

Basis of Reporting 2023

Introduction

This document provides supplementary detail on greenhouse gas (GHG) emissions data for Hill & Smith PLC (“the Group”) financial year 2023 (1 January to 31 December 2023). It gives additional transparency to the Scope 1, 2 and 3 emissions figures by explaining the methodology behind each quantified Scope category.

The emissions data covers all relevant Scope 1, 2 and 3 emissions and has been calculated in line with the following standards:

- GHG Protocol: Corporate Accounting and Reporting Standard
- GHG Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard

The Group will seek to have limited third party assurance of GHG emissions data.

Overview

Hill & Smith PLC is a leading provider of sustainable infrastructure products and services. The Group's operating businesses are organised into three main business segments:

Roads & Security: supplying products and services to support road and highway infrastructure including temporary and permanent road safety barriers, intelligent traffic solutions, street lighting columns and bridge parapets. In addition, the division includes two businesses which are market leaders in the provision of off-grid solar lighting and power solutions. The security portfolio includes hostile vehicle mitigation solutions, high security fencing and automated gate solutions.

Engineered Solutions: supplying engineered steel and composite solutions for a wide range of infrastructure markets including power generation and distribution, marine, rail and housing. The division also supplies engineered pipe supports for the water, power and liquid natural gas markets and seismic protection solutions.

Galvanizing Services: increasing the sustainability and maintenance free life of steel products including structural steelwork, lighting, bridges and other products for industrial and infrastructure markets.

Operating Units

The Operating Units included in the 2023 GHG emissions data are:

- Hill & Smith PLC Head Office (Solihull) [UK]
- Asset International Structures [UK]
- ATG Access [UK]
- Barkers Fencing [UK]
- Bergen Pipe Supports (India) [India]
- Birtley Group [UK]
- Creative Composites Group [US]
- Enduro Composites [US]
- Hill & Smith Inc [US]
- Hill & Smith Infrastructure [UK]
- Hill & Smith Pty [Australia]
- Joseph Ash Group [UK]
- Lionweld Kennedy Group [UK & Ireland]
- Mallatite [UK]
- National Signal [US]
- Novia [US]
- Parking Facilities [UK]
- Prolectric [UK]
- The Paterson Group [US]
- V&S Galvanizing [US]
- V&S Utilities [US]

Between them, these Operating Units comprise 59 individual site locations across five countries.

Base Year and Historic Year Recalculations

In accordance with our GHG Emissions Recalculation Policy (available at <https://hsgroup.com/who-we-are/governance/our-policies/>), we have recalculated and restated our previous years' emissions to account for the following organisational changes.

Divestments

- Berry Systems was sold on 12 October 2023; all of their data has been removed from the emissions calculations for the current year (2023) and all previous years (2020-2022)

Acquisitions

- Widnes Galvanising, now part of the Joseph Ash Group, was acquired in September 2022; a combination of their Q4 2022 and full-year 2023 data has been used as an estimate for their historic emissions and incorporated into all previous years (2020-2022)
- National Signal was acquired in October 2022; their 2023 data has been used as an estimate for their historic emissions and incorporated into all previous years (2020-2022)
- Enduro Composites was acquired in February 2023; their partial year data for March-December 2023 has been included in the 2023 figures, but they have not yet been added to previous years (this will be done at the end of 2024)
- Korn's Galvanizing, now part of V&S Galvanizing, was acquired in March 2023; their partial year data for March-December 2023 has been included in the 2023 figures, but they have not yet been added to previous years (this will be done at the end of 2024)
- United Fiberglass was acquired during the fourth quarter of 2023, so has not been included in the 2023 figures; their data will be recorded for January 2024 onwards and they will be added to historic year data at the end of 2024.

Other changes

It has been identified that diesel, LPG and petrol were not included in the 2022 emissions data for V&S Galvanizing (although natural gas, which makes up 85% of their Scope 1 emissions, was included). This has been recorded for 2023 and those numbers used as an estimate for their 2022 consumption which has been updated.

The refrigerant gas for Alum Bank, a Creative Composites Group site, was mistakenly recorded as R401A instead of R410A in 2022, this has been amended and the corrected emission factor applied.

