Greenhouse gas (GHG) emissions

Reporting Framework

Group Operational Excellence Sustainability Team

Contents

1 Definitions

- **Carbon dioxide equivalent (CO_2e)**: the universal unit of measurement used to indicate the global warming potential of greenhouse gases expressed in terms of the 100-year global warming potential of one metric tonne of carbon dioxide.
- **Carbon neutral**: a condition in which, during a specific period, there has been no net increase in the global emission of greenhouse gases to the atmosphere due to the greenhouse gas emissions associated with the subject during the same period.
- **Carbon neutrality**: state of being carbon neutral.
- **Conversion factor**: the amount of greenhouse gases emitted, expressed as carbon dioxide equivalent and relative to a unit of activity.
- **Direct emissions, Scope 1 emissions**: emissions from sources owned or directly controlled by the reporting company.
- **Global warming potential (GWP)**: factor describing the radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period.
- **Greenhouse gas (GHG)**: gaseous constituent of the atmosphere, natural or anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. Seven gases are listed in the Kyoto Protocol and IWA 42:2022: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3) (as added by The Doha Amendment).
- **GHG Protocol Standards:** a group of documentation issued by the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) that provides a comprehensive global standardized framework to measure and manage GHG emissions. For details of the Standards applied, consult Section 2 (Introduction).
- **Indirect emissions, Scope 2 emissions (energy indirect) and Scope 3 emissions (other indirect)**: emissions that are a consequence of the operations of the reporting company but occur at sources owned or controlled by another company.
- **Net zero emissions**: human-caused greenhouse gas emissions reduction to as close to zero as technically feasible, practicable or cost-effective while ensuring the remaining emissions are removed from the atmosphere and durably stored in geological, terrestrial or ocean reservoirs or in products.
- **Science-aligned pathway**: pathway where the GHG reduction targets align with the 1.5°C global warming scenario reduction by 2050 proposed by the Paris Agreement.
- **Operational control**: a consolidation approach whereby a company accounts for 100 per cent of the GHG emissions over which it has operational control. It does not account for GHG emissions from operations in which it owns an interest but does not have operational control.

2 Introduction

The British Standard Institution (BSI) has pledged to achieve net zero emissions within its operational control (Scope 1 & 2) by 2030, a targeted reduction of its Scope 3 emissions according to a science-aligned pathway, and the ambition to achieve a continuous carbon neutrality status for its operations.

This public document – an extract of BSI's Greenhouse gas (GHG) Accounting Framework and Materiality Assessment – discloses the accounting and reporting methodology used to calculate BSI's global GHG emissions, which are published in the company's Annual Report and Financial Statements and available for consultation at the BSI website. It aims to disclose and inform stakeholders about the soundness and reasoning of our carbon calculations while fulfilling assurance requirements.

The methodology takes into consideration the following:

- The British Standard Institution. 2014. PAS 2060:2014 Specification for the demonstration of carbon neutrality. ISBN 978-0-580-83670-1.
- International Organisation for Standardisation. 2020. ISO 14064-1:2019, Greenhouse gases, Part 1: specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals. ISBN 978-0-539-07130-6.
- International Organisation for Standardisation. 2019. ISO 14064-2:2019, Greenhouse gases, Part 2: specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements. ISBN 978-0-539-07131-3.
- International Organisation for Standardisation. 2022. IWA 42:2022(E), Net zero guidelines.
- World Resources Institute. World Business Council for Sustainable Development. 2004. Greenhouse gas protocol, A corporate accounting and reporting standard. ISBN 1-56973-568-9.
- World Resources Institute. World Business Council for Sustainable Development. 2015. Greenhouse gas protocol, Scope 2 guidance: an amendment to the GHG Protocol Corporate Standard. ISBN: 978-1-56973-850-4.
- World Resources Institute. World Business Council for Sustainable Development. 2011. Greenhouse gas protocol, Corporate value chain (Scope 3) accounting and reporting Standard: supplement to the GHG Protocol Corporate Accounting and Reporting Standard. ISBN 978-1-56973-772-9.
- World Resources Institute. World Business Council for Sustainable Development. 2013. Greenhouse gas protocol, Technical guidance for calculating Scope 3 emissions: supplement to the Corporate Value Chain (Scope 3) Accounting & Reporting Standard.
- The United Kingdom. HM Government. 2019. Environmental reporting guidelines: including streamlined energy and carbon reporting guidance.

