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BSI Greenhouse Gas (GHG) Emissions Calculations Methodology for data subject to independent limited assurance

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1. Introduction

1.1 BSI Group ('BSI') reports in line with the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013. As a requirement of the regulation, BSI is obliged to report on environmental matters including our greenhouse gas (GHG) emissions, in our published British Standards Institution Annual report and financial statements. This document sets out the reporting methodology BSI uses to generate our GHG emissions statements. Our methodology is informed by:

- ISO 14064-1:2018 Greenhouse Gases Standard which provides a specification with guidance at the organisational level for quantification and reporting of GHG emissions and removals.
- the Greenhouse Gas Protocol Corporate Standard.

2. Data verification and assurance

2.1 Limited assurance on selected GHG emissions data will be performed annually by an independent third-party provider in accordance with International Standard on Assurance Engagements 3000 (revised) and 3410, issued by the International Auditing and Assurance Standards Board. For selected 2021 data, BSI engaged PricewaterhouseCoopers LLP ("PwC") to provide the limited assurance. A copy of the assurance report will be made available via the BSI website. The figures that have been covered by this assurance process will be signposted in our Annual Report. They are as follows for the year ended 31 December 2021:

- Global GHG emissions - Scope 1 emissions tCO₂e
- Global GHG emissions - Scope 2 location-based emissions tCO₂e
- Global GHG emissions - Scope 3 emissions from business travel by air and from BSI leased offices tCO₂e

2.2 This methodology details the data collection methods used to produce the above selected GHG emissions metrics only. Other reported GHG figures are subject to further data collection procedures not listed below.

3. Organisational boundaries

3.1 Our GHG reporting boundary is '**operational control**'. BSI had operational control over an operation if the company or one of its subsidiaries had the full authority to introduce and implement its operating policies at the level of the operation. Under the operational control system, BSI classified Scope 1 and 2 emissions as those associated with the consumption of energy at sites and in vehicles that the organisation owned (or leased for greater than 14 days), or operated under a lease whereby we owned the contract with the energy supplier. Emissions we do not operationally control will be reported in Scope 3. In the case of

refrigerant gas, fugitive emissions associated with equipment that we owned and/or had direct responsibility for the maintenance of were classified as Scope 1. Any other refrigerant gas fugitive emissions were seen as landlord responsibility and were not collected for BSI reporting purposes.

3.2 BSI included within its reporting:

- All of its sites globally
- Individuals (employees and contractors) that claim business travel expenses through BSI's expense systems.
- Emissions from entities acquired were included in the annual GHG report of the financial year from the date of occupancy and in accordance with the scope and boundary criteria set out in this document. Emissions are reported from lease start date.
- Emissions from entities disposed of during the year were included up to the date of disposal within the respective annual reporting year.

4. Reporting period

4.1 BSI will report on data from **1st January to 31st December (inclusive)** each year. This is aligned to BSI's financial reporting year and the completed year's data for the selected GHG emissions metrics will be subject to independent limited assurance on an annual basis.

5. Description of In-Scope Reporting Boundaries

Significant and excluded emissions for our selected GHG emissions metrics subject to independent limited assurance are as follows:

5.1 *Global GHG emissions - Total Scope 1 emissions tCO₂e*

These are emissions from sources that are owned or controlled by BSI. All sources are reported unless otherwise disclosed. These are, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc; emissions from chemical production in owned or controlled process equipment.

Significant Scope 1 emissions reported by BSI include:

- Stationary fuel combustion emission sources: These are typically owned devices that combust solid, liquid, or gaseous fuel for the purposes of producing electricity, generating steam or heat (e.g., boilers in owned buildings where maintenance and upgrades are made by the organisation). Note that in cases where BSI does not

directly control, own, or maintain property or equipment producing emissions from stationary fuel combustion (e.g., boilers producing heat for a leased office), these are classified as Scope 3, Category 8 emissions (Upstream leased assets), since BSI has little to no operational control over changes to the fuel or equipment.

- Mobile Combustion Emissions: These are direct GHG emissions from owned or leased mobile sources (both on-road and non-road vehicles). This is gathered from diesel and petrol passenger vehicle mileage. In some countries, fuel cards are used to purchase fuel for company owned vehicles. These are being phased out. Total fuel card use is included for reporting as this is the vehicle’s primary purpose.
- Fugitive emissions from refrigeration and air conditioning: These are relevant when sites that are owned or controlled by BSI report malfunctioning, damaged, or end-of-life equipment that results in leakage.
- Others: Bottled gas data that are listed under GHGs or are used for combustion purposes from our testing laboratories or used to power forklift trucks used on-site. We report this from date of purchase.
- Note that GHG emissions of employees working from home is not included due to lack of robust methodology guidance. This will be reviewed as guidance is published.
- Emissions associated with sites where relevant data is not available is estimated with methods, as defined in section 8, and a level of confidence in estimations is disclosed.
- Significant Scope 1 emissions to be excluded by BSI include:
 - None at this time.

