RENISHAW
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Greenhouse Gas Report – FY2024

Introduction to our GHG report

Renishaw is a world-leading precision technology business that provides manufacturing technologies, analytical instruments and medical devices.

We committed as a business in November 2021 to achieving these Net Zero GHG emission targets against our FY2020 baseline year:

- reduce absolute scope 1 and 2 GHG emissions 90% by FY2028 from a FY2020 base year;
- reduce absolute scope 3 emissions 50% by FY2030 from a FY2020 base year and;
- reduce absolute scope 3 GHG emissions 90% by FY2050 from a FY2020 base year.

We are pleased to share that this year, our Net Zero targets were reviewed and approved by the Science-Based Targets initiative (SBTi).

This report contains Renishaw plc's Greenhouse Gas Inventory, hereinafter GHG, for our FY2024 (July 1st 2023 – June 30th 2024) with the following considerations:

- It includes emissions from the activities of the entire Renishaw group including all our subsidiaries and associate companies.
- The greenhouse gases considered are CO_2, SF_6, CH_4, N_2O and CFC's.

The Sustainability Team within Renishaw plc is the team responsible for drafting this report. This is our second GHG report that has been externally audited against the ISO14064-1:2019 standard but Renishaw have been reporting on GHG emissions in our Annual Report's since 2010.

The report has been prepared in accordance with the requirements established in BS EN 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".

The Greenhouse Gas inventory was verified using a limited assurance engagement.

This report is intended to be read by interested stakeholders such as investors, customers and employees who are seeking assurance that our GHG data and methodologies are adequately supporting us in achieving our Net Zero targets. This report is referred to in our FY2024 Annual Report for Renishaw plc and shared publicly on our website.

Organisational boundary

The consolidation of GHG emissions at Renishaw is tackled from an operational control approach.

Scope 1 & 2 data is collected from our global operations monthly and reported into the central Sustainability Team. We aim to collect 100% data from the following locations:

- Wholly owned operations and subsidiaries;
- majority owned jointly controlled entities and associates (where we have an equity stake of ≥ 51%) and;
- minority owned jointly controlled entities and associates (where we have an equity stake of ≤ 50%), only if we have management control.

Reporting boundaries

In this report the greenhouse gases considered are:

- CO_2 (Emissions from fixed and mobile combustion)
- SF_6 (Fugitive emissions expressed as tCO_2e)
- CH_4 (Fugitive emissions and those associated with fuel consumption expressed as tCO_2e)
- N_2O (Emissions associated with fuel consumption expressed as tCO_2e)
- CFC's (Fugitive emissions of refrigerant gases expressed in tCO_2e)
- NF_3 gas is not considered, as it is not part of Renishaw's processes.

Renishaw defines the scope of its direct and indirect emissions for operations undertaken within the limits of the organisation, with the GHGs classified in accordance with BS EN ISO 14064-1:2019.

Direct GHG emissions (Category 1)

Direct GHG emissions are from GHG sources owned or controlled by the company.

- Stationary combustion emissions:
  - CO_2 emissions from the combustion of fuels in buildings or facilities, from heating equipment or generators.
  - Methane (CH_4) and nitrous oxide (N_2O) emissions associated with the combustion of any type of fuel.

- Emissions from mobile combustion, we considered our owned or leased vehicles.

- Direct fugitive emissions in anthropogenic systems:
  - From refrigerant gases (CFCs) from air-conditioning equipment.

Indirect GHG emissions (Category 1)

These emissions are an indirect consequence of the organisation's activities, but which are generated in sources that are owned or controlled by the organisation. We have reported these as a separate line item in Category 1.

Indirect GHG emissions due to imported energy (Category 2)

Indirect GHG emissions are those from electricity, heat or steam consumed by the organisation and provided by third parties. Other indirect emissions associated with electricity generation are also included in this section.

- Emissions associated with electricity consumption in Group buildings.
- Emissions associated with electricity consumption in electric and plug-in hybrid vehicles.
- Emissions associated with network losses in the transport or distribution of electricity, for the activity of transport and distribution of electricity, emissions are calculated considering electricity losses as imported energy.