3 Scope of the independent limited assurance

An independent third-party provider provides annually an independent limited assurance opinion on material global GHG emissions. The assessment is conducted in accordance with the International Standard on Assurance Engagements (ISAE) (UK) 3000 and ISAE 3410, and a copy of the independent limited assurance opinion is available on the BSI website.

The independent limited assurance opinion is issued for the emissions detailed in the Inventory boundary (refer to Section 5 for further details), namely: Scope 1 and Scope 2 location-based emissions; and specific categories of Scope 3 emissions (categories 3, 6 and 8) in accordance with the GHG Protocol Standards.

The emissions covered in the assurance opinion are from 1st January to 31st December (inclusive) of each year, which aligns with BSI's financial reporting year. Emissions in the scope of the independent limited assurance opinion will be appropriately denoted in the Annual Report.

4 Organisational boundary

BSI Group has chosen operational control as the approach for its organisational boundary. BSI retains operational control when it has the full authority to introduce and implement operating policies, independent of whether the asset is owned, rented, or leased.

All BSI Group companies are included in the reporting. The report will proportionally reflect emissions from acquired or disposed sources according to the transaction dates.

5 Inventory boundary

BSI Group will report all GHG emissions within its organisational and inventory boundary. Emissions are considered outside of the inventory boundary when they are quantified as not material or when their quantification is not technically feasible, practicable or cost-effective. Exclusions are documented alongside assumptions and reasoning, and a summary of the inventory boundary is detailed below.

Unless otherwise stated, all emissions described below are measured in tonnes of CO_2 equivalent (tCO_2e).

5.1 Scope 1 Emissions

Scope 1, or direct emissions, arise from sources owned or controlled by BSI Group that include:

- **Stationary fuel combustion**: on-site sources using liquid fuels and burning oil to produce electricity, heat and/or steam.
- **Natural gas**: on-site sources burning gas fuel to produce heat and/or steam.
- **Mobile fuel combustion**: vehicles, such as cars and vans, owned or leased to BSI for over 14 days.
- **Bottled gases**: combustion of bottled gases, including those used in stationary and off-road uses.
- **On-site fugitive emissions**: on-site sources that use refrigerant gases and fire suppressants.

The following Scope 1 emissions are outside of the inventory boundary due to their quantification not being technically feasible, practicable and cost-effective at this moment:

- Mobile fugitive emissions sources.

Emissions sources not owned or controlled by BSI Group are addressed in Scope 3 emissions.

5.2 Scope 2 Emissions

Scope 2, or indirect emissions, arise from acquiring electricity, steam, heat or cooling consumed by sources owned or controlled by BSI Group and include:

- **Static sources**: electricity, steam, heat or cooling used in office spaces.
- **Mobile sources**: electric vehicles owned or leased to BSI for over 14 days.

5.3 Scope 3 Emissions

Scope 3, or indirect emissions, arise from sources not owned or controlled by BSI Group or where BSI's control is limited. Scope 3 emission sources within the inventory boundary include the following largest categories:

- **Fuel and energy-related activities (Category 3)**: upstream emissions from the production of fuels and energy purchased and consumed in sources owned or controlled by BSI Group. Includes well-to-tank (WTT) and transmission and distribution (T&D).
- **Business travel (Category 6)**: emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties and emissions associated with hotel stays. Includes private transport (employee-owned vehicles, short-term rental cars, taxis), public transport (trains, buses, ferries, flights), and hotel stays.
- **Upstream leased assets (Category 8)**: emissions from the operation of assets leased to BSI Group (lessee). Includes emissions from stationary fuel combustion, natural gas and, purchased electricity, steam, heat or cooling from sources over the BSI group that does not have operational control.

The following Scope 3 emissions are outside of the inventory boundary due to their quantification not being technically feasible and/or practicable at this moment:

- **Category 3:** WTT & T&D emissions from sources not owned or controlled by BSI Group.
- **Category 8:** stationary and mobile fugitive emissions of refrigerant gases and fire suppressants in sources not owned or controlled by BSI Group.

