

SPECTRIS BASIS OF REPORTING – GHG EMISSIONS FY22

Introduction

This document outlines the principles, methodologies, and assumptions for evaluating Spectris PLC (Spectris) operational emissions in the preparation and reporting of its Greenhouse Gas (GHG) emissions inventory. This information is publicly available to demonstrate transparency in our reporting approach.

Principles of reporting

Spectris GHG accounting, and reporting follows accepted principles to ensure that an organization's disclosure represents an accurate, veritable, and fair account of its GHG emissions. These principles are listed below:

Completeness – We aim to be as complete as possible in our GHG accounting, covering all scopes of the GHG Protocol that are material to our GHG inventory to ensure that there are no material omissions that would substantively influence the assessments of the emissions data and information.

Consistency - The credible quantification of GHG emissions requires that methods and procedures are always applied in the same manner, that the same criteria and assumptions are used to evaluate significance and relevance, and that any data collected and reported allow for meaningful comparisons over time.

Transparency - Clear and sufficient information should be available to allow for the credibility and reliability of reported GHG emissions to be assessed. Specific exclusions or inclusions should be clearly identified, and assumptions should be explained. We are committed to disclose our GHG footprint on an annual basis in our annual report.

Reliable - In our GHG accounting we strive to be prudent and use numbers that are conservative. If the methodology has limitations or good data is not available, we select the methodology or data that is most appropriate in these circumstances. We ensure we use the highest quality data available for each business activity and improve the quality of the data over time.

Relevance – Spectris GHG inventory shall appropriately reflect the GHG emissions of the business and serve the decision-making needs of users — both internal and external to the business.

Organizational boundaries

Spectris PLC GHG reporting organizational boundaries is based on the operational control approach, as defined by the Greenhouse Gas Protocol.

Spectris PLC's organizational boundary comprises of two divisions: Spectris Scientific (incorporating Malvern Panalytical, its subsidiary companies and PMS) and Spectris Dynamics (comprising HBK and its subsidiary companies) together with two other businesses Servomex and Red Lion Controls (Red Lion) - with sites located across the globe (primarily Europe, Asia Pacific and the Americas) and over 7,000 employees. Spectris PLC provide a range of services and products, specialising in premium precision measurement.

Spectris manages and reports on its carbon emissions on a company level, with the Scientific and Dynamics divisions being the most material.

Spectris PLC GHG Emissions Report is presented in the Sustainability section of the annual report and available on our website - <https://www.spectris.com/sustainability-at-our-core/environment/>

Reporting period and frequency

Spectris environmental metrics are reported annually and covers the period of *1 January to 31 December*. The annual report period is in line with the environmental data reported, both reporting data in calendar year; 1st January to 31st December . The report is published on an annual basis.

The baseline for environmental metrics is calendar year 2020. Emissions are recalculated when:

- structural changes occur in the company that change the inventory boundary (such as acquisitions or divestments)
- the methodology for emission calculation changes (such as improvements in data collection)
- the scope of emissions boundary changes (such as calculation of additional emissions from scope 3 categories)

Spectris reports the quantity of GHG emissions in tonnes of carbon dioxide equivalent (CO₂e). Since it is not a requirement under SECR (streamlined energy and carbon reporting), guidance, and is not a mandatory requirement under the GHG Protocol, the six greenhouse gases covered by the Kyoto Protocol — carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆) have not been reported separately, but have combined and reported as a single CO₂e figure for simplicity.

In order to maintain a fair and like for like comparison of year-on-year performance, numbers in previous years have been restated to account for changes to the business. The full list of these changes are detailed in the section 'changes in boundary' below

Source

Spectris' environmental system is provided by Envizi, an IBM company, and supporting calculations are provided by EcoAct.

The information provided in this report is associated with our GHG Emissions for the period from **1st January to 31st December 2022**.

Key metrics and definitions

Emissions are reported in the Annual Report in line with the GHG Protocol guidelines as follows:

Direct Emissions

- **Scope 1 emissions**, direct emissions from owned or controlled sources:
 - Stationary Combustion (natural gas and liquid fossil fuels) *
 - Mobile Combustion / Owned Vehicle Fleet *
 - Fugitive Emissions

Indirect Emissions

- **Scope 2 emissions**, indirect emissions from the generation of purchased energy:
 - Purchased & Used Electricity *
 - Purchased Heat & Steam *
- **Scope 3 emissions**, other indirect emissions that occur in the value chain:
 - Purchased goods and services & capital goods
 - Transmission Losses & Well to Tank (WTT)
 - Upstream and downstream logistics and transportation
 - Emissions arising from the treatment of waste
 - Employee Business Travel
 - Employee Commuting
 - Use of sold products
 - End of life treatment of sold products

Emissions are presented in terms of tonnes of carbon dioxide equivalent (CO₂e) and tonnes of carbon dioxide equivalent per million GBP revenue (tCO₂e / £m).