Indirect GHG emissions due to transport (Category 3)

- Emissions associated with upstream transportation by our logistics providers.
- Emissions associated with employee business travel.
- Emissions associated with commuting (transport of employees from their place of work to their residence).

Indirect emissions from products used by organisation (Category 4)

- Emissions associated with purchased goods and services.
- Emissions associated with purchased capital goods.
- Emissions associated with waste.
- Emissions associated with upstream leased assets.

Indirect emissions associated with use of products (Category 5)

- Emissions associated with the use stage of our products.
- Emissions associated from our downstream leased assets.
- Emissions associated with the end-of-life stage of our products.
- Emissions associated with our associate companies.

Exclusions

- We have excluded downstream transport as much of our transportation is captured in upstream transport. We believe that downstream transport accounts for less than 1% of our total GHG emissions and is therefore deemed immaterial in alignment with our GHG materiality definitions.

Baseline year

The baseline year for Renishaw's GHG data and targets is FY2020. The data for Scope 1, 2 and 3 is in this document under the heading "Base year GHG inventory (FY20)".

We selected FY2020 (July 1st 2019 – June 30th 2020) as our baseline year as this was a year that hadn't been overly affected by COVID lockdowns. In 2021, we were also deciding as a business what to set as our Net Zero targets and wanted to set them using the most recent and reliable GHG data we had available which was FY2020. We are also submitting our targets to be verified by the Science-Based Targets initiative and are using FY20 as a baseline in that process too.

We have had to undertake a significant re-baselining exercise this year for three main reasons:

- the GHG Protocol Quantis tool that we used to financially model a large proportion of emissions from our purchased goods and services since FY2020 was discontinued so we were had to utilise a different methodology;
- we have been able to source far more primary and secondary data related to embodied emissions in the raw materials and parts that we purchase and have incorporated this into our baseline figures and;
- we have calculated the emissions associated with the use stage of all our major products which we had not been able to achieve previously.

As part of this assurance process, we have discovered data errors and/or calculation methodologies. These have been corrected / introduced across all our GHG data back to our baseline year.

- We refined the fuel type carbon emission calculations at our French sites to more accurately reflect the use of plug-in hybrid vehicles.

What we define as material changes to emissions that would require us to re-baseline is located in the materiality section of the quantification methods section.

Uncertainty assessment

We have estimated the uncertainty of the emissions categories disclosed by assessing the amount of primary data (as defined by the GHG Protocol) we have used to calculate these emissions. The scoring system we use is as follows:

A = 90 - 100% primary data used to quantify emissions category

B = 70 - 90% primary data used to quantify emissions category

C = 50- 70% primary data used to quantify emissions category

D = 30 - 50% primary data used to quantify emissions category

E = 0 - 30% primary data used to quantify emissions category

Our definition of primary data is taken from the GHG Protocol and is "data from specific activities within a company's value chain. Primary data also includes data provided by suppliers or others that directly relate to specific activities in the reporting company's value chain."

We define secondary data in line with the GHG Protocol and is "data including industry-average-data (e.g., from published databases, government statistics, literature studies, and industry associations), financial data, proxy data, and other generic data."

We have screened our emissions to prioritise future primary data collection and are planning on improving the certainty in our data by engaging with our value chain. In particular, we will focus on the suppliers who are contributing significantly to our emissions from purchased goods and services and capital goods.