The effect of the above changes on our restated historic emissions is set out below:

Scope & source	GHG emissions (tonnes CO ₂ e)		
	2022	2021	2020
Scope 1	33,276.05	37,145.49	37,930.65
Scope 2 (market-based)	8,742	9,678	12,907
Scope 3 - TOTAL	1,264,511.61	N/A	N/A
• Category 1 – Purchased goods & services	614,224.44	-	-
• Category 2 – Capital goods	12,319.98	-	-
• Category 3 – Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	7,881.05	-	-
• Category 4 – Upstream transportation and distribution	36,615.27	-	-

• Category 5 – Waste generated in operations	3,319.78	-	-
• Category 6 – Business travel	2,252.47	-	-
• Category 7 – Employee commuting	4,541.29	-	-
• Category 8 – Upstream leased assets	n/a	-	-
• Category 9 – Downstream transportation and distribution	7,087.17	-	-
• Category 10 – Processing of sold products	13,528.23	-	-
• Category 11 – Use of sold products	560,062.65	-	-
• Category 12 – End-of-life treatment of sold products	2,516.46	-	-
• Category 13 – Downstream leased assets	162.82	-	-
• Category 14 – Franchises	n/a	-	-
• Category 15 – Investments	n/a	-	-

Hill & Smith PLC GHG Emissions 2023

The following table provides a summary of the Group GHG emissions for the 2023 financial year, presented in tonnes of CO₂ equivalent (CO₂e), grouped by scope with a category breakdown for Scope 3.

Scope & source	GHG emissions (tonnes CO ₂ e)	Contribution (%)
Scope 1	36,664.40	4.18
Scope 2 (market-based)	10,000.27	1.14
Scope 3		
• Category 1 – Purchased goods & services	310,617.04	35.40
• Category 2 – Capital goods	5,745.84	0.65
• Category 3 – Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	8,616.50	0.98
• Category 4 – Upstream transportation and distribution	28,868.76	3.29
• Category 5 – Waste generated in operations	2,183.86	0.25
• Category 6 – Business travel	2,253.29	0.26
• Category 7 – Employee commuting	4,244.98	0.48
• Category 8 – Upstream leased assets	n/a	n/a
• Category 9 – Downstream transportation and distribution	7,234.99	0.82
• Category 10 – Processing of sold products	10,932.37	1.25
• Category 11 – Use of sold products	446,837.20	50.93
• Category 12 – End-of-life treatment of sold products	2,736.48	0.31
• Category 13 – Downstream leased assets	461.00	0.05
• Category 14 – Franchises	n/a	n/a
• Category 15 – Investments	n/a	n/a
TOTAL:	877,396.98	

Note that CO₂e emission figures and percentages in the above table have been rounded to two decimal places.

Rationale for excluded Scope 3 categories

The following Scope 3 categories have been assessed and deemed to be not relevant to the Group's activities:

- **Category 8 (Upstream leased assets):** all energy used in leased assets (such as buildings, vehicles and equipment) is captured under Scopes 1 and 2
- **Category 14 (Franchises):** no franchises owned by the Group
- **Category 15 (Investments):** no relevant investments

Scope of Reporting

Organisational Boundary

For GHG reporting purposes, the Group defines its organisational boundary on an operational control basis and our Scope 1 and 2 emissions are reported on this basis.

Scope 3 emissions are, by definition, the indirect emissions resulting from activities in our value chain but outside of our operational control.

Calculation Tools & Emission Factors

The Group use an online reporting tool, Cority's (previously Greenstone) Enterprise solution, to collate emissions data from all Operating Units across the Group.

Individual Operating Units obtain relevant data from their operations (using financial systems and other information such as supplier documentation) and upload it to the tool, which applies the relevant emission factors for the GHG source and country of operation (using calculation methodologies including DEFRA, EPA, GHG, IEA and NGA).

A full list of emission factors applied to the various Scopes and input data is included in **Appendix A**.

The Group's base year for its GHG emission reduction targets is 2020 for Scopes 1 and 2 and 2022 for Scope 3. Our methodology for recalculating the base year emissions in the event of a change in circumstances is set out in our **GHG Emission Recalculation Policy**.

The sections that follow describe in more detail the calculation inputs, exclusions, methodologies and assumptions we have used to calculate an emissions estimate for each relevant Scope and category for 2023. **Appendix B** provides an estimation of the percentages of each Scope that are excluded.

