



# Greenhouse gas and environmental performance

SSE's Reporting Criteria 2023/24



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# SSE's greenhouse gas and water performance reporting criteria

## Introduction

This document outlines SSE plc's (SSE) non-financial reporting boundaries and methods for its greenhouse gas and water performance disclosures that are presented in its Annual Report and Sustainability Report.

This document describes the general reporting scope, boundaries and methods that are related to the environmental performance metrics involving greenhouse gas (GHG) emissions and water. Where there are exceptions to the general reporting boundaries and methods these are referenced in the specific section that refers to that environment performance metric.

SSE continuously seeks to improve its greenhouse gas and water performance metrics and ensure that its reporting is in line with the latest national and internationally recognised standards and criteria. Between the previous reporting year and the current reporting period, there were no updates to the frameworks and methodologies used.

## Scope of Reporting

Unless otherwise stated, the boundaries for all environmental reporting disclosed in the Annual Report and Sustainability Report include all activities over which SSE has operational control<sup>1</sup>.

SSE prepares its reporting of greenhouse gas and water performance measures using the reporting principles outlined by non-financial reporting guidance (specifically the UK Government's environmental reporting guidelines (BEIS, March 2019)) and in the case of the GHG emissions performance measures, the Greenhouse Gas Protocol<sup>2</sup> and ISO 14064-1:2018<sup>3</sup>. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

SSE's greenhouse gas and water reporting metrics cover the following activities: onshore and offshore wind, hydro power, flexible thermal generation, solar and battery technologies, electricity transmission and distribution, and localised energy systems, as well as provision of energy products and services to businesses and other customers. **Table 1** describes the business units that are within the operational boundary approach.

<sup>1</sup> There are two methods that are described in the UK Government Environmental Reporting guidelines (March 2019), Greenhouse Gas Protocol and ISO14064-1:2018 standards: the equity share and control (financial or operational) approaches. SSE uses an operational control consolidation approach.

<sup>2</sup> Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition) developed by the World Resources Institute and the World Business Council for Sustainable Development (2004);

<sup>3</sup> ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.

**Table 1:** Businesses within the scope of SSE’s greenhouse gas and water performance reporting.

Business Unit	Description
<b>Networks businesses</b>	
<p><b>SSEN Transmission</b></p>	<p>SSEN Transmission, operating under licence as Scottish Hydro Electric Transmission plc (<b>SHET</b>), owns, operates, and maintains the high voltage 132kV, 275kV and 400kV electricity transmission system in the north of Scotland and its islands. The business is owned 75% by SSE plc and 25% by Ontario Teachers’ Pension Plan Board.</p>
<p><b>SSEN Distribution</b></p>	<p>SSEN Distribution, operating under licence as Scottish Hydro Electric Power Distribution plc (<b>SHEPD</b>) and Southern Electric Power Distribution plc (<b>SEPD</b>), is responsible for the electricity distribution networks across central southern England and the north of Scotland.</p>
<b>Energy businesses</b>	
<p><b>SSE Renewables</b></p>	<p>SSE Renewables develops and generates electricity from renewable sources involving onshore wind, offshore wind, flexible hydroelectricity, run-of-river hydroelectricity, pumped storage, as well as solar and battery technology in the UK, Ireland and select new international markets.</p>
<p><b>SSE Thermal</b></p>	<p>SSE Thermal owns and operates conventional flexible thermal electricity generation assets (gas, oil and biomass, and is developing hydrogen and CCS options) in the UK and Ireland. It also holds around 40% of the UK’s conventional underground gas storage capacity.</p>

Business Unit	Description
<b>Energy businesses</b>	
<b>SSE Energy Customer Solutions</b>	SSE Business Energy in Great Britain (non-domestic) and SSE Airtricity on the island of Ireland (domestic and non-domestic) provide a shopfront and route to market for SSE's generation, renewable green products and low-carbon energy solutions.
<b>SSE Enterprise</b>	SSE Enterprise invests in, builds and connects localised, flexible energy infrastructure. Activities relate to embedded generation, EV infrastructure, heating and cooling networks and smart buildings.
<b>SSE Energy Markets</b>	Energy Markets trades commodities for SSE's market-based businesses.

For SSE's GHG emissions reporting, the material joint ventures where SSE does not have operational control (those with an equity share of equal to or greater than 50%) will be reported in scope 3 GHG emissions category 15 'Investments'. For joint arrangements where SSE does not have operational control and holds an equity ownership of less than 50%, these are excluded from the emissions inventory.

## Recalculation and restatement methodology

SSE's greenhouse gas and water performance metrics may need to be restated due to:

- **structural changes in its operations** (this can include acquisitions and divestments);
- **improvements in calculation methods or data accuracy** (including any historical errors identified); and
- **material changes to non-financial reporting requirements** (including conversion factors).

To understand whether historical performance metrics need to be restated, SSE is guided by external reporting standards, and in particular the Greenhouse Gas Protocol.

