

Carbon Measurement Methodology



In business to do business



Powered and prepared by Rio AI (UK) Limited for the RO Group

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1. Executive Summary

Rio AI (UK) Limited ("Rio") has prepared this Carbon Measurement Methodology document for the RO Group ("RO") to support and strengthen RO Group's sustainability ambitions and commitments. The RO Group is in the process of planning and establishing its net zero decarbonisation goals and targets following the establishment of its first baseline year of reported emissions.

Rio acts as RO's sustainability operations and data advisor, by enabling the tracking, measurement and reporting of progress towards achieving decarbonisation ambitions. This document is intended to provide transparency and alignment for all relevant stakeholders that sit within the remit of RO Group's decarbonisation objectives and ambitions. The methodology outlines the steps taken in the collection, aggregation and calculation of carbon emissions across RO's portfolio and operations, establishing a consistent methodology and shared understanding of the approach taken to quantify and manage carbon impact.

Rio is a sustainability accounting software and consulting advisory firm. Rio works closely with UK government institutions and FTSE-listed entities across sectors such as construction, oil & gas and financial services. Rio combines data-led insights with deep advisory experience to help organisations embed sustainability within their operations and reporting processes. Rio has been advising RO Group since 2025, working closely to support the achievement of net zero targets, enhance emissions data collection, and upskill the organisation on ESG and sustainability practices. Stated ambitions and performance information are essential for enhancing the quality, reliability, and comparability of climate and sustainability reporting. RO and Rio are therefore committed to providing high quality data and disclosures for internal decision-making and report meaningful data to its external stakeholders.

As a real estate investor, the RO Group recognises both the risks and opportunities associated with climate change and the decarbonisation of the built environment. RO is committed to integrate decarbonisation objectives across all investment activities, ensuring that its portfolio is progressively aligned with a 1.5°C pathway and remains resilient to evolving market expectations. The scope of this carbon measurement policy and methodology will apply to all real estate investments and the emissions of RO's own operational activities.

2. Introduction & Objectives

This carbon methodology document provides a standardised framework for RO Group to measure and disclose the greenhouse gas (GHG) emissions associated with its operations and investments. This methodology is crucial for:

- Transparency and accountability: it enables RO to understand and report its direct and indirect emissions, contributing to transparency and accountability in the real estate sector's contribution to climate change.
- Risk management: applying a harmonised approach to measuring GHG emissions from operations and investments, it helps identify and manage climate-related risks associated within portfolios.
- Decarbonisation planning: carbon accounting and measurement support the alignment towards strategic goals on net zero, by defining decarbonisation efforts enabling regular monitoring on progress.
- Alignment with broader stakeholders: RO is committed to ensuring that all stakeholders are aligned with the net zero objectives, particularly on the method for capturing, measuring and reporting on carbon emissions.

The RO Group's carbon measurement methodology is aligned with globally leading and recognised sustainability reporting standards. These notably include the GHG Protocol and Science-based Targets Initiative (SBTi).

- The GHG Protocol Standard can be accessed [here](#)
- The Science-based Targets Initiative (SBTi) can be accessed [here](#)

Beyond these core frameworks, the RO Group also incorporates industry guidance pertaining to best practice real estate built environment financing, such as the UK Green Building Council (GBC) and BREEAM on case by case basis where data availability permits.

- The UK Green Building Council guidance can be accessed [here](#)
- More information on BREEAM can be accessed [here](#)

3. Scope & Boundaries

In line with the Greenhouse Gas (GHG) Protocol, emissions are categorised into three scopes – that is, scope 1, scope 2 and scope 3. These scopes distinguish between direct and indirect sources of greenhouse gas emissions and provide a structured approach for measuring and managing carbon across an organisation's activities and value chain.

Scope 1 covers all direct emissions from sources that are owned or controlled by the organisation. These are emissions resulting from operations where the organisation has direct influence over fuel combustion or process activities. Scope 1 emissions represent the most immediate and controllable sources of an organisation's carbon footprint. Examples of these emission sources include:

- Emissions from on-site fuel combustion (e.g. boilers, furnaces, generators)
- Emissions from company-owned vehicles
- Fugitive emissions (e.g. refrigerant leakage from air conditioning systems)

Scope 2 accounts for indirect emission from the generation of purchased energy, usually electricity, heat and steam, that is consumed by the organisation. While the organisation does not produce these emissions directly, they occur as a consequence of energy use. Scope 2 emissions are often managed through energy efficiency initiatives and renewable energy procurement strategies. Examples of emission sources include:

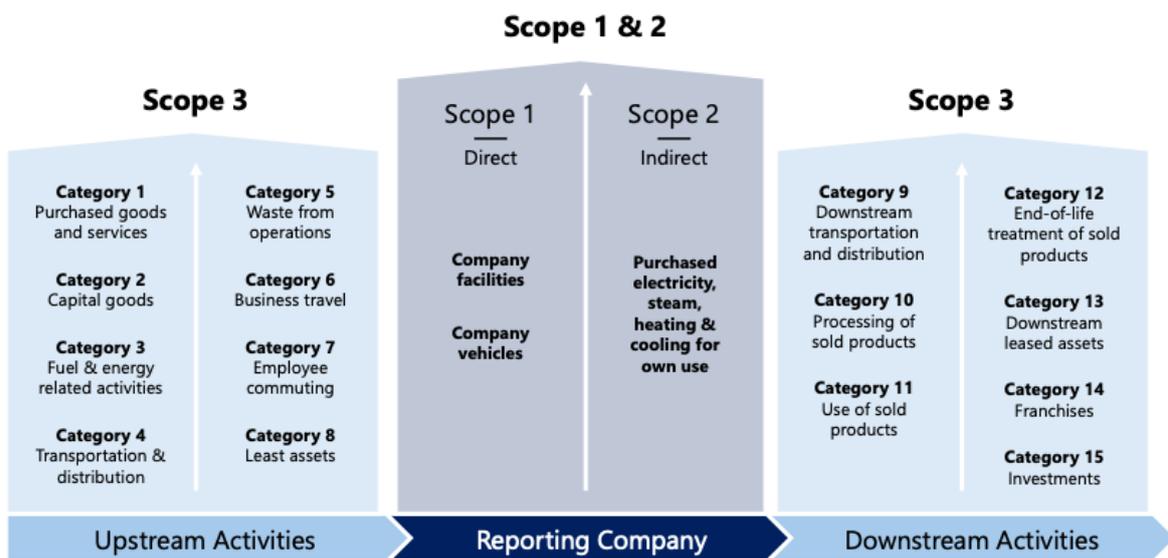
- Emissions from purchased electricity used to power offices, assets or facilities
- Emissions associated with purchased heating or cooling services

Scope 3 encompasses all other indirect emissions that occur throughout the organisation's value chain, both upstream and downstream. These emissions result from activities not owned or directly controlled by the organisation but are linked to its operations, products or services. Scope 3 emissions often represent the largest portion of an organisation's total footprint and are typically the most complex to measure requiring collaboration with suppliers, partners and customers. Examples of scope 3 emissions sources are:

- Emissions from the production of purchased goods and services
- Transportation and distribution (upstream and downstream)
- Employee commuting and business travel
- Waste generation and disposal
- Use and end-of-life treatment of sold products

Furthermore, scope 3 emissions are divided into 15 categories covering all indirect emissions across a company’s value chain. This includes upstream categories and downstream activities. These 15 categories provide granularity and transparency by breaking down all indirect emissions across the value chain. This structure helps organisations to determine key emissions sources, avoid double counting and build a more accurate picture of their total carbon footprint for effective management and reporting.

An overview diagram is provided below to illustrate this.



Source: Greenhouse Gas Protocol, Corporate Value Chain Accounting and Reporting Standard

According to the GHG Protocol Corporate Standard, an organisation can follow one of two approaches to consolidate and report GHG emissions, that is the equity share or control approaches. Under the control approach, a company accounts for 100% of GHG emissions from operations over which it has control. Any operations in which the organisation owns an interest, but has not control, are excluded. From a controlled approach, an organisation can either define these criteria as financial or operational. When utilising an operational control approach, an organisation accounts for 100% of emissions from operations over which it, or one of its subsidiaries, has operational control. Within this boundary, a company has authority to introduce and implement its operating policies.

Regarding the equity share approach, an organisation would account for GHG emission from operations according to its share of equity in the organisation. The equity share reflects economic interest, if the economic interest differs from ownership, the

organisation uses the percentage that best represents the true economic share of its relationship with the operation.

The RO Group reports its emissions by following an operational control approach, maintaining consistency with previous annual carbon footprint reports for the group. The carbon report therefore accounts for 100% of the RO Group and Metis Homes emissions, reflecting RO Group's control over the operations of Metis Homes, including responsibility for utilities and building development activities.

For operational activities, all emissions are reported on an annual reporting period, running from 1st April to the 31st March, this covering the RO Group offices with operational control. This schedule also applies similarly to investment projects reporting, where RO Group will report on an April to March cycle but may apply normalisation adjustments on an ad-hoc basis to better reflect each project's operational context. For example, if a project commences in September, reported emissions will be normalised to represent six months of activity rather than a full year.