FY2024 GHG Inventory – direct GHG emissions

		GWP (tCO2e)	Carbon dioxide (CO2)	Methane (CH4)	Nitrous oxide (N2O)	Hydrofluorocarbons (weighted average) (HFCS)	Perfluorocarbons (weighted average) (PFCs)	Sulfur hexafluoride (SF6)	Nitrogen trifluoride (NF3)	Qualitative uncertainty
	Category 1: Direct GHG emission in tonnes									
1.1	Direct emissions from stationary combustion	1512	1507.10	0.145400766	0.004149857	0	0	0	0	A
1.2	Direct emissions from mobile combustion	2597	0.00	0	0	0	0	0	0	A
1.3	Direct fugitive emissions from the release of greenhouse gases in anthropogenic systems	238								A

FY2023 GHG Inventory – indirect GHG emissions

		Notes	GWP (tCO2e)	Qualitative uncertainty
	Indirect GHG in tonnes CO$_2$e			
2	**Category 2: Indirect GHG emissions from imported energy**			
2.1	Indirect emissions from imported electricity (market)		46	A
2.2	Indirect emissions from imported electricity (location)		8991	A
2.3	Indirect emissions from energy-related activities		1886	A
2.4	Indirect emissions from electricity consumption in electric/plug in hybrid vehicles		44	A
3	**Category 3: Indirect GHG emissions from transportation**			
3.1	Emissions from Upstream transport and distribution of goods		7039	B
3.2	Emissions from Downstream transport and distribution of goods	NS*		
3.3	Emissions from Employee commuting and WFH		6817	C
3.4	Emissions from business travel		2567	A
4	**Category 4: Indirect emissions from products used by organisation**			
4.1	Emissions from purchased goods and services		42820	D
4.2	Emissions from capital goods		5021	D
4.3	Emissions from disposal of waste		233	B
4.4	Emissions from upstream leased assets		364	A
5	**Category 5: Indirect GHG emissions associated**			
5.1	Emissions from use stage of the product		63569	C
5.2	Emissions from downstream leased assets		344	A
5.3	Emissions from end of life stage of the product		35	C
5.4	Emissions from investments		232	A
6	**Category 6: Indirect emissions from other sources**			
6.1	Indirect emissions from fuel-related activities		943	A
	Total emissions in tonnes CO$_2$e			
	Total direct and indirect emissions (market-based)		136307	
	Total direct and indirect emissions (location-based)		145251	
	Renewables			
	Total renewables purchased in mWh		38167	A
	Renewable electricity purchase in mWh with contractural instruments compliant with ISO 14043-1 Annex E		38167	A
	Removals			
	Direct removals in tonnes CO$_2$e		0	
	Storage			
	Total storage as of year end in tonnes CO$_2$e		0	
	Other relevent information			
	*NS = emissions not stated - see exclusions for more information			

Base year GHG inventory (FY20)

FY2020 Emissions	tCO$_2$e
Scope 1	3,687
Scope 2 (market-based)	3,094
Scope 2 (location based)	8,030
Scope 3	
1. Purchased goods and services	26,037
2. Capital goods	1,757
3. Fuel and energy related activities (not included in Scope 1 or Scope 2)	2,915
4. Upstream transportation and distribution	8,446
5. Waste generated in operations	111
6. Business travel	2,402
7. Employee commuting	4,868
8. Upstream leased assets	295
9. Downstream transport and distribution	-
10. Processing of sold products	-
11. Use of sold products	56,291
12. End-of-life treatment of sold products	22
13. Downstream leased assets	23
14. Franchises	-
15. Investments	102
Total GHG emissions tCO$_2$e	**118,079**

Quantification methods

Background

Renishaw has been reporting key sustainability metrics for several years. Over the years our reporting methodology has evolved to become more robust and has had an increasing scope to enable the capture of all Scope 1 & 2 data and those emissions in Scope 3 related to other activities along the value chain. In FY24 we completed a more accurate assessment of our Scope 3 data using a hybrid approach that involved more material specific emission data.

This document has been collated to reflect the requirements in BS EN 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", supporting guidance and the requirements set out in the GHG Protocol Corporate Accounting and Reporting Standard, the GHG Protocol Scope 2 Guidance and the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and how these have been implemented within Renishaw and its sustainability reporting.

Materiality

Materiality is considered at an emissions sources level, and any data errors which have a 3% or greater impact on the emissions category it is reported in will be restated.