Scope 1 Emissions

Scope 1	
Definition	Direct emissions from owned or controlled sources (fuels such as natural gas, diesel, LPG, gas oil)
Emissions	36,664.40 tonnes CO ₂ e
Percentage of total emissions	4.18 %
Inputs	<ul style="list-style-type: none"> Fuels used in site and office operations including company cars and vans (e.g. natural gas; diesel; petrol; propane; LPG; HVO) Mileage travelled in company cars (if fuel consumption not known) Welding gases that contain carbon dioxide (either pure CO₂ or mixtures such as Argoshield / ACM) Refrigerant gas emissions as reported to the regulator under a permit
Exclusions	One site in the US (TowerTech, part of the Creative Composites Group) is unable to provide fuel consumption used for heating the building as it is included in the rent and no separate meter reading is available
Methodology & assumptions	<p>Fuel consumption was recorded as volume used (units as provided by supplier e.g. therms, BTU, litres) and converted to CO₂e using the relevant emission factors for the fuel type, units of measure and country.</p> <p>If fuel consumption figures were not known for company vehicles, total miles driven were used to estimate fuel use, based on type of vehicle and fuel type and applying relevant EPA (US sites) or DEFRA (non-US sites) emission factors. In the case of one business (Hill & Smith Infrastructure) only mileage claim costs were known so the average price of fuel and average MPG of UK cars was used to estimate miles travelled.</p> <p>For welding gases, the total volume of each type of gas used was gathered; if pure CO₂ the relevant emission factor was applied to 100% of the volume; if a mix (e.g. 25% CO₂, 75% argon) the volume was multiplied by the percentage content of CO₂ prior to the emission factor being applied. No greenhouse gases other than CO₂ are used.</p>
References	<p>'Greenhouse Gas Inventory Guidance: Direct Fugitive Emissions from Refrigeration, Air Conditioning, Fire Suppression, and Industrial Gases' (United States Environmental Protection Agency, November 2014)</p> <p>Conversion factor for LPG lbs to litres: http://tinyurl.com/2fxsswsy</p> <p>Average fuel prices in UK: https://www.gov.uk/government/statistics/weekly-road-fuel-prices</p> <p>Average MPG of UK cars: https://www.nimblefins.co.uk/cheap-car-insurance/average-mpg</p>

Scope 2 Emissions

Scope 2	
Definition	Emissions from purchased electricity, heat, and steam
Emissions	10,000.27 tonnes CO ₂ e (market-based)
Percentage of total emissions	1.14 %
Inputs	All grid electricity consumption (no heat or steam purchased)
Exclusions	Three sites (TowerTech, part of the Creative Composites Group; Asset International Structures; and Asset VRS (part of Hill & Smith Infrastructure Ltd)) are unable to provide electricity consumption as it is included in the rent and no separate meter reading is available.
Methodology & assumptions	<p>Electricity consumption in kWh was taken from electricity bills and multiplied by the relevant emission factor for the location of the site.</p> <p>A reduced or zero emission factor was applied where there was contractual evidence of renewably sourced electricity e.g. REGOs. The relevant residual mix emissions factor was applied to all other site locations.</p>
References	

Scope 3 Emissions

Scope 3, Category 1: Purchased goods and services	
Definition	Extraction, production, and transportation of goods and services purchased or acquired by the reporting company in the reporting year, not otherwise included in Categories 2 - 8
Emissions	310,617.04 tonnes CO ₂ e
Percentage of total emissions	35.40 %
Inputs	Details of all goods and services purchased by the business in the year, including raw materials, consumables, repairs & maintenance, services (e.g. accountancy, IT, legal, marketing, subscriptions, testing), bank fees, insurances, agency labour and subcontractor costs
Exclusions	<p>The following spend was excluded as not relevant to this category (as outlined in the Group's User Guide): spend related to staff (wages, salaries, pensions, benefits etc.); external treatments such as galvanizing / painting (covered in Category 10); waste management services (covered in Category 5); water supply or wastewater removal (covered in Category 5); third party logistics (covered in Categories 4 & 9); leasing costs of equipment (e.g. company cars, forklifts, office premises) (fuel / electricity used in these captured in Scope 1).</p> <p>The purchase of capital goods is captured in Category 2.</p> <p>Transactions between the Operating Units and the Group are also excluded.</p>
Methodology & assumptions	<p>The spend-based method was used to estimate emissions from purchased goods and services, using spend (normalised to GBP using our annual financial reporting FX rates) and the DEFRA spend categories.</p> <p>Each Operating Unit's accounting system was mapped to the most relevant spend categories by either supplier or cost code (or a combination of the two), in accordance with the guidance provided in the Group's User Guide.</p>
References	<p>'Greenstone Environment Module – User Guide' (Hill & Smith PLC, March 2023)</p> <p>UK and England's carbon footprint to 2020 - GOV.UK (www.gov.uk) – spend-based emission factors</p>