The remaining Scope 3 categories (Categories 1, 2, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15) are outside of the inventory boundary because their quantification at this moment in time is not technically feasible, practicable and cost-effective. BSI Group is working to expand its reporting scope progressively.

6 Data sources

If necessary, the activity data will be adjusted (prorated) at the initial and final months of the reporting period to ensure that the emissions calculated arise exclusively from the 365 days, 1st of January to the 31st of December, of the reporting period.

Adjustments involve normalising the activity data and multiplying it by the number of days within the period requiring adjustment. When the activity data falls short of the reporting period by less than 30 days, the normalised activity data used is the average daily consumption of the last billing month available. However, when the activity data falls short of a period exceeding 30 days, the normalised activity data used is the average daily consumption of the entire year.

6.1 Scope 1 Emissions: Stationary fuel combustion and Natural gas

- **Information**: fuel type (e.g., natural gas, diesel oil, kerosene, LPG, etc.) and its consumed quantity during the reporting period, preferably in kWh or litres.
- **Sources**: meter readings, utility invoices, and estimated data from landlords.
- **Proxies**: when consumption data is unavailable, the reporting platform will automatically allocate the most appropriate, traceable, verifiable and evidenced-based intensity factor proxy (e.g., natural gas consumption per office area). The allocation hierarchy follows the geographical approach:
    - Government and Official organisation sources at local level;
    - Government and Official organisation sources at regional level; and
    - Government and Official organisation sources available, including DEFRA.

6.2 Scope 1 Emissions: Mobile fuel combustion

- **Information**: vehicle type (e.g., car, van, other), vehicle size (e.g., small, medium, large), vehicle engine (e.g., diesel, petrol, hybrid, electric), and the distance travelled during the reporting period, in miles or kilometres. It can also be captured in litres, gallons, or fuel cost.
- **Sources**: internal reporting systems (expenses records) and leasing companies' reports. Emissions from this category include BSI Group-owned vehicles or vehicles leased to BSI for more than fourteen days.
- **Proxies**: if the vehicle and/or engine size are unavailable, the categories *Average car* and *Unknown fuel* — in any combination available in the reporting platform — will be used to convert the consumption to emissions. If the distance travelled is unavailable, the average fuel cost for the reporting period and the average fuel consumption per mileage can be used as proxies.

6.3 Scope 1 Emissions: Bottled gases and On-site fugitive emissions

- **Information**: refrigerant type and the consumed quantity during the reporting period, preferably in kilograms.
- **Sources**: information from maintenance records in the case of air conditioning and fire suppressant systems and purchase invoices in the case of bottled gases.
- **Proxies**: the top-up date for air conditioners and the invoice date for bottled gases will be considered as the emission dates due to the nature of the equipment, which does not allow to identify dates of the actual emissions.

6.4 Scope 2 Emissions: Static sources

- **Information**: energy type (electricity, steam, heat or cooling), energy source (renewable or non-renewable) and its consumed quantity during the reporting period, preferably in kWh.
- **Sources**: meter readings, utility invoices, estimated data from landlords.
- **Proxies**: if the source of electricity (e.g., grid, renewable) is unknown, location-based emission factors will be used to convert the consumption into emissions. When consumption data is unavailable, the reporting platform will automatically allocate the most appropriate, traceable, verifiable and evidence-based intensity factor proxy (e.g., electricity consumption per office area). The allocation hierarchy follows the geographical approach:
    - Government and Official organisation sources at local level;
    - Government and Official organisation sources at regional level; and
    - Government and Official organisation sources available, including DEFRA.
- **Additional note 1**: emissions sources will be reported as *Location-based* and aligned with the respective conversion factors.
- **Additional note 2:** *Market-based* emissions are calculated using market-based emission factors when available.