Any error in data in an individual emissions sources that has greater than a 1% impact to the total GHG emissions is considered material and will be restated.

All data reported in the incorrect emissions sources will be considered material and restated regardless of the overall impact of the error on the individual emission sources or the total GHG emissions.

Any other errors that in the opinion of Renishaw or its auditors or external advisors could change the view of Renishaw and its performance against its stated objectives will be considered material and restated.

Organisational Boundary

Scope 1 & 2 data is collected from our global operations monthly and reported into the central Sustainability Team. We aim to collect 100% data from the following locations:

- Wholly owned operations and subsidiaries;
- majority owned jointly controlled entities and associates (where we have an equity stake of ≥ 51%) and;
- minority owned jointly controlled entities and associates (where we have an equity stake of ≤ 50%), only if we have management control

Treatment of acquisitions and divestments

Acquisitions – Steps are taken to integrate the acquired entity into our data collections within the first year following the acquisition. The aim is for the location to be fully integrated from the first full year of reporting following the acquisition.

Divestments – Divested locations are excluded from further reporting of data, unless they meet the criteria set out in Organisational Boundary section above and are a part divestment. Historical data from the divested location is excluded from our consolidated metrics. Where this has a material impact, ≤ 1% of the total greenhouse gas emissions (GHG) disclosure then the affected data will be re-stated. Total GHG emissions include statutory and voluntary GHG emissions.

Reporting Period

The reporting period for our sustainability data is the same as our financial reporting period, namely, 1st July through to the 30th June.

The collection of scope 1 & 2 data and the timing of receipt of that data means it is not always possible to provide complete data within the reporting timeframe. Where this is the case then data is collected for the period 1st July through to 31st May inclusive.

For the June data we calculate the average of the previous three months and report the figure for June as per the equation below.

Example equation used to calculate June data for the ARA deadlines.

$$\frac{Total\ for\ March + Total\ for\ April + Total\ for\ May}{3} = Calculated\ Total\ for\ June$$

There may be times when other data is missing, for a variety of reasons, to calculate any other missing data, we take an average of the previous three months for that month. An example calculation for missing data from May 19 is given below.

$$\frac{Feb\ 19 + Mar\ 19 + Apr\ 19}{3} = Calculated\ total\ for\ May\ 19$$

There are exceptions to the averaging methodology for some data. Waste data is often not reportable on a monthly basis so a full 11 months of waste data for a site is averaged to estimate the sites June's waste.

F-gases are also not subject to averaging as this data is often a 'one-off' input within a reporting period.

When averages have been used to compile the data for the annual report using the methods described above, it would be expected to replace the averages with 'real[1]' data, where real data can be obtained. Where the replacement of averaged data with real data makes a material difference to the total emissions from that emission source then the data will be restated within the next year's annual report, if the real data does not make a material difference to the emissions from that source then no re-statement is needed. [1]

Data Collection and Consolidation Methodology

Each Renishaw Location is expected to report the required data quarterly or more frequently. The data must be reported on a monthly basis or at the frequency of their bills / invoices which covers emissions categories.

This data is reported in the central repository for sustainability data, SCCS as per the requirements set out in CSR002.

Some data is inputted directly into SCCS by the central sustainability team where it is deemed most practical to do so.

In brief, energy, fuel, water, km's travelled on planes and trains, refrigerant quantities used for recharging and waste quantities are all reported using SCCS. The UK energy data is managed by the Renishaw facilities team.

The UK flight data is reported through Wotton Travel, the nominated Renishaw travel agency and entered into SCCS by the central Sustainability Team.

Some of the smallest Renishaw Locations (e.g. locations with five or fewer staff) do not currently have access to all relevant sustainability data. Wherever possible, they shall attempt to generate site-specific data. There are times when this data is not available, if there is a sufficient data set to create a Renishaw specific average for these emissions categories that is then applied to these smaller sites, if there isn't then using the de-minimums rule this data is then omitted. Historically some sites data were combined and reported together, this is being phased out as an approach and each Renishaw Location is reporting individual data. However home-based workers emissions are reported under the geographical location they report into, i.e. home based workers in Portugal report their business GHG emissions through the Barcelona site.