Scope 3, Category 2: Capital goods	
Definition	Extraction, production, and transportation of capital goods purchased or acquired by the reporting company in the reporting year
Emissions	5,745.84 tonnes CO ₂ e
Percentage of total emissions	0.65 %
Inputs	Any capital expenditure (not captured in S3 C1 Purchased Goods & Services) e.g. machinery, equipment, furniture, vehicles
Exclusions	As per S3 C1 Purchased Goods & Services
Methodology & assumptions	<p>The spend-based method was used to estimate emissions from capital goods, using spend (normalised to GBP using our annual financial reporting FX rates) and the DEFRA spend categories.</p> <p>Each Operating Unit's accounting system was mapped to the most relevant spend categories by either supplier or cost code (or a combination of the two), in accordance with the guidance provided in the Group's User Guide.</p>
References	<p>'Greenstone Environment Module – User Guide' (Hill & Smith PLC, March 2023)</p> <p>UK and England's carbon footprint to 2020 - GOV.UK (www.gov.uk) – spend-based emission factors</p>

Scope 3, Category 3: Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	
Definition	Extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company in the reporting year, not already accounted for in Scope 1 or Scope 2
Emissions	8,616.50 tonnes CO ₂ e
Percentage of total emissions	0.98 %
Inputs	These emissions have been calculated using the fuels, mileage and electricity consumption inputs for Scope 1 and 2
Exclusions	None
Methodology & assumptions	<p>These calculations cover three activities:</p> <ul style="list-style-type: none"> ○ Upstream emissions of purchased fuels ○ Upstream emissions of purchased electricity ○ Transmission and distribution losses from purchased electricity <p>Each type of fuel, mile travelled or electricity consumed has been multiplied by the relevant “well-to-tank” emissions factor for the country, in accordance with the average-data method.</p> <p>Where the country-specific emission factors do not include the “well-to-tank” factors, the DEFRA upstream factors have been applied to the quantity of fuel, electricity or mileage and added to the totals for this Category.</p>
References	

Scope 3, Category 4: Upstream transportation and distribution	
Definition	<p>Transportation and distribution of products purchased by the reporting company in the reporting year between a company's tier 1 suppliers and its own operations (in vehicles and facilities not owned or controlled by the reporting company); and</p> <p>Transportation and distribution services purchased by the reporting company in the reporting year, including inbound and outbound logistics and transportation and distribution between a company's own facilities (in vehicles and facilities not owned or controlled by the reporting company)</p>
Emissions	28,868.76 tonnes CO ₂ e
Percentage of total emissions	3.29 %
Inputs	<ul style="list-style-type: none"> • All 3rd party logistics services procured by ourselves (for both import of materials and export of products) • Deliveries of materials from suppliers to ourselves
Exclusions	<p>Customer-arranged collections of products from ourselves (covered in Scope 3 Category 9)</p> <p>Small parcel deliveries (e.g. Amazon / DPD) have been excluded; the majority of transportation related to our activities involves large freight so small parcel deliveries are deemed to be insignificant</p>
Methodology & assumptions	<p>A combination of the spend-based method (for 3rd party logistics companies employed by ourselves) and the distance-based method (for deliveries of materials from suppliers) has been used.</p> <p>It is assumed that delivery has been arranged from a supplier's head office (as it is unknown whether shipped from a temporary storage or distribution facility).</p> <p>Calculations are based on the number of invoices received from a supplier in the year, rather than the number of loads received (our current recording systems do not identify the number of vehicle movements that an invoice relates to).</p> <p>Freight distances have been estimated where not known using online calculators.</p> <p>For sites in the US, the DEFRA emission factors have been applied to ensure that all "well-to-wheel" emissions are captured (as the EPA factors are only for "tank-to-wheel").</p>
References	<p>www.ecotransit.org – calculates the distances travelled by various different modes of transport between two destinations</p> <p>http://ports.com/sea-route/ - calculates the shipping distance between two ports</p>