Energy

Sources annotated with a * above are included within our stated energy boundaries, by consolidating and summing underlying emissions drivers. Consolidated energy data is presented in megawatt hours (MWhs) as converted from volumetric data via energy conversions provided by the UK’s Department for Business, Energy & Industrial Strategy (BEIS).

Summary of the key metrics and definitions

METRIC	Scope and Calculation methodology
Scope 1	
Stationary Combustion	<p>Scope: Stationary combustion at all of Spectris’ sites; covering natural gas and liquid fossil fuel</p> <p>Methodology: Actual information sourced from a combination of supplier invoices and meter readings are uploaded to the Envizi platform. In absence of data, Envizi estimates according to the data hierarchy defined below. Subsequent totals values are multiplied by corresponding emissions factors as defined by the UK’s department of Business, Energy and Industrial Strategy (BEIS) 2022.</p> <p>Organisational Boundary: All sites operated by Spectris PLC</p>
Mobile Combustion	<p>Scope: Fuels used in company owned vehicles (all fuels type)</p> <p>Methodology: Actual information sourced from a combination of travel expenses and mileage readings are uploaded to the Envizi platform. In absence of data, Envizi accrues according to the most recent data value extended by day coverage. Subsequent totals values are multiplied by corresponding emissions factors as defined by the UK’s department of Business, Energy and Industrial Strategy (BEIS) 2022.</p>

	<p>Organisational Boundary: All sites operated by Spectris PLC, where applicable</p>
Fugitive Emissions	<p>Scope: Hydrofluorocarbons (HFCs) used in cooling and as part of manufacturing processes</p> <p>Methodology: Actual information sourced from replenishment records (i.e. contractors topping up assets at Spectris facilities) is uploaded to the Envizi platform. Values are multiplied by corresponding emissions factors as defined by the UK’s department of Business, Energy and Industrial Strategy (BEIS) 2022.</p> <p>Organisational Boundary: All sites operated by Spectris PLC, where applicable</p>
Scope 2	
Purchased & Used Electricity	<p>Scope: Electricity imported into facilities for use in powering facilities onsite.</p> <p>Methodology: Actual electricity data sourced from a mix of meter readings, half hourly automated meter data and invoices is uploaded to the Envizi platform. Where data is incomplete, estimations are conducted in line with that outlined in the data hierarchy section below.</p> <p>Location-based – Emissions from electricity consumption reflecting the average emission intensity of local grid mix as provided by the International Energy Agency (IEA) 2021 or sub-grid factors provided by the US Environmental Protection Agency (EPA) 2022 and appropriately sourced sub-grid factors where available.</p> <p>Market-based – Emissions from electricity consumption reflecting appropriately source green certification (e.g. REGOs, GoO’s) and tariffs, and residual mix country factors provided by RE-DISS and the US EPA.</p> <p>Organisational Boundary: All sites operated by Spectris PLC</p>
Purchased Heat & Steam	<p>Scope: Emissions from the usage of heat and steam in the business operations</p> <p>Methodology: Actual data sourced from invoices and meter readings is uploaded into the Envizi platform. Emissions are determined via multiplication by an appropriately sourced supplier specific tariff where possible, or the UK’s BEIS in absence.</p> <p>Organisational Boundary: All sites operated by Spectris where applicable</p>
Scope 3	
CAT 1&2 Purchased goods and services & Capital goods	<p>Scope: Emissions associated with the production of purchased products, services and capital goods in the reporting period.</p> <p>Methodology: Each OpCo in Spectris provide EcoAct with a purchase ledger detailing out the details of their budget in the reporting period. After exclusions are made (spend relating to other categories such as transport and distribution or that have no tangible</p>