Measurement Unit.

SCCS allows data to be entered in a variety of units that are most suitable for the specific metric and geographical location of the site. Typical units include kilogrammes, pounds, tons, tons (US) and tonnes for weight; US gallons, gallons, litres, cubic metres and cubic yards for volume and kilowatt-hours, therms, mega-joules and British Thermal Units for energy.

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[1] 'Real data' is data that has come from invoices, meter readings, bills etc. rather than data that has been calculated or estimated, whilst we recognise that bills can be estimated, it is considered best available data.

These figures are then converted to common units (kilogrammes, tonnes, litres and kilowatt-hours) using internationally recognised unit conversion factors held in SCCS.

Greenhouse Gas Emissions

We calculate the amount of greenhouse gas emissions for the reporting period from all our Renishaw locations, as laid out in the Organisational Boundary section of the GHG Protocol. For statutory and voluntary reporting, it is expressed as an absolute amount in tonnes of carbon dioxide equivalent (tCO_2e). We also separately report the emissions from all our Renishaw locations, as an intensity in tonnes of carbon dioxide equivalent per £m turnover (tCO_2e/£m). Our reported emissions cover Scopes 1, 2 & 3 as defined under in 'The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)'

Scope 1 and 2

The emissions sources identified for Scope 1 in Renishaw are the following:

- Natural gas
- Owned Transport
    - volume of fuel (petrol or diesel or bioethanol) purchased, or
    - distance travelled, or
    - amount spent on fuel
- Generator Diesel
- Heating Oil
- Fugitive Emissions

The emissions sources identified for Scope 2 in Renishaw are the following:

- Electricity

Each Renishaw location enters activity data within these categories.

Natural Gas

The amount consumed into SCCS, this is either taken from a meter reading or the utility bills provided by the natural gas supplier.

Owned Transport

We capture the amount of petrol, diesel and bioethanol that we pay for in both company owned or leased vehicles. Either the volume of fuel purchased is recorded or the amount of money spent on fuel is used. If the amount of money spent on fuel is used then this is divided by the average fuel price in the country it was purchased in to calculate a fuel quantity using the following equation.

$$\frac{Total\ amount\ spent\ on\ fuel, in\ local\ currency}{Average\ price, per\ litre\ of\ fuel, within\ the\ relevant\ territory} = Amount\ of\ fuel\ purchased\ in\ litres$$

If the amount of fuel purchased isn't available it is also possible for a site to capture the distance driven, and this is entered SCCS.

If the type of fuel is not known, we use DEFRA unknown fuel conversion factors.

For electric and plug-in hybrid vehicles we capture the distance driven and use the applicable DEFRA conversion factors.

N.B. if we pay for private fuel used in a company owned vehicle, we also include this in these calculations.

Generator Diesel
The volume of diesel purchased or consumed by the generators is entered into SCCS, it is classed as 100% spirit diesel with no biofuel additive into it.

Heating Oil
Volume of heating oil purchased or consumed is entered into SCCS, it is classed as kerosene.

Fugitive Emissions
Sites that have air conditioning units they have operational control over. Operational control means they are responsible for organising and/or paying for maintenance and service of the air conditioning.

Sites input quantities of refrigerants into SCCS and this is aggregated and then inputted into the tool Calculating HFC and PFC Emissions from the Manufacturing, Servicing, and/or Disposal of Refrigeration and Air-Conditioning Equipment Calculation Worksheets (Version 1.0) produced by the GHG Protocol (internally we call this; Refrigerant GHG Spreadsheet) this sheet totals the annual global data and gives us GHG footprint of the gases used

Electricity
Electricity consumption is input into SCCS, this is either taken from a meter reading or the utility bills provided by the electricity supplier.