Scope 3, Category 5: Waste generated in operations	
Definition	Disposal and treatment of waste generated in the reporting company's operations in the reporting year (in facilities not owned or controlled by the reporting company)
Emissions	2,183.86 tonnes CO ₂ e
Percentage of total emissions	0.25 %
Inputs	<ul style="list-style-type: none"> • All wastes and materials produced and sent off site for disposal / reuse / recycling elsewhere • Water consumption (from mains supply or licensed abstraction) • Water discharged to the public sewer
Exclusions	<p>Three sites (TowerTech, part of the Creative Composites Group; Asset International Structures; and one of the four Hill & Smith Inc sites) are unable to provide water consumption data as it is included in the rent and no separate meter reading is available.</p> <p>One site (one of the four Hill & Smith Inc sites) is unable to provide waste data as it is included in the landlord services.</p>
Methodology & assumptions	<p>If water is not metered, consumption has been based on an average of 50 litres per employee per working day.</p> <p>If weights of waste removed from site are not known, EPA (US sites) or Environment Agency (non-US sites) volume-to-weight conversion factors have been applied to the size of waste receptacle and waste type</p> <p>The list of waste types for which emission factors are available is limited and not all of the Group's waste streams are listed, so a mapping exercise was carried out to determine the most appropriate, as set out in the Group's User Guide.</p>
References	<p>'Greenstone Environment Module – User Guide' (Hill & Smith PLC, March 2023)</p> <p>https://www.south-staffs-water.co.uk/media/1509/waterusebusiness.pdf - provides an estimated water consumption for commercial properties</p> <p>Volume-to-Weight Conversion Factors for Solid Waste US EPA - EPA volume-to-weight conversion factors for waste</p> <p>uk-conversion-factors-for-waste.xlsx (live.com) – Environment Agency volume-to-weight conversion factors for waste</p>

Scope 3, Category 6: Business travel	
Definition	Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting company)
Emissions	2,253.29 tonnes CO ₂ e
Percentage of total emissions	0.26 %
Inputs	If it is known or can be calculated, distance travelled by mode of transport is more accurate than spend data for business travel. Spend on business travel, split by mode e.g. flights, trains, taxis (excludes company car mileage / fuel use, which is captured in Scope 1).
Exclusions	Hotel accommodation has not been included in the data as it is currently optional under the GHG Protocol ' <i>Corporate Value Chain (Scope 3) Accounting and Reporting Standard</i> '.
Methodology & assumptions	<p>Aside from the Group's Head Office (where detailed reports are available from a travel booking company regarding the flights taken by PLC employees), the spend-based method has been used to estimate emissions from business travel.</p> <p>Not all Operating Units' accounting systems have the ability to separate spend out by the type of transport (flights, trains, taxis etc.), where this is the case one of two methods has been applied:</p> <ol style="list-style-type: none"> 1. All spend has been allocated to the 'most likely' mode (e.g. the majority of business travel for US-based businesses is flights) 2. A period of time has been assessed in detail and the spend splits (%) for that time period have been applied to the full year <p>For sites in the US, the DEFRA emission factors have been applied to ensure that all "well-to-wheel" emissions are captured (as the EPA factors are only for "tank-to-wheel").</p>
References	

Scope 3, Category 7: Employee commuting	
Definition	Transportation of employees between their homes and their worksites during the reporting year (in vehicles not owned or operated by the reporting company)
Emissions	4,244.98 tonnes CO ₂ e
Percentage of total emissions	0.48 %
Inputs	Employee commuting by all methods (i.e. train, car, motorbike, bicycle, bus, foot)
Exclusions	None
Methodology & assumptions	<p>Three options (using either the distance-based or average-data methods) have been used by Operating Units to estimate employee commuting:</p> <ol style="list-style-type: none"> 1. Survey carried out of employees to establish typical modes of transport, distances commuted and number of days per year travelled 2. Survey carried out of one site to obtain an average split by distance and mode then applied to other sites within the same Operating Unit 3. Estimates based on census data (links in References section) and the number of employees at a location <p>Where estimates are used, these are based on either UK or US census data for 2021.</p> <p>For sites in the US, the DEFRA emission factors have been applied to ensure that all “well-to-wheel” emissions are captured (as the EPA factors are only for “tank-to-wheel”).</p>
References	<p>National Travel Survey 2021: Mode share, journey lengths and public transport use - GOV.UK (www.gov.uk) (UK) – sheet 0409 provides the average distance by purpose (commuting) and mode</p> <p>DP03: SELECTED ... - Census Bureau Table (US) – provides mean travel time to work by state (multiplied by an average of 30mph to obtain an approximate average distance)</p> <p>S0801: COMMUTING CHARACTERISTICS ... - Census Bureau Table (US) – provides percentages of the population by state that commute by different modes of transport</p>