	<p>emissions), emissions are then calculated using the CEDA EEIO (Environmentally extended input-output) database of emission factors.</p> <p>Organisational Boundary: All operations</p>
CAT 3 Fuel-and energy related activities	<p>Scope: Emissions associated with the upstream well-to-tank and transmission & distribution losses that occur during the extraction and production of fossil fuels and transport of electricity and district heating.</p> <p>Methodology: Associated upstream emissions are automatically calculated in the Envizi system for all consumed fuels, electricity and district heating. Respective IEA or BEIS emission factors are used in line with corresponding scope 1 and 2 sources above.</p> <p>Organisational Boundary: All operations</p>
Cat 4&9 Upstream and Downstream transportation and distribution	<p>Scope: Emissions associated with both the upstream and downstream transportation of goods to and from Spectris operations.</p> <p>Methodology: Spectris use three distribution providers, namely UPS, FedEx and Geodis. A summary of all transport completed by Spectris in the reporting period was provided by all providers including information on transport method, distance and weight. Data referenced includes 10 months of actual data from distribution providers. The remaining 2 months were assumed equivalent to previous year, in order to make up 12 months of consecutive data. Emissions were then calculated using BEIS 2022 emissions factors.</p> <p>Organisational Boundary: All operations</p>
CAT 5 Waste	<p>Scope: Emissions associated with the disposal of waste that is produced by Spectris’ own operations and collected by contractors at both manufacturing and non-manufacturing facilities.</p> <p>Methodology: Waste disposal data is directly captured in Envizi by site data owners and is grouped by disposal method, typically landfill, recycling and incineration.</p> <p>Organisational Boundary: All operations</p>
CAT 6 - Business Travel	<p>Scope: Emissions associated with business travel</p> <p>Methodology: Air travel data is primarily captured via Spectris’ AMEX system. Data is then grouped by OpCo, class and haulage type before being uploaded into the Envizi platform. Emissions are then calculated by the Envizi system utilising respective BEIS emission factors. Emissions pertaining to additional flight data not captured in the AMEX report are calculated using a spend based approach.</p> <p>Organisational Boundary: All employees claiming expenses</p>

CAT 7 - Employee Commuting	<p>Scope: Emissions generated by employee commuting to and from work as well as the emissions associated with an employee homeworking.</p> <p>Methodology: Employee surveys were used to capture the commuting/homeworking patterns of a sample of employees in each OpCo. Commuting emissions were then calculated using appropriate BEIS factors and homeworking emissions were calculated using EcoAct’s homeworking tool¹ where applicable. All data was then upscaled to cover full FTE numbers.</p> <p>Organisational Boundary: All employees journeying to and from Spectris locations</p>
CAT 11 Use of Sold Products	<p>Scope: Direct-use phase emissions generated by the lifetime use of Spectris’ electrical products sold in the reporting period.</p> <p>Methodology: Data concerning number of products sold, product power consumption, average lifetime of product and expected uptime of products was gathered from all OpCo’s to calculate a product’s lifetime energy consumption. Shipping patterns were utilised to determine the final location of products and emissions were calculated utilising IEA location-based grid factors.</p> <p>Organisational Boundary: All electrical products that would contribute to Spectris’ direct use-phase use of sold products.</p>
CAT 12 End of life treatment of sold products	<p>Scope: Emissions associated with the disposal of Spectris’ products and product packaging sold in the reporting period.</p> <p>Methodology: Data concerning units of products sold as well as product and product packaging materials and weights were gathered at the OpCo level. Disposal method was estimated using regional average benchmarks. Emissions were calculated using respective BEIS emission factors.</p> <p>Organisational Boundary: All products</p>
Additional notes	
Total energy	<p>Reported energy consists of total energy use from electricity, liquid fossil fuels, steam and vehicle energy use.</p>
Vehicle energy	<p>Vehicle energy can be determined from vehicle emissions by dividing total emissions by the appropriate fossil fuel emissions factor per unit energy</p>
Intensity energy	<p>Intensity Energy figures are expressed in terms of megawatt hours per million GBP revenue (MWH / £m)</p>

¹ <https://info.eco-act.com/en/homeworking-emissions-whitepaper-2020>

Methodology and approach

Data has been sourced from each of our relevant sources as appropriate on a site-by-site basis; including supplier invoices and consumption statements for utilities and other imported energy, fuel and distance expense claims, refrigerant replenishment records.

Site data for Full Time Equivalents (FTEs) and Floor area (m²) are sourced from internal property databases for the purposes of site-to-site comparisons and estimations (detailed below).

In 2021, as part of our increasing ambition to achieve environmental leadership, we moved to direct data capture through the Envizi platform to allow for a single source of all contributing data items and the subsequent emissions associated. The scope of this process has been built on 2022 via the upskilling of Spectris employees on data capture principles and involvement of OpCo data leads to perform more localised data checks.

Data owners have been requested to submitted data source evidence in parallel to performance data to allow for review of information and internal quality assurance.

We also present performance intensity versus £m revenue achieved in the reporting year. This is to provide fair comparisons and an indication of our emissions performance versus company performance. Revenue is sourced from relevant financial teams in line with figures reported elsewhere in our annual report and accounts.

Changes in Boundary

In accordance with GHG protocol and Science Based Targets Initiative (SBTi) guidance, emissions have been reported and historical years restated to take into account the divestment of Omega from the Spectris PLC. Acquisitions, if relevant, are accounted for in all years the acquired entity existed prior to falling within Spectris PLC's operational control boundary.