Scope 1 & 2 conversion into tCO_2e
We take the energy, fuel and transport data and convert the energy and fuel consumed and the refrigerants used through the application of recognised emission conversion factors. This is undertaken centrally but on a site-by-site basis prior to consolidation. The methodology used during the conversion is outlined in 'The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)'. For reporting purposes, the results are subsequently converted to tonnes of CO_2e.

The emission conversion factors are taken from the latest version of internationally recognised sources, namely:

- The latest IPCC's GWP 100 years horizon factors
- BEIS (Formerly DEFRA)
- GHG Protocol
- Electricity suppliers
- Renishaw locations may suggest more accurate emission conversion factors taken from their respective country's National Inventory Report or provided to them by their National Government/Agency/Regulator.

The overarching principle around the selection of the most appropriate conversion factor to use in the calculation is the determination of the most accurate figure for greenhouse gas emissions for a location or territory, if there is a discrepancy the conversion factor which will give the highest CO_2e figure is used to avoid underreporting.

Our GHG emissions are calculated for each of the seven main Kyoto Protocol gases, these being;

- • Carbon dioxide (CO2);
- • Methane (CH4);
- • Nitrous oxide (N2O);
- • Hydrofluorocarbons (HFCs);
- • Perfluorocarbons (PFCs); and
- • Sulphur hexafluoride (SF6)
- • Nitrogen trifluoride (NF3) – is not considered as not part of Renishaw processes

The carbon equivalent of each of these gases is calculated and the totals are combined to produce a CO_2e figure for each of the emissions sources across the globe.

Emission factors for a year may be updated in subsequent years. In such cases historical figures are recalculated each year using the latest available factors. Where this results in a material change to the reported figures then it will be restated.

We collate electricity consumption figures so we can calculate the 'Market Based' GHG emissions from the electricity we purchase as well as the 'Location Based' GHG emissions. In the UK we use supplier specific emissions factors, across Europe we use Residual Grid emissions factors, and elsewhere we use the Grid Average Emission factors unless we can find more accurate factors. This allows us to produce both a Location Based and a Market Based GHG emissions for electricity purchased.

Libraries of these factors are maintained in SCCS. Below is an extract of the GWP emission factors used to calculate our GHG emissions:

Position	Description	Scope	Impact profile	Factor / MJ		Library
2.01	Heating oil	1	Other kerosene (direct)	0.0723288	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	GHG Protocol/IEA v19 (04/2023) - eGRID2021
2.02	Generator Diesel	1	Gas/Diesel oil (direct)	0.0745288	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	GHG Protocol/IEA v19 (04/2023) - eGRID2021

2.03	Natural Gas	1	Natural gas (direct)	0.0562548	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	GHG Protocol/IEA v19 (04/2023) - eGRID2021
3.01	Diesel for Renishaw-owned/leased vehicles	1	Diesel (average biofuel blend) (Net CV basis) (direct)	0.070581322521	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.02	Petrol for Renishaw-owned/leased vehicles	1	Petrol (average biofuel blend) (Net CV basis) (direct)	0.064990322521	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.03	Distance driven in Renishaw-owned/leased vehicle use when fuel is NOT known: business journeys (excluding commuting)	1	Average car (unknown fuel) (direct)	0.000166638588	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.04	Distance driven in Renishaw-owned/leased petrol vehicles when volume of fuel is not known: business	1	Average petrol car (direct)	0.000163908534	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)

	journeys (excluding commuting)				
3.05	Distance driven in Renishaw-owned/leased diesel vehicles when volume of fuel is not known: business journeys (excluding commuting)	1	Average diesel car (direct)	0.000169826449	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.06	Distance driven in Renishaw-owned/leased electric vehicles when volume of fuel is not known: business journeys (excluding commuting)	2	Car - Average car - Battery Electric - UK electricity for Evs (distance) (direct)	0.000050427364	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.07	Distance driven in Renishaw-owned/leased MILD hybrid vehicles: business journeys (excluding commuting)	1	Average petrol hybrid car	0.000150068588	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.08	Distance driven in Renishaw-owned/leased plug-in hybrid vehicles: business journeys (excluding commuting)	1	Car – Average car – Plug-in Hybrid Electric (distance)	0.000118316412	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)