6.5 Scope 2 Emissions: Mobile sources

- **Information**: vehicle type (e.g., car, van, other), vehicle size (e.g., small, medium, large), vehicle engine type, and the distance travelled during the reporting period, in miles, kilometres or kWh consumed.
- **Sources**: internal reporting systems (expenses records) and vehicle leasing companies' reports. Emissions from this category include BSI Group-owned vehicles or vehicles leased to BSI for more than fourteen days.
- **Proxies**: when unavailable, the transaction date will be taken as the date of use. If the vehicle and/or engine size are unavailable, the category *Average car* will be used to convert the consumption to emissions.

6.6 Scope 3 Emissions: Fuel and energy-related activities (Category 3)

- **Information, Sources and Proxies**: as described in *Scope 1* and Scope *2.*

6.7 Scope 3 Emissions: Business travel (Category 6)

For air travel (flights):

- **Information**: travel class (coach/economy, premium economy, business or first), origin and destination airport and the distance travelled during the reporting period, in miles or kilometres.
- **Sources**: information from travel agencies and internal reporting systems (expenses records).
- **Proxies**: a flight path calculator will be used as proxies when the distance travelled is unavailable. When data about the origin and destination airports are unavailable but a flight has been purchased, the reporting platform will allocate an intensity factor proxy based on traceable and verifiable sources. When the class type is unavailable, it is assumed to be an *Average Class*.

For road travel (vehicles owned by employees and short-term hire used for business purposes):

- **Information**: vehicle type (e.g., car, van, other), vehicle size (e.g., small, medium, large), vehicle engine (e.g., diesel, petrol, hybrid, electric), and the distance travelled during the reporting period, in miles or kilometres. It can also be captured in litres, gallons, fuel or rental costs, and others.
- **Sources**: internal reporting systems (expense records) and reports from leasing companies.
- **Proxies**: the transaction date can be used as a proxy for the date of use, although the latter is preferable. When the vehicle or engine size is unavailable, the categories *Average car* and *Unknown fuel* — in any combination available at the reporting platform — will be used to convert the consumption to emissions while actions are implemented to improve the reporting capability. If the distance travelled is unavailable, the average fuel cost for the reporting period and the average fuel consumption per mileage can be used as proxies.

For public transport (rail/ferry/bus/taxi):

- **Information**: public transport type (rail, ferry, bus, taxi) and distance travelled during the reporting period, in miles or kilometres. It can also be captured as travel costs.
- **Sources**: internal reporting systems (expense records) alongside supplier reports.
- **Proxy**: when unavailable, the transaction date will be taken as the date of use. When only travel spend is available and the reporting platform does not have a conversion factor for currency, the following hierarchy will be applied:
    - company-specific average cost per distance will be used when travel agency suppliers can provide;
    - general average cost per travelled distance within countries, calculated based on next-day ticket prices of major travel routes and distances from quoted reputable sources. For

taxis, the conversion will be obtained from an online taxi calculator tool, which provides the average cost of taxi journeys per distance travelled.

6.8 Scope 3 Emissions: Upstream leased assets (Category 8)

- **Information, Sources and Proxies**: as described in *Scope 1* (*Stationary fuel combustion*, *Natural gas* and *Mobile fuel combustion*) and *Scope 2* (*Static sources*).

7 Conversion factors

BSI Group strives for continual improvement and will endeavour to use the most up-to-date conversion factors and proxies available through the reporting platform to transform a variety of units of measurement into the total carbon dioxide equivalent (tCO_2e). These are kept up to date in the reporting platform.

BSI Group 2022 GHG emissions were calculated using a combination of IEA and DEFRA factors.

BSI Group 2023 GHG emissions were calculated using an improved set of trustworthy and reliable emission factors database available through the reporting platform. It includes global electricity emissions factors derived from the UN IPCC data on electricity production and losses, and a combination of government and official organisation sources for the remaining activities (e.g., DEFRA). The Global Warming Potential values from the Sixth Assessment Report of the UN IPCC will be applied when emission factors are available for each specific GHG gas (e.g., CH_4, CO_2 and N_2O). This doesn't apply to situations when emission factors are only available as CO_2e.

For further information on the emission factors used in the BSI Group 2023 GHG emissions, please consult Appendix A.