<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

Data Hierarchy

For certain sites, it is not possible to acquire actual data for all periods concerned. Where this occurs, we seek to gap-fill with appropriate estimates. Subsequently, throughout our environmental reporting, we adhere to the following hierarchy of data:

1. **Actual Data** - Wherever actual data is available, we will include it in calculations.
2. **Accruals** – In many instances, only 10 months of actual data can be sourced prior to year-end reporting due to our necessary reporting timelines. Envizi automatically estimates missing timeframes by determining typical consumption to date per day and multiplying by the number of days where data could not be obtained.
3. **Extrapolations** - Where we know data to be relevant, yet unattainable (e.g. sites where Spectris PLC are charged a tenancy fee only, which includes energy) we extrapolate. Spectris are responsible for the use of energy at tenanted locations, and can make decisions as to when consumption occurs. As such consider this within operational control. To do this, we calculate an intensity of consumption per m² or FTE at sites with a similar business function in a similar location. The benchmark used (m² or FTE) is dependent on the figure to be extrapolated. Floor area is used to estimate onsite electricity and thermal energy, whereas we prioritise the use of FTEs to water consumption. If the preferred data is unavailable, we will use the alternative of the two benchmarks.

4. **Accrue Extrapolations** – Extrapolations rely on enough data being known in each time period in order to determine an appropriately weighted average consumption per benchmark. In periods where there is not yet enough data coverage to determine an intensity, we will accrue based on extrapolations conducted in previous periods via the same methodology defined for point 2 of this hierarchy.

Improvements to data

Year to year, we will revisit numbers previously shared in the public domain for accuracy, replacing estimated data with actual data wherever possible. As such, numbers for previous years will also update in accordance with these data improvements.

Emission factors

Emission factors are applied to the activity data associated with the business operations activities. Reported emission factors are location-based, market based, or residual mix as applicable. The emission factors are sourced from the relevant government department in each country, including International Energy Agency (IEA), US Environmental Protection Agency (EPA), UK Department for Business, Energy & Industrial Strategy (BEIS), and localised sources, where applicable, such as imported steam. All emissions factors account for the Global Warming Potential of all greenhouse gas emissions as defined by the Kyoto Protocol in terms of Carbon Dioxide Equivalent (CO₂e). Spectris reporting complies with the methodologies outlined by the GHG Protocol “Corporate Accounting and Reporting Standard” and ISO 140064-3:2019 (Specification with guidance for the verification and validation of greenhouse gas statements)

Data Validation procedures

Sites are responsible for their own validation and integrity procedures over the data submitted monthly as part of reporting. Periodic data validation is performed by both EcoAct and Spectris’ sustainability team, including data integrity, reported activity, and supporting evidence checks. This also includes trend analysis, comparison with prior year data, and sample testing. At the end of the reporting period, the emissions factors applied in the central GHG database are verified against the published applicable standards.

Assurance

Deloitte were appointed as independent third-party limited assurance providers in accordance with the International Standard for Assurance Engagements 3000 (ISAE 3000) and Assurance Engagements on Greenhouse Gas Statements (ISAE 3410) issued by the International Auditing and Assurance Standards Board (IAASB) over selected environmental metrics for the year ending 31 December 2022. The selected metrics assured by Deloitte are listed below and identified with a ‘*’ in the FY22 annual report. Deloitte’s full [unqualified] assurance opinion, can be found on our website at [weblink]

Scope 1 emissions

Scope 2 emissions – market based

Scope 2 emissions – location based

Scope 3 emissions – category 3 – Fuel-and energy related activities

Scope 3 emissions – category 4 -...

Scope 3 emissions – category 6- ...

Emission intensity (tonnes CO₂e / £million revenue) in relation to scope 1, scope 2 and scope 3 (categories 3,4,6) only
Energy consumption – Global and UK – (MWh).

Criteria and description of activities

ISO 14064-3:2019 standard requirements were used to conduct limited verification of Spectris PLC's 2022 emissions-related data, calculation and greenhouse gas statement. This included the review and verification of emissions-related data and calculations in Spectris PLC's Envizi environmental data system.

In many instances, data recorded in the environmental data system were not supported by primary evidence, although this was provided on request. Some sites were unable to provide the same data coverage as the previous reporting year, switching from actual to estimated data. Data gaps were generally addressed by adopting the estimation methodology. Where data has been unavailable in 2022 the Envizi reporting system has estimated this based on prior year's data. Whilst this did not materially impact the footprint calculation, this inconsistency did have the potential to impact the emissions totals reported under each scope.

Restatements

In instances where data quality and accuracy can be improved retrospectively and the change is deemed material, Spectris will include the updated figures in subsequent annual reporting. A material misstatement is deemed to be that returning a variance of greater than or equal to 5%. The restatement will be accompanied with an explanation as to why the data quality has improved (such as system change, updated emission factors etc.).