For any structural changes where SSE has operational control, the following applies:

1. SSE assesses the impact of the change quantitatively to understand if the metric needs to be restated.
2. SSE's methodology sets a threshold<sup>4</sup> for restatements. If the threshold is exceeded, SSE restates its baseline year and any intervening years.
3. For acquisitions which do not meet the significance criteria test, new sources of emissions are only accounted for in the year of acquisition, and no later than one year after acquiring operational control. Any divestments which do not meet the significance criteria test will be removed from the inventory from the year of divestment.

For structural changes where SSE does not have operational control, no recalculation occurs. Exceptions to this involve: For SSE's scope 1 and 2 GHG emissions, Joint Ventures where SSE has a 100% power purchase agreement<sup>5</sup> are included.

For a full list of SSE's subsidiaries, partnerships, joint associates, please refer to pages 284 to 296 of SSE's Annual Report 2024.

## Exclusions

In some cases, there are exceptions to the stated boundaries and methods detailed above.

Any activities representing under 1% of the total performance metric (i.e. total GHG emissions, or total water abstracted) are considered de-minimis by SSE.

Exclusions are reviewed on an annual basis to ensure that they are still relevant and fall below the materiality threshold. These exceptions are detailed below and the reason for the exclusion provided.

<sup>4</sup> The quantitative test uses a significance threshold of 5%. Considering any structural changes in which SSE holds operational control, improvements to calculations methods or data accuracy, or material changes to non-financial reporting requirements, the 5% threshold is assessed on an aggregated basis across all changes to the inventory and is applied against SSE's total scope 1 and 2 emissions in the reporting year versus the total scope 1 and 2 emissions in SSE's base year inventory of 2017/18.

<sup>5</sup> A power purchase agreement (PPA) is a long-term contract between an electricity generator and a customer. Where SSE has sold a PPA to a customer using electricity generated at one of its joint venture power stations, SSE will report 100% of the emissions generated at the joint venture asset.



Business	Activities	Reason for Exclusion
<p><b>Neos Networks</b></p>	<p><b>Neos Networks Limited</b> (formerly SSE Telecommunications Limited)</p>	<p>SSE holds a 50% joint investment in Neos Networks Limited, but does not have operational control. Neos reports its GHG emissions in its Sustainability or Environment Report and the total emissions are less than 1% of SSE’s total GHG emissions inventory.</p>
<p><b>SSE Renewables activities outside of the United Kingdom and Republic of Ireland.</b></p>	<p>Small offices in Japan, United States and other carefully selected markets and the acquisition of Siemens Gamesa Renewable Energy’s (SGRE) southern Europe onshore wind development portfolio.</p>	<p>SSE Renewables activities outside of the United Kingdom and Republic of Ireland are excluded from the environmental performance reporting.</p> <p>Overseas operations are considered de-minimis as environmental impacts arising from SSE Renewables’ international activities fall below SSE’s materiality threshold for inclusion at 1% of total SSE Group emissions.</p>

## Governance and reporting

Greenhouse gas and water performance data is captured at a site or business unit level in line with local regulations and permits.

To calculate an intensity ratio, emissions are divided by an appropriate activity metric (full time employee equivalents) or financial metric (£ million sales). The results of this provides a normalised data point which is called an intensity ratio.

SSE’s Safety, Health and Environment Committee advises and Safety, Sustainability, Health and Environment Advisory Committee oversees SSE’s reporting on greenhouse gas and water performance measures.

## Conversion Factors

SSE prepares its reporting of greenhouse gas and water performance measures using the most up to date conversion factors as detailed by non-financial reporting guidance and specifically the UK Government DESNZ conversion factors for company reporting, the EU ETS guidelines and UK ETS guidelines.

## GHG emissions performance metrics

SSE is providing the practical solutions to deliver a decarbonised energy system whilst also reducing carbon emissions arising from its own business activities.

SSE's strategy is aligned to the ambitions set out in the Paris Agreement and an accelerated power sector pathway to net zero consistent with the global warming of no more than 1.5°C.

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

### Performance Measures

SSE reports its annual greenhouse gas (GHG) emissions in tonnes of carbon dioxide equivalent (CO<sub>2e</sub>) from its operational activities.

SSE's scope 1, scope 2, scope 3 (categories 3, 4, 6, 9, 11 and 15) and GHG intensity metrics are used to measure SSE's performance against its 2030 goals and its science-based targets which have been approved by the Science Based Target Initiative (SBTi). SSE's performance measures are:

- **Scope 1 GHG emissions (mtCO<sub>2e</sub>)**
- **Scope 2 GHG emissions (mtCO<sub>2e</sub>)**
- **Scope 3 (categories 3, 4, 6, 9, 11 and 15) GHG emissions (mtCO<sub>2e</sub>)**
- **Total reported GHG emissions (mtCO<sub>2e</sub>)**
- **Scope 1 GHG emissions intensity (kgCO<sub>2e</sub>/kWh)**

SSE's GHG emissions are classified, in accordance with the [BEIS reporting standards](#), [GHG Protocol](#) and [ISO14064-1:2018](#) standards, into the following categories:

- **Scope 1 GHG emissions (Direct):** GHG emissions from sources that are owned or controlled by the Company (this includes Power Purchase<sup>6</sup> Agreements with 100% contractual arrangement).
- **Scope 2 GHG emissions (Indirect):** GHG emissions from the generation of purchased electricity, heat and steam consumed by the Company.