Scope 3, Category 9: Downstream transportation and distribution	
Definition	Transportation and distribution of products sold by the reporting company in the reporting year between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company)
Emissions	7,234.99 tonnes CO ₂ e
Percentage of total emissions	0.82 %
Inputs	Details of customer-arranged collections of products from ourselves
Exclusions	<p>If the majority (90%+) of an Operating Unit's outward shipments are managed by ourselves (either using owned vehicles or 3rd party logistics companies), we have excluded those minor customer-collected shipments as not being significant, requiring a lot of effort to obtain and having no real benefit as it is not an area that we can easily influence.</p> <p>For those Operating Units that provide galvanising services to customers (Joseph Ash Group; Birtley Group; Barkers Engineering; V&S Galvanising), the delivery and collection of products by customers to be galvanised is not considered in scope as the galvanizing is a service rather than a sold product.</p> <p>For sites in the US, the DEFRA emission factors have been applied to ensure that all "well-to-wheel" emissions are captured (as the EPA factors are only for "tank-to-wheel").</p>
Methodology & assumptions	<p>The distance-based method has been used, split by mode of transport.</p> <p>It is assumed that delivery is to a supplier's head office.</p> <p>Freight distances have been estimated where not known using online calculators.</p>
References	<p>www.ecotransit.org – calculates the distances travelled by various different modes of transport between two destinations</p> <p>http://ports.com/sea-route/ - calculates the shipping distance between two ports</p>

Scope 3, Category 10: Processing of sold products	
Definition	Processing of intermediate products sold in the reporting year by downstream companies (e.g. manufacturers)
Emissions	10,932.37 tonnes CO ₂ e
Percentage of total emissions	1.25 %
Inputs	Spend on external processing and treatments (e.g. galvanising, painting, powder coating, electroplating, stripping)
Exclusions	None
Methodology & assumptions	<p>The spend-based method has been used to estimate emissions, using the Operating Units' accounting systems to identify spend on suppliers of processing services (typically galvanising, powder coating and painting).</p> <p>This spend has then been multiplied by the DEFRA consumption emission factor for 'Fabricated metal products, excl. machinery and equipment and weapons & ammunition', which was selected as the most appropriate category from the options available.</p>
References	UK and England's carbon footprint to 2020 - GOV.UK (www.gov.uk) – spend-based emission factors

Scope 3, Category 11: Use of sold products	
Definition	End use of goods and services sold by the reporting company in the reporting year
Emissions	446,837.20 tonnes CO ₂ e
Percentage of total emissions	50.93 %
Inputs	Estimates of the likely electricity and/or fuel consumption over a sold product's expected lifespan.
Exclusions	<p>If a product which consumes energy in use is purchased from another company then sold on as part of a wider package of products (rather than incorporated into a product that we manufacture), this is excluded (as the company that actually manufactured the item should account for its energy-in-use, not the re-seller).</p> <p>If a product can operate under normal conditions solely using integrated renewables (e.g. solar panels), this product is excluded.</p>
Methodology & assumptions	<p>Applies to products that we sell to a customer that use electricity or fuel in their operation (e.g. tower lights, generators).</p> <p>Only six of our Operating Units sold products that consume energy in use during 2023 (ATG Access; Creative Composites Group; Mallatite; National Signal; Parking Facilities; Prolectric).</p> <p>These companies considered each of the products they manufacture and sell which use energy in use and estimated an approximate lifetime energy consumption (kWh of electricity or litres of diesel, depending on the product) based on expected lifespan, likely operational running time per year and energy consumption per operation (based on motor size).</p> <p>These estimated lifetime energy consumption figures were then multiplied by the number of those products sold and the totals multiplied by the relevant country-specific emission factor for electricity or diesel.</p> <p>It has been assumed that the products will use standard grid electricity or diesel rather than renewable sources.</p>
References	Energy consumption calculator kWh calculator (rapidtables.com) – calculator used by Mallatite business to scale up daily to annual usage