5.2 *Global GHG emissions - Total Scope 2 emissions tCO₂e*

Scope 2 includes indirect emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the reporting company. Although the energy is consumed by BSI at BSI sites, GHGs are emitted at the site where the energy is produced. This also includes emissions from BSI owned or leased (for more than 14 days) Electric Vehicles. All sources are reported unless otherwise disclosed.

Reportable Scope 2 emissions that BSI report include:

- Emissions from directly purchased energy (electricity/heat): These are a consequence of BSI operational activities but occur at sources owned and controlled by an outside entity (i.e., an electricity utility). At this time, BSI’s Scope 2 emissions are primarily generated from purchased electricity for use in buildings and BSI owned electric vehicles (e.g., electric forklifts). Emissions from indirectly purchased energy i.e., where the landlord purchases the utility on our behalf as part of the lease agreement, are included within our Scope 3, Category 8

emissions reporting (Upstream leased assets), since BSI has little to no operational control over the fuel or equipment.

- Scope 2 electricity emissions are reported as 'location-based'. The location-based approach reflects the purchased energy-related emissions using the grid average emissions conversion factor, i.e., not taking account of renewable energy purchases.
- Emissions associated with sites where relevant data is not available are estimated, using the methods defined in section 8.
- Scope 2 emissions to be excluded by BSI include:
 - Note that GHG emissions of employees working from home is not included due to lack of robust methodology guidance. This will be reviewed as guidance is published.

5.3 Global GHG emissions - Scope 3 emissions from business travel by air and from BSI leased offices tCO₂e

Scope 3 emissions are defined as the result of activities from assets not owned or controlled by the reporting organisation, but that the organisation indirectly influences through its value chain.

Table 1. Scope 3 emissions categories subject to independent limited assurance

Category	Description (<i>From GHG Protocol Technical Guidance for Calculating Scope 3 Emissions</i>)
Business Travel (by air)	Transportation of employees for business-related activities during the reporting year
Upstream leased assets	Operation of assets leased by the reporting company (lessee) in the reporting year and not included in scope 1 and scope 2 – reported by lessee

Other scope 3 emissions are either assessed to be out of scope for reporting due to low significance, or infeasibility of collection or are not third party assured at this stage. We

are making improvements to improve our data collection capability to encompass all significant Scope 3 emissions categories.

6. Data and Sources for Emissions Scopes

6.1.1 – Scope 1 Emissions: Primary sources provided from BSI sites to report Scope 1 emissions include:

- Owned or Operated Stationary Fuel Use: Fuel type, quantity and invoice date are collected at site level. Where type of fuel is not available the Defra 'unknown fuel' conversion factor is used to convert to emissions. We will progressively improve our reporting capability to make fuel type available globally. Where the invoices do not equate to 365 days, BSI will pro-rata the data to equate 365 days of cover.
- Bottled gases and generator fuel: Bottled gases are used at some UK sites. Cylinder purchase records quoting gas type and quantity are maintained by each site and are used as the primary data source. Consumption is taken as purchased date.
- Mobile Fuel Use from company owned or leased vehicles for greater than 14 days: Employee-reported mileage/fuel cost. Transaction date is taken as the date of use. A vehicle asset register and the vehicle lease documents are retained to evidence that the vehicle used for travel is a BSI leased asset. Country reporting contacts are responsible for ensuring that BSI owned/leased vehicles and employee-owned vehicles are properly separated. Where possible, reports separate vehicles by fuel type. Where type of fuel is not available the Defra 'unknown fuel' conversion factor is used to convert to emissions. We will progressively improve our reporting capability to make fuel type available globally.
- Refrigerants from units owned, controlled and/or managed by BSI: Refrigerant gas type and 'top-up' quantity data are maintained at the site level and consumption is reported for the purchase date for the top up.
- In cases where BSI does not purchase energy that is consumed on site (e.g., natural gas), local BSI staff gather this information from relevant building owners/landlords. This is reported in Scope 3, Category 8 emissions.

6.1.2 – Scope 2 Emissions: Acceptable primary sources provided from BSI sites for Scope 2 emissions include:

- Purchased Electricity, Heat and Steam: Quantity and type date is collated at the site level. Invoices are used to report this data. Where the invoices do not equate to 365 days, BSI will pro-rata the data to equate 365 days of cover.
- Expense claims reporting mileage travelled in electric vehicles owned or leased by the company for greater than 14 days. Travel date is used to report, where this is unavailable, the claim date is used.