<sup>6</sup> A power purchase agreement (PPA) is a long-term contract between an electricity generator and a customer. Where SSE has sold a PPA to a customer using electricity generated at one of its joint venture power stations, SSE will take 100% of the emissions generated at the joint venture asset.

- **Scope 3 GHG emissions (Indirect):** GHG emissions that occur as a consequence of the activities of the Company, but occur from sources not owned or controlled by the Company.

For scope 3 GHG emissions, SSE reviews the relevance of each category when there are significant changes to the business (for example acquisitions, disposals, other structural and operational changes and improvements in data reporting standards or methods). SSE has scope 3 emissions arising from its purchased goods and services and capital goods that are relevant for its greenhouse gas inventory. However, SSE is developing appropriate methodologies for these categories and is working to secure accurate data from its supply chain so that it can confidently report these emissions. SSE will report scope 3 category 1 and category 2 emissions once they are calculated to an acceptable level of accuracy.

### GHG emission measures defined

#### Absolute GHG emissions

The following emission sources from SSE operations are included in the GHG emissions reporting: The direct GHG emissions (scope 1) cover:

- **Generation power stations** – gas, oil and biomass consumed in SSE's thermal power generation plant (including power purchase agreements<sup>6</sup> with 100% contractual arrangement) to generate electricity.
- **Gas consumption in buildings** – this is the gas consumed by SSE's non-operational buildings (offices, depots, data centres and warehouses) to maintain building temperatures. This data excludes leased buildings and offices outside the UK and Ireland (which represent less than 1% of employees).
- **Network fuel consumed** – this includes gas oil used by fixed generators on islands and diesel used in mobile generators to generate electricity to maintain the distribution network.
- **Company vehicles** – this is the petrol or diesel used by SSE's operational vehicles for business activities (operational vehicles are those vehicles that are owned by SSE and used by employees for SSE business activities).
- **Fugitive emissions** – use of sulphur hexafluoride (SF<sub>6</sub>) in thermal power stations, and transmission and distribution networks (used for conductivity in the switchgears and substations).



- **Time Chartered Crew Transfer Vessels** – this is the fuel purchased by SSE for use in vessels contracted on a time charter and used to transfer crew to service offshore wind farms in which SSE has an ownership share and operates on behalf of joint venture partners. For example: Beatrice Offshore Wind Farm Limited (SSE Renewables share 40%); Greater Gabbard Offshore Wind Farm (SSE Renewables share 50%) and Seagreen Wind Energy Limited (SSE Renewables share 49%).

The indirect emissions (scope 2) cover:

- **Electricity consumption in buildings** – this is the electricity consumed by SSE's non-operational buildings (offices, depots, data centres and warehouses). This data excludes leased buildings and offices outside the UK and Ireland (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.

The indirect emissions (scope 2) cover:

- **Category 3 - Fuel-and-energy-related activities (not included in scope 1 or 2): Well to tank emissions** – this is the GHG emissions associated with the extraction, refining and transportation of the raw fuel sources to SSE's sites before they are used to generate electricity at the power station, as defined by BEIS reporting guidelines.
- **Category 3 - Fuel-and-energy-related activities (not included in scope 1 or 2): Transmission and distribution losses** – 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 non-operational buildings (offices, depots, data centres and warehouses) and operational buildings (substations and thermal power stations). This figure is calculated by taking the scope 2 electricity consumption figure for non-operational buildings and electricity consumption in networks and thermal power stations and applying a carbon

dioxide conversion factor provided by [BEIS reporting guidelines](#). This data is separate to the losses that SSE's transmission and distribution networks report, as defined by BEIS reporting guidelines

- **Category 4 - Third Party Service Operation Vessels and Crew Transfer Vessels** – this is the fuel purchased by a third party for use in third party vessels that service offshore wind farms (Service Operation Vessels) and to transfer crew (Crew Transfer Vessels) to service offshore wind farms in which SSE has an ownership share and operates on behalf of joint venture partners. For example: Beatrice Offshore Wind Farm Limited (SSE Renewables share 40%); and Seagreen Wind Energy Limited (SSE Renewables share 49%).
- **Category 6 - Business travel: Business travel undertaken by SSE employees** – domestic (between UK airports), short haul (international flights to/from UK less than 3,700km, usually to European destinations), long haul (international flights to/from UK greater than 3,700km, usually to non-European destinations) and international (international flights to/from non-UK destinations) travel by air, rail and car miles travelled using third party transport (this is vehicles owned and operated by other organisations that SSE employees use to conduct business activities).
- **Category 9 - Downstream transportation and distribution: 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.
- **Category 11 - Use of sold products: Gas sold to customers** – Category 11 Use of sold products: Gas sold to customers – 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 SSE's customers for heating and power purposes. This figure is calculated by taking the amount of gas sold (millions of therms) converting it to kWh and then applying a carbon dioxide conversion factor provided by [BEIS reporting guidelines](#).
- **Category 15 Investments - Investments in Thermal electricity generation** – gas consumed in thermal power generation plant (for example, Seabank and Triton Power with SSE's 50% ownership share) where SSE does not have operational control but has a 50%-and-over equity interest. The emissions associated with the generation of electricity is calculated using greenhouse gas emissions data from the generator's operating company.