3.08	Distance driven in Renishaw-owned/leased plug-in hybrid vehicles: business journeys (excluding commuting)	2	Car - Average car - Plug-in Hybrid Electric - UK electricity for Evs (distance) (direct)	0.000025794189	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)
3.08	Biofuel for Renishaw-owned/leased vehicles: business journeys (excluding commuting)	1	Car – Average car – Plug-in Hybrid Electric (distance)	0.000118316412	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e]	Defra v12 (09/2023)

Grid Mix (2.04) and Renewable Purchased (2.05) Location-based

For location-based emissions (both grid mix and renewable purchased), the IEA library is used in all cases expect USA.

All countries except USA	Electricity produced [COUNTRY] (direct)	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e] from IEA v6 – IEA 2023 (01/2024)
For sites based in the USA, state specific factors are used	[STATE CODE] - [STATE] (direct)	GHG Prot: GWP (Global Warming Potential, 100 years) [kg CO2e] from GHG Protocol/IEA v19 (04/2023) - eGRID2021

Grid Mix (2.04) Market-based

For market-based emissions (grid mix) supplier specific emission factors are applied to UK sites. These are updated annually based on the suppliers' fuel mix declarations. For all other countries, Sphera's Residual Mixes v12 (03/2024) is used if a profile is available for the country in question. In the absence of a residual profile, the IEA v6 – IEA 2023 (01/2024) direct emission profile is used (duplicating the location-based profile).

Scope 3

Category 1 Purchased Goods and services and Category 2 Capital Goods

Data is taken from the financial systems that account for over 97% of our total spend as a Group and cleansed of intercompany sales.

This data is incorporated into a 3rd party spend-based carbon modelling software. Currency conversions and inflation adjustments were completed in the carbon modelling software.

The software assesses PO line level data to classify spend into different categories with multi-region input-output (MRIO) spend-based emission factors assigned.

Some financially modelled emissions are replaced with data calculated using the GHG Protocol's 'average data method'.

'Average data method' emissions are calculated for our purchased parts and raw materials where we have information on the weight / volume and material it is made from. Emission factors were sourced from our material information database, Granta Selector.

Capital goods emissions were separated using our internal spend categories to identify capital purchases.

Category 3 Fuel and energy related activities (not included in scope 1 or scope 2)

This is calculated in SCCS, using the consumption figures of energy and fuel in scopes 1 & 2, a scope 3 factor is applied to each consumption figure.

Category 4 Upstream transportation and distribution

Our major logistics partners provide us with a tCO_2e figure for the services they provide us, this is accessible either via an online portal found at http://www.expeditors.com/ (Expeditors), or from annual reports (UPS and DHL and other smaller providers) this data is calculated by these suppliers according to 'The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)'.

Category 5 Waste generated in operations

We collect the amount of waste arising from Renishaw locations across the world. It is expressed as an absolute amount in metric tonnes. This includes production waste, both solid and liquid and hazardous and non-hazardous wastes that is sent off site for recycling, recovery or disposal, it includes catering waste, demolition/construction waste, where we are the project managers of the work, and it includes the disposal of surplus equipment if disposed of through our waste channels. Our UK Waste is reported through monthly reports from our two major waste contractors and this data is then entered into SCCS.

Other sites, outside of the UK, report their waste by weight using SCCS where the data is available to them. There are a number of sites where the waste data is not available, and we calculate an average per FTE of waste using comparable sites and use this to calculate a waste figure for sites without data.

This data is collected on a site-by-site basis and is recorded and calculated when necessary as per the rules in the Reporting Period above.

We calculate the percentage of waste that is produced by our facilities that is subsequently diverted from landfill as a percentage of total waste. Recycling is defined as the reprocessing of waste

materials into products, materials or substances whether for the original or other purposes, for example, glass, metals, plastics, paper. We include recovery with within our diverted figures which we define as incineration, incineration for energy recovery, composting, anaerobic digestion and the reprocessing of materials to be used as fuels or for backfilling operations.