Building on this framework, the RO Group, in collaboration with Rio, is implementing more granular and continuous data capture processes. This includes the regular collection and consolidation of operational data, such as utilities, waste and resource consumption. Through Rio's platform, this information will be validated quarterly or semi-annually and visualised via bespoke dashboards, enabling near real-time insight into emissions performance. This enhanced data infrastructure will allow the RO Group to report with greater accuracy, informing decision-making related to asset optimisation and progress towards net zero goals.

Currently, the RO Group reports on the following material categories in line with the guidance from the GHG Protocol.

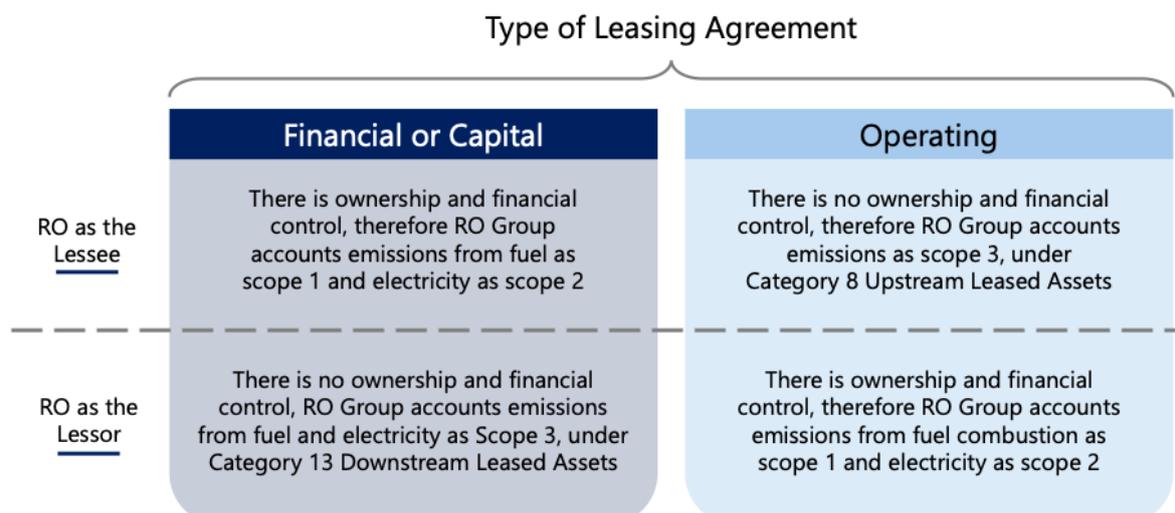
Scope	Category
Scope 1	Diesel Fuel Fleet Travels Natural Gas
Scope 2	Electricity (location-based) Electricity (market-based)
Scope 3	Category 1 – Purchased good and services Category 3 – Fuel and energy related activities Category 4 – Upstream transportation and distribution Category 5 – Waste Category 6 – Business travel Category 7 – Employee communiting Category 13 – Downstream leased assets Category 15 – Investments

RO Group is in the process of revising its reporting boundaries for Scope 3 emissions. As part of this review, RO is assessing the materiality of Category 8 – Upstream Leased Assets, and Category 11 – Use of Sold Products.

The Group is also evaluating how different types of leasing arrangements should be classified in accordance with guidance from the GHG Protocol. This assessment includes determining whether individual leasing agreements qualify as financial (capital) or operating leases, as these classifications directly influence the allocation of emissions within Scope 3 categories.

For leased assets operated by RO Group, these are classified under Category 8 – Upstream Leased Assets. Conversely, assets leased by the RO Group to third-party operators of the buildings remain within Category 13 – Downstream Leased Assets. Buildings sold to end users and consumers are attributed to Category 11 – Use of Sold Products.

A summary diagram is provided on the following page, illustrating the revised methodological approach when accounting for emissions associated with leased assets.



Finance or Capital Lease

This type of lease enables the lessee to operate an asset and gives the lessee all the risks and rewards of owning the asset. Assets leased under a capital or finance lease are considered wholly owned assets in financial accounting and are recorded as such on the balance sheet.

Operating Lease

This type of lease enables the lessee to operate the asset but does not give the lessee any of the risks or reward of owning the asset. Any lease that is not a finance or capital lease is an operating lease.

Source: GHG Protocol, Corporate Value Chain (Scope 3) Standard, Appendix A.