For each of the emission sources presented above, further information on data preparation and collection methods are detailed in Appendix 1.

## GHG Emissions Intensity

For SSE's GHG emissions intensity metric, SSE calculates its intensity ratio based on the scope 1 GHG intensity of its generated electricity. The data points that SSE reports on is based on:

1. SSE's carbon dioxide equivalent (**CO<sub>2e</sub>**) in grams from its scope 1 emissions data; and
2. The total output from SSE's electricity generation in kWh (both thermal (gas, oil, biomass) and renewables (onshore and offshore wind, hydro and pumped storage).

## Data preparation

For each of the emission sources detailed above, information about the data collection and preparation methods are detailed in Appendix 1.

For the GHG emissions intensity, SSE's data preparation is explained below:

Output (or volume) from all of SSE's in-scope electricity generation plant is taken from the period 1 April 2023 to 31 March 2024. The output volumes refer to the renewable and thermal power generation plant (including Power Purchase Agreements<sup>7</sup>) that SSE operates to generate electricity. The output volumes include projects that are operational. For projects that move from construction to operation during the reporting period, output data is taken from the date of commissioning.

The output refers to the generation from the thermal and renewable generating sites at the Notional Balancing Point. This is the point on the national transmission system where demand is managed and is comparable across the industry for trading and monitoring.

Output data is based on meter points at the Notional Balancing Point. This data is collected by Elexon, stored on SONET (an external database that stores electricity settlement data) and managed through an internal finance management system by business finance at SSE. The data excludes the constrained output<sup>8</sup>.

All direct emissions in carbon dioxide equivalent arising from sources that are owned or controlled by the Company during the financial year reporting period. The largest source of SSE's scope 1 emissions is released following fuel consumption at SSE's thermal power generation plant (gas, oil and biomass). The sources for all direct emission are explained in Appendix 1.

## GHG emission exclusions

Emissions sources in Table 3 have been identified and excluded from the GHG emissions inventory as they are below the 1% threshold considered de-minimis by SSE.

**Table 3:** De-minimis exclusions

GHG emission sources by scope excluded from the GHG inventory	
<b>Scope 1</b>	
<ul style="list-style-type: none"> <li>SSE owned or leased operational vehicles on the island of Ireland</li> <li>Enerveo owned or leased operational vehicles</li> <li>Gas consumption in non-operational buildings outside of the UK and Ireland.</li> <li>Gas consumption in residential property, leased buildings and generation sites where it is...</li> </ul>	<ul style="list-style-type: none"> <li>...used for heating purposes on the site itself.</li> <li>Gas consumption in Enerveo owned or leased buildings</li> <li>Fugitive emissions of methane from Gas Storage venting</li> <li>Diesel used in backup generation at renewable operational sites.</li> </ul>
<b>Scope 2</b>	
<ul style="list-style-type: none"> <li>Electricity consumption in residential property and leased buildings</li> <li>Electricity consumption in non-operational buildings outside of the UK and Ireland.</li> <li>Electricity consumption in Enerveo owned or leased buildings</li> <li>Thermal power station electricity...</li> </ul>	<ul style="list-style-type: none"> <li>...consumption at sites with capacity lower than 100MW (16 sites) that do not have meters to measure consumption.</li> <li>Thermal power stations in Ireland are excluded.</li> <li>Electricity consumption in renewable operational sites.</li> </ul>
<b>Scope 3</b>	
<ul style="list-style-type: none"> <li>Bus, taxi, hire car, helicopter travel</li> <li>Waste to Landfill</li> <li>Water &amp; Wastewater</li> </ul>	<ul style="list-style-type: none"> <li>Well to tank emissions from other fuel use in operations that is not related to generation activities</li> </ul>

<sup>7</sup> Output volume excludes Thermal generation from power stations SSE does not operate but has a 50%-and-over equity interest. This is to reflect the fact that scope 1 emissions exclude activities in which SSE does not operate. As a result, the emissions from Seabank Power Ltd and Triton Power Ltd is categorised as a scope 3 emission in accordance with SSE's 50% ownership share.

In previous years, output did include 100% of output from Seabank power station up to 31 September 2021 when SSE's power purchase agreement ended. Output from SSE's 50% ownership share of Seabank is excluded from October 2021 onwards

<sup>8</sup> Constrained refers to output that SSE could have potentially generated had there not been physical constraints on the network. National Grid provides SSE with payment to reduce or shut down output to maintain system stability and manages flows on the network.