Scope 3, Category 12: End-of-life treatment of sold products	
Definition	Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life
Emissions	2,736.48 tonnes CO ₂ e
Percentage of total emissions	0.31 %
Inputs	A breakdown of the waste types and quantities that will arise from the products sold to customers, based on average estimates by product type multiplied by the number sold
Exclusions	None
Methodology & assumptions	<p>This addresses what happens to the products we have sold once they become waste at the end of their useful life.</p> <p>Operating Units estimated approximate weights of the products they sell, broken down into different material types (e.g. a tower light weighs 2 tonnes and comprises 80% steel, 10% battery, 5% rubber, 3% glass and 2% plastic). This was then multiplied by the number of each of those products sold in the period.</p> <p>If weights of final sold products are not known (because, for example, products tend to be bespoke or there are many variations on a product), the material weights and types are based on raw materials purchased for use in product manufacture instead.</p> <p>For the galvanising businesses, the data used is the quantity of zinc used in the year.</p> <p>The treatment types are selected based on current known likely disposal routes for the material types in the country of manufacture. For example, there is not currently a widely available method for recycling composite materials, so it is assumed it will go to landfill.</p>
References	

Scope 3, Category 13: Downstream leased assets	
Definition	Operation of assets owned by the reporting company (lessor) and leased to other entities in the reporting year, not included in Scope 1 and Scope 2
Emissions	461.00 tonnes CO ₂ e
Percentage of total emissions	0.05 %
Inputs	Estimates of the likely daily/weekly electricity and/or fuel consumption by a leased product whilst on hire.
Exclusions	If a product can operate under normal conditions solely using integrated renewables (e.g. solar panels), this product is excluded.
Methodology & assumptions	<p>Applies to products that we lease to a customer that use electricity or fuel in their operation (e.g. tower lights, generators).</p> <p>Only one of our Operating Units leased products that consume energy in use to customers during 2023 (Prolectric).</p> <p>This Unit considered each of the products they manufacture and lease out which use energy in use and estimated an approximate daily energy consumption (kWh of electricity or litres of diesel, depending on the product) based on likely usage.</p> <p>These estimated daily energy consumption figures were then multiplied by the number of days those products had been on hire during the year and the totals multiplied by the relevant DEFRA emission factor for electricity or diesel.</p> <p>It has been assumed that the products will use standard grid electricity or diesel rather than renewable sources.</p>
References	

Appendix A: Emission Factors Applied

The table below summarises the emission factors used to calculate GHG emissions for each of the relevant Scopes and Categories outlined within this Basis of Reporting document.

Scope	Emission Type	Emission Factor Source			
		UK & Ireland	US	Australia	India
1	Fuel	defra 2023	epa 2014-2023	nga 2023	ghg protocol 2017
	Fugitives	ipcc			
	Road Business	defra 2023	defra 2023	-	-
2	Grid Electricity	defra 2023 (european residual mixes 2022)	epa 2023 (e-grid 2021)	iea 2023	iea 2023
3	Air Freight	defra 2023	-	-	-
	Marine Freight	defra 2023	defra 2023	-	-
	Road Freight	defra 2023	defra 2023	-	-
	Air Business	defra 2023	-	-	-
	Road Commuter	defra 2023			
	Rail Commuter	defra 2023	-	-	-
	Supply Chain Spend	defra 2023			
	Electricity	defra 2023 (european residual mixes 2022)	epa 2023 (e-grid 2021)	-	-
	Fuel	defra 2023	-	-	-
	Waste	defra 2023			
	Water	defra 2023			
	Custom (weight of materials)	ICE database	ICE database	-	-

Appendix B: Exclusions Assessment

As set out in this document, there are some minor exclusions from the Hill & Smith PLC GHG emissions inventory. The following are estimations of the percentage of each Scope that is excluded from the calculations.

Scope 1

One site in the US (TowerTech, part of the Creative Composites Group) is unable to provide fuel consumption used for heating the building as it is included in the rent and no separate meter reading is available. The facility is similar in size to their Dayton, Ohio facility, which in 2023 used 312 tCO₂e of natural gas – on this basis, it is estimated that **0.844% of Scope 1 emissions are excluded**.