The landfill rate is calculated as follows:

$$\frac{total\ amount\ of\ waste\ sent\ to\ landfill}{total\ waste}$$

Category 6 Business Travel

We capture the number of passenger kilometres (Pkm) for our rail and plane travel.

To capture this data we obtain the dates, passenger class and the departure & arrivals airports, this is entered into SCCS and it uses the airport codes to calculate the number of Pkm between the departure and arrival airports.

Flights are categorised into the following to enable the correct GHG conversion factors to be used:

Short = less than 463km

Medium = between 463km and 1108km

Long = more than 1108km

Category 7 WFH Emissions & Employee Commuting

Using data collected from our global HR system (WorkDay) we use the EcoAct/Carbon Clear whitepaper methodology to calculate employee commuting and WFH emissions, this is based on a subset of data and is extrapolated across the group using FTE as the base unit.

Category 8 Upstream leased assets

We collect the primary data from these sites in SCCS, this data is the energy used for the functioning of the site, we then flag the sites in SCCS as upstream leased assets and report it within this category.

We use the same collection methodology as we do for collecting scope 1&2 data (see the relevant sections for more detail)

Category 9 Downstream transportation and distribution

We don't believe this is material as the majority of our shipments are done under our control and therefore sit in Category 4 – Upstream transportation and distribution.

Category 10 Processing of sold products

We do not do any processing of sold products as defined by the GHG Protocol.

Category 11 Use of sold products

We have calculated these emissions across all our product groups.

We have used our product specifications, product testing, industry knowledge and experience using our products within our own manufacturing operations to calculate the electricity consumption our product groups typically use in a year.

Through consultation across the business, we have determined the average lifespan of 10 years is appropriate for all our products except our laser encoders which we know only have a 3-year life span on average. This standardised lifespan allows for easy comparison across product groups with a standard unit of measure.

We use total unit sales per Renishaw's financial year and have split those sales into the three regions we sell to which are: Americas (AMER), Europe, Middle East, and Africa (EMEA) and Asia-Pacific (APAC).

We split our sales into these regions as the emission factors that we use are the regional electricity sourced from the International Energy Agency's (IEA) database of Annual GHG emission factors for World countries from electricity and heat generation.

The emission factors we have used are the latest available and reflect the CO2e / kWh in over forty countries in 2020 and include transmission and distribution losses.

The equation below shows how we calculate an individual product group emissions in a specific region:

$$Yearly\ electricity\ consumption\ (kWh) of\ product\ group \times years\ of\ product\ life \\ \times total\ yearly\ sales\ to\ a\ region\ \times regional\ emission\ factor\ for\ electricity$$

Category 12 End-of-life treatment of sold products.

To estimate the impact of end-of-life treatment of sold products, we have calculated the total yearly weight of all sold products and multiplied it with an emission factor for end-of-life treatment. Our assumption is that all products will be disposed of via landfill as we currently do not have more specific data for this area, so we have used a DEFRA conversion factor for waste of electrical items.

Category 13 Downstream leased assets

We have a site in the UK (Stone) and ULEV vehicles we lease and make available to employees under a salary sacrifice scheme.

The sites scope 1 & 2 data is collected via and the GHG emissions are calculated using relevant in country GHG emissions factors.

The ULEV vehicles we lease to employees have estimated annual mileage figures that employees will submit when leasing the car. We have assumed that they drive all these miles and as all the leased cars are in the UK, we have used DEFRA conversions factors to estimate the yearly emissions for the ULEV vehicles.

Category 14 Franchises

We have no franchises and so this category is not relevant.

Category 15 Investments

Businesses we have investments in report their scope 1 & 2 data to us. The data is reported in this category, is collected and calculated into GHG emissions as per the relevant scopes 1 & 2 categories. The amount of GHG emissions reported for these sites is reported as a percentage of their total emissions in line with our voting rights for the companies