## Water performance measures

SSE's environment strategy provides a framework for SSE to manage and mitigate impacts to terrestrial, freshwater and marine ecosystems, and build a business that uses resources efficiently and embraces the principles of a circular economy. Water plays a significant role in SSE's business activities and SSE aims to use water resources sustainably.

### Performance measures

SSE reports its annual water performance measures in millions of cubic metres (million m<sup>3</sup>) from its operational activities. Water performance is reported in SSE's Annual Report and Sustainability Report and the performance measures cover:

- **Total water abstracted** (million m<sup>3</sup>)
- **Total water returned** (million m<sup>3</sup>)
- **Total water consumed** (million m<sup>3</sup>)

### Water measures defined

The water sources included in this inventory are those required by BEIS reporting standards and include the total water (million m<sup>3</sup>):

- **Abstracted** – the volume of water taken from rivers, lochs, sea, estuaries and mains supplies for operational activities;
- **Consumed** – the volume of water used by the business to conduct its operations; and
- **Returned** – the volume of water returned to source (river, loch, sea or estuary).

SSE uses water for four main purposes:

1. To cool its generation plant (thermal generation operations);
2. As process water for a variety of operations (thermal generation operations);
3. As a source of energy in hydro generation schemes; and
4. For amenities in offices and buildings.



## Data preparation

Details of the source of the water data and how the water data is collected and reported is detailed below.

### Water data from SSE's thermal activities

Water abstracted and returned volumes are captured at entry and exit points at each of SSE's thermal power stations (gas, oil and biomass) in the UK and Ireland.

The data collection process involves the use of flow meters which transfer water volumes automatically from flowmeters to SSE's PI (process information) system. Water use data is automatically downloaded from this system into an excel spreadsheet. For the power stations that use flow meters, if there is a failure in the flowmeter PI system then there is a backup process used which involves pump running hours (this takes account of pump performance and the pump curve to measure flow rates) and has been agreed with the Regulators (Scottish Environment Protection Agency in Scotland, Environmental Protection Agency in Ireland, and Environment Agency in England).

For Great Island power station in Ireland, water for cooling is measured using a pump running hours methodology rather than flowmeters as these are not available. This methodology uses pump performance and pump curve methodology to measure flow rates and has been agreed with the Environment Protection Agency in Ireland.

Water volumes from power stations operated by SSE business units other than SSE Thermal is also included in the reported data. This covers SSEN Distribution's Lerwick Power Station and SSE Enterprise's Slough Heat and Power Station.

### Water data from hydro power stations

Water abstracted and returned volumes are captured as the water passes through the hydro generation turbine at SSE's hydro power stations.

The volume of water abstracted and returned are measured via telemetry. The telemetry system collects and records the input data (which is based on the water head (the intake and the loch level) and the power generation) to estimate the volume of water that passes through a turbine each time. The input data uses the power generated to calculate the flow of water that would have been required (and so effectively uses the turbine as a flowmeter).

### Water data from all other non-operational activities (offices and buildings)

Water consumed volumes are captured at SSE's non-operational buildings which are classed as offices, depots, warehouses and data centres. There are around 75 non-operational sites. Water consumption is only recorded at 16 key SSE facility managed properties that are metered.

Water meter readings are provided on a regular basis for facility managed sites with the largest desk capacities and occupancies. Monthly meter readings are manually recorded at the 16 sites and logged centrally.

For SSE's thermal offices and buildings, monthly meter readings are manually recorded at the sites and logged centrally

### Water metric exclusions

SSE excludes the water performance metrics from its thermal power stations that it does not have operational control and power stations which SSE has 100% power purchase agreements. SSE also excludes water consumption from smaller non-operational sites that are not managed by its facility management team.



Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
SSE Thermal	Fuel used by power stations to generate electricity – gas, oil and biomass	Scope 1	<p>Data source &amp; collection process                      Fuel used (gas, oil and biomass) is measured through meters and weight tickets and converted using UK ETS guidelines for the United Kingdom and EU ETS guidelines for the Republic of Ireland for the calendar year.</p> <p>However, SSE reporting period is from 1 April to 31 March, hence SSE Energy Markets estimate GHG emissions in the final quarter using the power generation data and composition of the fuel used. The estimation is reconciled annually prior to UK and EU ETS calendar year submission. SSE Energy Markets estimates power station emissions based on known plant activity, closures/acquisitions and power generation data for emissions trading purposes.</p>	kWh	N/A
All business units combined	Operational vehicles & plant (diesel)	Scope 1	Fuel is bought using fuel cards from independent fuel suppliers or dispensed at onsite fuel depot. Fuel card data is provided by independent fuel suppliers to Fleet Services. Fuel cards are reconciled with supplier invoices. Fuel dispensed from onsite depots is recorded and consolidated with fuel dispensed data from the independent suppliers.	litres	Fuel invoices do not include fuel dispensed a few days before the invoice so there is delay in reporting periods however these balances during the year and between financial reporting periods.
All business units combined	Operational vehicles & plant (petrol)	Scope 1	Fuel is bought using fuel cards from independent fuel suppliers or dispensed at onsite fuel depot. Fuel card data is provided by independent fuel suppliers to Fleet Services. Fuel cards are reconciled with supplier invoices. Fuel dispensed from onsite depots is recorded and consolidated with fuel dispensed data from the independent suppliers.	litres	Fuel invoices do not include fuel dispensed a few days before the invoice so there is delay in reporting periods however these balances during the year and between financial reporting periods.