8 Restatement

BSI Group will restate previously reported GHG emissions when significant changes occur:

- Significant structural changes such as acquisition and divestments, outsourcing and insourcing of relevant activities.
- Significant changes that impact the inventory boundary.
- Significant errors or several cumulative errors that together are significant.
- Significant changes in the calculation method, such as updates in external calculation protocols and guidelines.

Significant changes are those that result in a discrepancy of more than 5% of the previously reported GHG emissions. If the discrepancy is less than 5%, BSI Group may restate previously reported GHG emissions at its discretion.

BSI Group will not restate its emissions in the following circumstances:

- When the companies or operations subject to acquisition or divestment did not exist at the time.
- When changes occur due to the annual publication of emission factors by its sources.

- When Global Warming Potential numbers are revised or updated by the IPCC.

We have not fully assessed the impact of the improvements on our previously reported GHG emissions, and therefore, the prior year comparatives have not been restated. It is possible that the impact of the revised factors could have an impact of more than 5% on the prior year comparatives. We will consider fully assessing the impact of the improvements in the future alongside with the need for restating these emissions.

9 Documentation and record retention

BSI Group will keep records of all pertinent data and information used in the quantification and calculation of BSI's GHG carbon emissions for five years as a minimum.

The latest version of the Reporting Framework will be disclosed on the BSI website. In addition, records of any previous versions will be retained and available for consultation upon request to **sustainability@bsigroup.com**.

10 Revision history

Revision No.	Date	Reviewed By	Approved By	Changes
3.0	13/01/2022	E Motta	B Porcel	General revision and document realignment.
3.1	16/03/2022	E Motta	B Porcel	Feedback from limited assurance auditors incorporated.
3.2	27/03/2022	E Motta	B Porcel	Additional explanation about flight criteria.
3.3	17/04/2024	E Motta	B Porcel	Feedback from limited assurance auditors incorporated.

11 APPENDIX A. Sources of Conversion Factors

Activity	Sources
Air Mileage	
Flights (to/from non-UK, to/from UK) (average, economy, premium economy, business and first class)	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
Bus and Coach	
Bus and Coach	Deutsche Bahn (2023). 2022 Integrated Report. https://nachhaltigkeit.deutschebahn.com/en/key-figures
	EPA (2023). GHG Emission Factors Hub. Center for Corporate Climate Leadership. April 2023. https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed April 2023.
	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
	CO2 emissiefactoren (2023), http://co2emissiefactoren.nl/lijst-emissiefactoren/ accessed March 2023
Electricity	
Electricity grid (Scopes 2 and 3), T&D losses, upstream emissions	United Nations (2023). UN Statistics Division - 2020 Energy Balance Visualizations. https://unstats.un.org/unsd/energystats/dataPortal/ #IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.
	United Nations (2023). UN Statistics Division - 2020 Energy Balance Visualizations. https://unstats.un.org/unsd/energystats/dataPortal/ #IPCC (2019). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge. (No refinement from 2006)
	Department for Business, Energy and Industrial Strategy (2021). 2021 Government GHG Conversion Factors for Company Reporting.
	Ecometrica (2022). Global Electricity Emission Factors Methodology. https://www.emissionfactors.com/_files/ugd/654b6b_39c68c67370143d4aa5007c6c6c65b49.pdf (2022). Accessed March 2024.
Fuel	
Fuel	EPA (2023). GHG Emission Factors Hub. Center for Corporate Climate Leadership. April 2023. https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed April 2023.
	Swiss Confederation (2023). Switzerland's Greenhouse Gas Inventory 1990-2021 National Inventory Report. Federal Office for the Environment FOEN.
	IMN (2023). Factores de emisión de gases de efecto invernadero 13a Edición 2023. Available online at http://cglobal.imn.ac.cr/documentos/publicaciones/factoresemision/factoresemision2023/FactoresEmision-GEI-2023.pdf. Accessed September 2023.
	GHG Protocol Brasil (2022). Ferramenta GHG Protocol 2022. Version 2022.0.1. Programa Brasileiro GHG Protocol. Available online: https://www.ghgprotocolbrasil.com.br/.
	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.

