member of Eurelectric. SSE also has staff on various committees in these associations which helps to reinforce progressive positions on key issues.

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. A large focus of the Board's work has been to support the Offshore Wind Sector deal and guide the association's approach to onshore wind.

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. SSE is represented on the Scottish Renewables board, with a strong focus on guiding engagement around Scottish planning policy to support future onshore wind development.

Trade association

International Emissions Trading Association (IETA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

International Emissions Trading Association advocates emissions trading globally and the EU ETS.

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

As a member of this organisation, SSE has strongly advocated for emissions trading globally and reform of the EU ETS.

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 Northern Ireland, engagement with the CBI has been focused on highlighting the need for an revised energy policy in NI. Currently the Strategic Energy Framework runs out in 2020, however, its has become outdated with many of targets including the 40% renewable energy target all but reached. On the issue of climate change in NI it has recently been reported by the CCC that NI will have to play 'Catch up' when it comes to introducing policies to tackle climate change. NI is the only devolved administration without its own climate change legislation

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

SSE and IBEC advocates that the CBI supports low carbon investment, policy on carbon targets/ EU ETS/ energy efficiency.

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 has also worked with WindEurope to support a close relationship between the UK and EU on energy and climate matters with the shared aim of reaching net zero by 2050.

Trade association

Irish Wind Energy Association (IWEA)

Is your position on climate change consistent with theirs?

Consistent

Please explain the trade association's position

IWEA is the trade association representing Ireland's wind energy industry. They work to grow Ireland's wind energy sector to sustain its position at the forefront of the global clean energy industry. IWEA advocated strongly for a 70% renewable electricity 2030 target for Ireland.

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

As a member of this organisation, SSE has strongly advocated that IWEA make the case for an ambitious offshore and onshore wind policy, complemented by a policy environment that encourages, low-carbon investment in Ireland. SSE is represented on the IWEA board, with a strong focus on guiding engagement around Irish planning policy to support future onshore and offshore wind development.

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).

· In March 2020, SSE joined six other European energy companies in a letter to European Commission Executive Vice President, Frans Timmermans, which called on the Commission to implement climate neutrality across all policy areas in the EU by 2050 at the very latest as well as increasing the EU's 2030 ambition ahead of COP26 to at least 55%. The letter also suggested the implementation of an intermediate target in 2040 that is aligned with the EU's climate action framework.

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 it 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).

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).

Publication

In mainstream reports, incorporating the TCFD recommendations

Status

Complete

Attach the document

Group Risk Report 2020.pdf

SSE Annual Report 2020.pdf

SSE Sustainability Report 2020.pdf

Page/Section reference

Environment (Annual Report pages 82 to 85; Sustainability Report pages 16 to 57); Labour (Annual Report pages 78 to 81; Sustainability Report pages 69 to 79); Human Rights (Annual Report page 81; Sustainability Report pages 72 and 73; and see also SSE's Modern Slavery Statement 2020); and Anti-Corruption (see SSE's Annual Report page 81; Sustainability Report page 74). TCFD - Sustainability Report pages 24-31

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
Row 1	

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 undersatnd customer requirements and then allocate resources to help proviee 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

SC3.1

(SC3.1) Do you want to enroll in the 2020-2021 CDP Action Exchange initiative?

Yes

SC3.1a

(SC3.1a) Identify which member(s), if any, have motivated you to take part in Action Exchange this year.

SC3.1b

(SC3.1b) Select the types of emissions reduction activities that your company would like support in analyzing or in implementing in the next reporting year.

SC3.1c

(SC3.1c) As part of Action Exchange, would you like facility level analysis?

No

SC3.2

(SC3.2) Is your company a participating supplier in CDP's 2019-2020 Action Exchange initiative?

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, submit Supply Chain Questions now

Please confirm below

I have read and accept the applicable Terms