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
SSE Renewables	Fuel used by crew transfer vessels to travel to and from offshore wind farms	Scope 1	<p>There are three joint ventures that are operated by SSE and use crew transfer vessels (CTVs) to transport SSE employees to its offshore windfarms in the United Kingdom. These CTVs are time chartered by SSE. Therefore, despite a third-party owning the vessel, SSE will account for their emissions in its Scope 1 boundary as per the Baltic and International Maritime Council (BIMCO) guidance.</p> <p>Fuel data is collected from the third party that owns and operates the vessels. Scottish Fuels supply all the fuel data for Beatrice Offshore Windfarm Limited (BOWL). ASCO provide fuel data for Greater Gabbard Offshore Windfarm Limited (GGOWL) and Seagreen Wind Energy Ltd (SWEL).</p> <p>This data is sent by each third party and collected by BOWL, GGOWL and SWEL Safety, Health and Environment teams. The fuel data is stored by Renewables Safety, Health and Environment team and consolidated into one report to cover all offshore vessel activities using excel. All data is verified using monthly invoices.</p>	litres	<p>Fuel used by the third-party is based on invoices, rather than measured consumption used in each vessel.</p> <p>First power at SSE’s 1,075MW Seagreen Offshore Wind Farm (SSE ownership 49%) was in August 2022 and it entered full operation in October 2023.</p>
All business units combined	Mobile plant (used when substations fail) – diesel	Scope 1	<p>Fuel purchased is recorded through a fuel card or through purchase of fuel stock – all recorded in fleet database.</p> <p>From 1 April 2022, the UK Government announced that it was removing the entitlement to use gas oil from most sectors, except for agriculture, rail and non-commercial heating. Diesel was the only fuel used in SSE’s mobile generators during 2023/24.</p>	litres	N/A

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
SSEN Transmission and SSEN Distribution	Fugitive emissions (SF <sub>6</sub> ) – SSEN Transmission and SSEN Distribution (SHEPD & SEPD)	Scope 1	Transmission and distribution engineers record SF <sub>6</sub> top ups and exception events requiring SF <sub>6</sub> top up in the asset management system, Maximo. The ENA model gives typical loss rate figures as a result of normal operation.	kg	N/A
All business units combined	Non-operational buildings – gas usage	Scope 1	<p>Non-operational buildings are classed as offices, depots, warehouses and data centres. There are around 75 non-operational sites. Most non-operational buildings have automatic gas meters. Records of gas use are transmitted through automatic meter readings to SSE Clarity. SSE Clarity integrates with SSE Business Energy Intelligence (BEI) to aggregate non-operational buildings data. Daily exports are automatically emailed and loaded into energy management software, SystemsLink, where the gas use is downloaded into an excel spreadsheet. Reconciliation of meter reads is completed with monthly invoices.</p> <p>Where tenants occupy a share of SSE’s non-operational buildings, gas consumption is apportioned based on the floor area that the tenants occupy. The gas consumption that takes place within the communal areas of shared non-operational buildings is also split using the same building wide apportionment between SSE and the tenant.</p>	kWh	<p>Not all non-operational buildings are on half hourly meters. Some are based on submitted actual meter reading or estimated on billing system. Where actual consumption data is not available, gas consumption is estimated based on the prior year’s consumption data.</p> <p>Data excludes leased buildings with small number of employees and offices outside the UK and Ireland (less than 1% of employees).</p> <p>Exceptions to the apportionment approach of gas consumption in communal areas have been applied to SSE’s Forbury Place (Reading) and Perth Campus sites. Access to some communal areas at these sites has been restricted to SSE staff only. In such examples, SSE has taken the total gas consumption from these communal areas.</p>