Scope 2

Three sites (TowerTech; Asset International Structures; and Asset VRS) are unable to provide electricity consumption as it is included in the rent and no separate meter reading is available. These sites have been compared to an equivalent and their annual emissions estimated as follows:

- TowerTech = Kenway: 61.4 tCO₂e
- Asset IS = Nottingham: 30.9 tCO₂e
- Asset VRS = Nottingham: 30.9 tCO₂e

This estimated exclusion of 123.2 tCO₂e is equivalent to **1.217% of Scope 2 emissions are excluded**.

Scopes 1 & 2 combined

The estimated exclusions from Scopes 1 and 2 combined are 435.2 tCO₂e. From the total reported emissions of 46,664.67, this results in an estimated **0.933% of Scope 1 & 2 emissions are excluded**.

Scope 3

- **Category 1: Purchased Goods & Services** – no exclusions
- **Category 2: Capital Goods** – no exclusions
- **Category 3: Fuel- and energy-related activities** – no exclusions
- **Category 4: Upstream transportation and distribution**
 - Small parcel deliveries (e.g. Amazon/DPD) have been excluded as the majority of transportation related to our activities involves large freight. www.consumerecology.com estimates the GHG emissions of a package delivery to be 1.19kg CO₂e; if we assume that each of our 59 individual site locations in 2023 received an average of 10 parcels per week, this is the equivalent of 59 x 10 x 52 = 30,680 parcels; multiplied by 1.19kg CO₂e = **36.51 tCO₂e**. The total reported emissions for Category 4 was 28,868.76, so it is estimated that **0.126% of Scope 3 Category 4 emissions are excluded**.
- **Category 5: Waste generated in operations**
 - 3 sites (TowerTech, Asset IS; H&S Inc Lake City) are unable to provide water consumption data as it is included in the rent and no separate water meter is available. These have been compared to equivalent sites to obtain estimated water emissions as follows:
 - TowerTech = Kenway: 0.149 tCO₂e
 - Asset IS = Nottingham: 0.163 tCO₂e

- H&S Inc Lake City = H&S Inc Garland: 0.206 tCO₂e
 - For waste, one site (H&S Inc Garland) is unable to provide data as it is included in the landlord-provided services. Using H&S Inc, Lake City as an equivalent, it is estimated that 8.7 tCO₂e is excluded.
 - This is a total of 0.518 (water) and 8.7 (waste) = **9.218 tCO₂e** excluded from Category 5; from the total reported emissions of 2,273.8, this results in an estimated **0.404% of Scope 3 Category 5 emissions excluded**
- **Category 6: Business travel** – no exclusions
- **Category 7: Employee commuting** – no exclusions
- **Category 8: Upstream leased assets** – N/A
- **Category 9: Downstream transportation and distribution**
 - If the majority (90%+) of an Operating Unit's outward shipments are managed by ourselves (either using owned vehicles or 3rd party logistics companies), we have excluded from Scope 3 Category 9 those minor customer-collected shipments as not being significant, requiring a lot of effort to obtain and having no real benefit as it is not an area that we can easily influence
 - The following Operating Units have a minor (estimated as 2-4.3%) of orders collected by customers which have not been captured in their emissions calculations: Barkers; Birtley; H&S Pty; Parking Facilities; H&S Inc; Hardstaff (part of H&S Infrastructure); Varley & Gulliver (also part of H&S Infrastructure)
 - The combined emissions in Category 4 for these companies is 5,847.1 tCO₂e. Assuming an average of 3.5% customer-collected orders, these would account for approximately **204.65 tCO₂e**, which is **3.389% of Scope 3 Category 9 emissions excluded**
- **Category 10: Processing of sold products** – no exclusions
- **Category 11: Use of sold products** – no exclusions
- **Category 12: End-of-life treatment of sold products** – no exclusions
- **Category 13: Downstream leased assets** – no exclusions
- **Category 14: Franchises** – N/A
- **Category 15: Investments** – N/A

Scope 3 totals

The estimated exclusions from all of Scope 3 combined is **250.378 tCO₂e**. From the total reported emissions of 898,218.08 tCO₂e this results in an estimated **0.028% of Scope 3 emissions excluded**.