Activity	Sources
Night Stays	
Hotel	United Nations (2023). UN Statistics Division - 2030 Energy Balance Visualizations. https://unstats.un.org/unsd/energystats/dataPortal/#IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.#CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.
	United Nations (2023). UN Statistics Division - 2030 Energy Balance Visualizations. https://unstats.un.org/unsd/energystats/dataPortal/#IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.#CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.#Energi Företagen (2023) Lokala miljävärden 2022. Sweden Available from https://www.energiforetagen.se/statistik/fjarrvarmestatistik/miljovarderin g-av-fjarrvarme/
	CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.#Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
	CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.#EC (2023). National Inventory Report. Greenhouse Gas Sources and Sinks in Canada: 1990 - 2021. Environment Canada. Online: https://unfccc.int/documents/627833. #Statistics Canada (2022). Report on Energy Supply and Demand in Canada (57-003-X). 2019 Revision. Online: https://www150.statcan.gc.ca/n1/en/pub/57-003-x/57-003-x2022001-eng.pdf?st=KCDwFc8X
	CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.#EPA (2023). eGrid2021. Release : 1/30/2023. Online: https://www.epa.gov/egrid/download-data. Accessed February 9, 2023.# EPA (2022). GHG Emission Factors Hub. Center for Corporate Climate Leadership. April 2022. https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed May 2022.
	CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.#Department for Business, Energy and Industrial Strategy (2022). 2022 Government GHG Conversion Factors for Company Reporting.
Rail and Train	
Rail and Train	EPA (2023). GHG Emission Factors Hub. Center for Corporate Climate Leadership. April 2023. https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed April 2023.
	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
	SNCF (2022). INFORMATION SUR LA QUANTITE DE GAZ A EFFET DE SERRE EMISE A L'OCCASION D'UNE PRESTATION DE TRANSPORT.

Activity	Sources
	Deutsche Bahn (2023). 2022 Integrated Report. https://nachhaltigkeit.deutschebahn.com/en/key-figures
	Department for Business, Energy and Industrial Strategy (2022). 2022 Government GHG Conversion Factors for Company Reporting.
	SJ (2022). SJ AB Annual and Sustainability Report 2022
Road Mileage	
Upstream emissions (all sizes and fuels)	EPA (2023). Supply Chain Greenhouse Gas Emission Factors v1.2 by NAICS-6. Available at: https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid=https://doi.org/10.23719/1528686.
	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
	CO2 emissiefactoren (2022), http://co2emissiefactoren.nl/lijst-emissiefactoren/ accessed March 2022
Road Mileage Cars and Light-duty vehicles (all sizes and fuels)	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
	EPA (2022). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020. United States Environmental Protection Agency. Online: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2020
	EPA (2023). GHG Emission Factors Hub. Center for Corporate Climate Leadership. April 2023. https://www.epa.gov/climateleadership/ghg-emission-factors-hub. Accessed April 2023.
	CO2 emissiefactoren (2022), http://co2emissiefactoren.nl/lijst-emissiefactoren/ accessed March 2022
	EC (2023). National Inventory Report. Greenhouse Gas Sources and Sinks in Canada: 1990 - 2021. Environment Canada. Online: https://data-donnees.ec.gc.ca/data/substances/monitor/canada-s-official-greenhouse-gas-inventory/
	Commonwealth of Australia 2022 (Department of the Environment and Energy). National Greenhouse Account Factors (NGA) - Australian National Greenhouse Accounts. February 2023. Online: https://www.dcceew.gov.au/sites/default/files/documents/national-greenhouse-accounts-factors-2022.pdf
	GHG Protocol Brasil (2022). Ferramenta GHG Protocol 2022. Version 2022.0.1. Programa Brasileiro GHG Protocol. Available online: https://www.ghgprotocolbrasil.com.br/.
	New Zealand Government, Ministry for the Environment (2022). Measuring Emissions: A guide for organisations. 2022 detailed guide.
Taxi	
Taxi	New Zealand Government, Ministry for the Environment (2022). Measuring Emissions: A guide for organisations. 2022 detailed guide.
	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.
Others	
Ferry, average (all passengers)	Department for Business, Energy and Industrial Strategy (2023). 2023 Government GHG Conversion Factors for Company Reporting.