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
SSEN Distribution	Losses (SSEN Distribution: SHEPD & SEPD)	Scope 2	Figures for network losses are calculated using standard distribution losses guidance (produced by Elexon) to compute the losses in the distribution system.	GWh	Based on industry standards for line losses and distribution losses
SSE Thermal	Thermal power station electricity consumption	Scope 2	There are 20 operational thermal power stations in the UK and Ireland. The large power stations (with capacity greater than 100 MW) have automatic electricity meters. Meter reading data of electricity use are transmitted through Elexon. This data is recorded on SSE's finance system TM1 and then downloaded onto an excel spreadsheet. Reconciliation of meter reads is completed with monthly invoices.	kWh	Some thermal power stations are excluded from the data because they are below 100MW (15 sites) and they do not have meters to measure consumption. Data excludes thermal power stations in Ireland.
All business units combined	Non-operational building electricity consumption	Scope 2	<p>Non-operational buildings are classed as offices, depots, warehouses and call centres. There are around 75 non-operational sites. Most non-operational buildings have automatic electricity meters. Records of electricity use are transmitted through automatic meter readings to SSE Clarity. SSE Clarity integrates with SSE Business Energy Intelligence (BEI) to aggregate non-operational buildings data. Daily exports are automatically emailed and loaded into energy management software, SystemsLink, where the electricity use is downloaded into an excel spreadsheet. Reconciliation of meter reads is completed with monthly invoices.</p> <p>Where tenants occupy a share of SSE's non-operational buildings, electricity consumption is apportioned based on the floor area that the tenants occupy. The electricity consumption that takes place within the communal areas of shared non-operational buildings is also split using...</p>	kWh	<p>Not all non-operational buildings are on half hourly meters. Some are based on submitted actual meter reading or estimated on billing system.</p> <p>Data excludes leased buildings with small number of employees and offices outside the UK and Ireland (less than 1% of employees).</p> <p>Exceptions to the apportionment approach of electricity consumption in communal areas have been applied to SSE's Forbury Place (Reading) and Perth Campus sites. Access to some communal areas at these...</p>



Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
			<p>... the same building wide apportionment between SSE and the tenant.</p>		<p>... sites has been restricted to SSE staff only. In such examples, SSE has taken the total electricity consumption from these communal areas.</p>
<p><b>SSEN Distribution</b></p>	<p>Substations electricity consumption – (SSEN Distribution: <b>SHEPD &amp; SEPD</b>)</p>	<p><b>Scope 2</b></p>	<p>Substation electricity consumption is estimated as there are no meters in place. This is done by classifying the types of consumption and estimating the energy use of using the electrical load of the appliance. This includes:</p> <ul style="list-style-type: none"> <li>• <b>Space Heaters:</b> Based on multiples of 3kW off peak heating on for 6hrs per day for 4 months of the year in the south and 6 months in the north (only 10% of buildings heated in HV sites).</li> <li>• <b>Panel Heaters:</b> Based on multiples of 0.07kW (only 10% of HV sites with separate lv panels).</li> <li>• <b>Lighting:</b> Based on multiples of 0.2kW, on for 10 days during the year.</li> <li>• <b>Battery-Chargers:</b> Based on multiples of 0.5kW continuous supply to DC standing loads.</li> <li>• <b>Mains powered equipment:</b> Based on 0.5kW continuous supply.</li> <li>• <b>Transformer Coolers:</b> Based on cooler ratings of individual transformers. Substations are assumed to have 2 transformers on average, with coolers in operation for 10 days of the year.</li> <li>• Electrical load has been calculated for each type of substation, using the principles detailed above. The calculated average annual load has then been multiplied by the relevant number of substations giving total figures in kWh.</li> </ul>	<p>kWh</p>	<p>Substations are not metered so their energy consumption is based upon estimates which are based on the size of the substation, electricity capacity and the operation activities of each building through the financial year.</p>

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
<p><b>SSEN Transmission</b></p>	<p>Substations electricity consumption</p>	<p><b>Scope 2</b></p>	<p>Substation electricity consumption is mostly estimated as there are few meters in place at substations across the network.</p> <p>Six substations were installed with meters in 2023/24 and collected actual electricity consumption data for 12 months. Where this is available, this is the preferred approach to collect electricity consumption data.</p> <p>Four substations have historical electricity consumption data. Where this is available and there have been no significant changes to the substation, average measured data is used to estimate 12 months of electricity consumption.]</p> <p>An estimation for the electricity consumption at the remaining substations is achieved by confirming the number of connected circuits at each substation (using the SSEN network map) and by confirming the number of transformers at each substation (stored in Maximo). An annual electricity consumption benchmark per circuit connection and transformer is then applied to the number of connected circuits and transformers where measured data is unavailable.</p>	<p>kWh</p>	<p>Most substations are not metered so their energy consumption is based upon measured consumption from a small number of substations which are equipped with electricity meters during the financial year.</p>
<p><b>All business units combined</b></p>	<p><b>Flights</b> – domestic  <b>Flights</b> – short haul  <b>Flights</b> – long haul  <b>Flights</b> – international</p>	<p><b>Scope 3</b> – Category 6: Business travel</p>	<p>Booked through SSE’s web-based travel booking system provided by Capita, which provides distances in km for all journeys.</p>	<p>km</p>	<p>The actual flight distance may not always be exactly as standard for the route, the conversion factors used take account of the fact that distances travelled may not be representative of the journey due to changes in flight paths for safety/ weather/ etc.</p>