- In cases where BSI does not purchase energy directly from a utility company at sites not owned by BSI, local BSI staff gather this information from building owners/landlords. This is reported in Scope 3, Category 8 emissions.

6.1.3 – Scope 3 Emissions: Primary sources for emissions provided from BSI sites for Scope 3 emissions are:

- Category 6 (Business Travel by air):
 - Air travel: Flight date is used as date of consumption as opposed to employee expenses claim date where possible. Flights are assumed to have been flown on the date they were originally booked. In some territories, this may include cancelled or exchanged trips. We are working on improving our data collection process for next year. In instances where flight distance is not available, a flight path calculator is used to calculate distance from start to end airport location. Where start/end locations of flights are not available but total flight costs for the period is available then an estimate is made based on the average flight distance/unit cost across available BSI data.
- Category 8 (Upstream Leased Assets):
 - These are typically leased office spaces where BSI does not directly purchase energy or control emissions sources, such as heating, or electricity provided through lease agreements where the building owner has a direct contract with an energy supplier. Where the invoices do not equate to 365 days, pro-rata the data to equate 365 days of cover.

7. Conversion and Emission Factors

As GHG emissions come from a wide range of sources and activities, BSI will rely on conversion and emissions factors to calculate a consistent, reportable carbon dioxide equivalent (tCO_{2e}) total.

7.1 BSI use conversion factors taken from Defra's most recent, annual published factors list for UK site locations.

7.2 Overseas electricity emissions factors are sourced from the International Energy Agency (IEA) and others as advised by Defra. The most up to date conversion factors from the reports listed are taken at the time of reporting.

8. Calculating Estimates

8.1 In cases where BSI cannot feasibly gather primary data, or when data is deemed to be significantly insufficient, we calculate an estimate of GHG emissions.

8.2 The process to estimate emissions is as follows:

- Scope 1, 2 and 3 site utilities: Estimations relating to gas and electricity consumption are made by using the physical size of the office (square meters) and the average emissions per unit area across all BSI offices. The tCO₂e/square meter calculated is then applied to any office that is unable to provide the necessary data. In the event that data is available for a period of, for example, 11 months out of 12 the available data is pro-rated from existing site data to estimate the missing months. Where site energy data is unobtainable and a site floorplan area is available, an average use per square meter is estimated. In rare instances where no floor size is available, an average emissions per site with available data is used as a proxy to estimate energy consumption.
- Scope 3 (Site Utilities): In limited instances, landlord estimates are deemed to be more accurate than BSI central estimates and therefore these figures are used as an alternative. Landlord estimates are made using percentage site occupancy by BSI and actual billing data for the full building. Where landlord estimates are permitted, these are stated by reporters in their data submission.
- Scope 1 (Bottled gases): Bottled gas and refrigerant gas consumption is based on the volumes purchased. If purchase volume is unavailable but a purchase has been made, historical consumption data is used as an estimate.
- Scope 3 (Flights): Where distance is not available but start and end location are, a flight path calculator is used to estimate distance. Where start/end locations of flights are not available but total flight costs for the period is available then an estimate is made based on the average flight distance/unit cost across available BSI data. Where flight class is not available, BSI assume the flight is economy class in line with our travel policies and use start and end location to define haul category.
- Scope 2 (Electric Vehicles) and Scope 1 (BSI owned vehicles): If mileage data is not available, e.g., for rental cars, fuel consumption is estimated based on the associated fuel expense claims with a cost/litre fuel applied, based on the average fuel cost/litre for the reporting period. In limited territories where business only mileage is not available, business mileage is estimated to be a percentage of total mileage travelled by the employee in a month through representation from individual employees.

8.4 Where local currency differs from our GHG reporting currency (USD or GBP) the BSI annual budget rate is applied by country reporting contacts to transform data into the correct currency.

8.5 Defra reporting boundaries for vehicle size are used for BSI GHG reporting where size information is available. If this is unavailable the Defra conversion factor for 'average engine' size is applied. In instances where BSI reporting capability categorises vehicles by engine size that does not align to the Defra boundaries, the vehicles will be grouped into the size category that covers the majority of engine sizes within the range of vehicles.

- **9. Restatement**

BSI will consider restating prior years data if:

- Updated data becomes available for prior years, and it results in a discrepancy of at least 5% of the total reported data.
- Updated emissions factors provided by Defra/BEIS or other sources used, become available, even when there is no change in consumption data.