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
All business units combined	Train	Scope 3 – Category 6: Business travel	Booked through SSE’s web-based travel booking system Agiito, which provides distances in km for all journeys.	km	Small % of train journeys will be booked direct through the train company rather than using the SSE travel desk system.
All business units combined	SSE & SEC Cars (petrol, diesel and electric vehicles)	Scope 3 – Category 6: Business travel	Claims made through expenses system for business purposes using employees’ own cars or car ownership scheme (COS) cars. The mileage relates to the date the miles were claimed. The mileage claim data is run through the Harmony system. Distances are in miles and converted to km (using 1.609 conversion factor).	km	N/A
SSE Thermal	Greenhouse gas emissions from electricity generation at power stations where SSE has an equity investment but does not have operational control.	Scope 3 – Category 15: Investments	<p>Data is provided by the third-party owner of the generation site for the financial year.</p> <p>Fuel used (gas and oil) is measured through meters and weight tickets and converted using UK ETS guidelines for the United Kingdom.</p> <p>However, SSE’s reporting period is from 1 April to 31 March, hence SSE’s joint venture partners estimate GHG emissions in the final quarter using the power generation data and composition of the fuel used. The estimation is reconciled annually prior to UK ETS calendar year submission. SSE joint venture partners estimate power station emissions based on known plant activity and power generation data for emissions trading purposes.</p>	CO <sub>2</sub>	N/A

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
SSE Thermal	Fuel purchased – gas, oil and biomass for generation of electricity	Scope 3 – Category 3: Fuel- and energy-related activities	Fuel purchased during the financial year (gas, oil and biomass) is measured through meters and weight tickets and converted into kWh using standard industry recognised conversion factors or supplier specific factors.	kWh	Fuel purchased (diesel and oil) may not necessarily be used in the year, or in the reporting period, as there are on-site storage facilities for these fuels.
Business Energy and SSE Airtricity	Gas sold to customers	Scope 3 – Category 11: Use of sold products	<p>Gas volumes are based on settlement data published by Xoserve. SSE receives 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 (for the island of Ireland) and business customers (industrial and commercial) for Great Britain and the island of Ireland.</p> <p>The GHG emissions are calculated by taking the scope 3 gas sold to customers and applying the carbon dioxide conversion factor provided by BEIS reporting guidelines.</p>	Million therms	In line with gas settlement industry standard, gas reported contains a portion of unidentified gas supplied. This is to ensure total supply matches demand for the UK gas delivery.
All business units combined	Electricity use in non-operational buildings	Scope 3 – Category 3: Fuel- and energy-related activities	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 non-operational buildings (offices, depots, data centres and warehouses). 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.	kWh	N/A

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
<b>SSEN Transmission and SSEN Distribution</b>	Electricity use in substations	<b>Scope 3</b> – Category 3: Fuel- and energy-related activities	This is the transmission and distribution losses (the energy loss that occurs transporting 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.	kWh	N/A
<b>SSE Thermal</b>	Thermal power station electricity consumption	<b>Scope 3</b> – Category 3: Fuel- and energy-related activities	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 large power stations (with capacity greater than 100 MW) in Great Britain. This figure is calculated by taking the scope 2 electricity consumption figure for the power stations and applying a carbon dioxide conversion factor provided by BEIS reporting guidelines.	kWh	N/A
<b>SSEN Transmission</b>	Losses (National Grid)	<b>Scope 3</b> – Category 9: Downstream transportation and distribution	<p>When transferring power across the SHE Transmission System, some of the power is ‘lost’ known as ‘Transmission Losses’.</p> <p>Figures for transmission losses are calculated using standard transmission losses guidance (produced by Elexon) to compute the losses in the transmission system.</p> <p>This data is reported by National Grid as the system operator. They report this figure for the period of July to June to SSE for its assets. The figure is for the previous financial year as a result of the timing of the data capture...</p>	kWh	Based on industry standards for transmission losses

Business unit	GHG emissions source	GHG emissions level scope	Data source & collection process	Data collection unit	Uncertainty (description)
			<p>...process. This means for the financial year 1 April 2023 to 31 March 2024 the data will be based on the previous financial year July 2022 to June 2023. The data is verified by an independent third party, PwC, for National Grid.</p>		
<p><b>SSE Renewables</b></p>	<p>Fuel used by operations and maintenance vessels at operational wind farms</p>	<p><b>Scope 3 – Category 4:</b> Upstream transportation and distribution</p>	<p>There are three Joint Ventures that are operated by SSE and use vessels to maintain offshore windfarms in the United Kingdom.</p> <p>Fuel for these vessels is purchased by a third-party operations and maintenance company for use in third party vessels that service offshore wind farms (Service Operation Vessels) and to transfer crew (Crew Transfer Vessels) to service offshore wind farms in which SSE has an ownership share and operates on behalf of joint venture partners. These CTVs are not chartered by SSE. Therefore, SSE will account for their emissions in its Scope 3 boundary as per the Baltic and International Maritime Council (BIMCO) guidance.</p> <p>SGRE provides fuel usage on Service Operation Vessels (SOVs) at Beatrice Offshore Windfarm Limited BOWL.</p> <p>Seagreen Wind Energy Ltd (SWEL) Safety, Health and Environment team collate fuel invoice data quarterly for crew transfer vehicles and SOVs contracted by the main contractor on site.</p>	<p>litres</p>	<p>Excludes Greater Gabbard Offshore Windfarm Limited (GGOWL).</p>