Based on this methodology update, RO Group would account for two additional scope 3 categories, in accordance with the GHG Protocol. While the figures may not be reported during this year’s exercise, given time limitation related to the availability of data, RO Group nonetheless is committed to continue refining and expanding the coverage of material scope 3 emissions within its carbon inventory. It is expected that revised figures will be calculated and included in the subsequent 2025 ESG reporting, covering the reporting year April 2025 to March 2026.

4. Carbon Emissions Calculation Methodology

Scope 1 emissions cover operational emissions from owned sources. This includes natural gas, oil, company car mileage and fugitive emissions from air-conditioning.

Scope 2 emissions covers emissions generated from the electricity used in all the buildings that RO Group operates (i.e. offices) as calculated by the market-based methodology. The market-based method applies to operational emissions where the RO Group have contractual arrangements for renewable electricity, such as certified renewable electricity through a supplier tariff or the separate purchase of renewable energy guarantees of origin (REGOs) or market equivalent, or consumed renewable heat or transport certified through a Government scheme.

Scope 3 emissions cover indirect emissions that occur in the value chain but are not owned or directly controlled by RO Group. The majority of reported scope 3 emissions currently arise from purchased goods and services, while other emission sources also stem from business travel, including flights, rail and other transport booked for staff.

Provided below is a breakdown of the carbon calculations methodologies currently applied in the Rio platform across all scope sources as outlined above.

For fuels used at sites directly owned or operated by the RO Group, emissions are calculated using activity data (i.e. litres of fuel consumed) and the relevant carbon conversion factors (CCFs) from Rio's configuration database:

- Scope 1 emissions are calculated by multiplying the amount of fuel used by the fuel's specific CCF.
- Scope 3 (Well-to-Tank or WTT) emissions are calculated by multiplying the same fuel quantity by the relevant WTT factor, which represents the emissions from extracting, refining, and transporting the fuel before it is used.
- For indirect fuel consumption, such as fuel used by suppliers or during homeworking, the same approach applies, but all emissions are reported under Scope 3 rather than Scope 1, the same CCFs are used to maintain consistency.

For natural gas consumption at owned or operated locations:

- Scope 1 emissions are calculated by multiplying the total kilowatt hours (kWh) of gas used by the appropriate gas conversion factor.
- Scope 3 WTT emissions are calculated by applying the WTT conversion factor to the same kWh figure.

For electricity used at owned or operated sites:

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- Scope 2 emissions are calculated by multiplying electricity consumption (in kWh) by the electricity usage CCF.
- Scope 3 WTT emissions are estimated using the kWh data and the electricity WTT factor.
- Scope 3 Transmission and Distribution (T&D) losses are calculated by applying the relevant T&D factor to the same consumption data.

These calculations capture both direct emissions from electricity generation and indirect emissions from upstream energy supply and network losses.

For transport-related emissions, transportation is categorised by type, subtype, and fuel type, and emissions are calculated based on either distance travelled or fuel volume purchased. The appropriate emissions factors are taken from the UK DEFRA CCF database.

For direct transport, where vehicles are owned or operated by the RO Group:

- Scope 1 emissions are calculated using fuel or electricity consumption multiplied by the specific factor for the vehicle type and fuel.
- Scope 3 WTT emissions are based on the upstream fuel lifecycle.

For indirect transport, where vehicles are owned or operated by suppliers:

- All emissions are reported under Scope 3, using the same fuel and electricity factors as for direct transport.

To summarise, across all categories in scope, this approach follows a similar structure, as follows (a) identifying the activity data, such as fuel used, energy consumed, or distance travelled; (b) applying the relevant carbon conversion factors (CCFs) for that fuel, energy type or transport mode; (c) including transmission and distribution factors where relevant to capture upstream emissions; and (d) categorising the results into scope 1, scope 2 and scope 3 emissions based on ownership and operational control.

To calculate scope 3 emissions from purchased goods and services, Rio applies a hybrid methodology that combines activity-based and spend-based approaches, consistent with the GHG Protocol. In order to collect the underlying data to inform the calculation of Category 1 Scope 3 emissions, the RO Group employs a survey functionality that is powered through the sustainability software platform Rio. The platform offers the possibility of sharing surveys with suppliers for relevant stakeholders to directly input the information required to perform the calculations and estimations of scope 3 emissions stemming from materials purchased. The surveys are structured in a way that enables the RO Group suppliers to directly input the weight, type and supply date of the materials. In addition to this, the survey will also ask whether the supplier disclose their own scope 1, 2 and 3 emissions. Obtaining this figures supports the RO Group in quantifying its

scope 3 emissions under Category 1 – Purchased Goods and Services. On the basis that it is not always possible to obtain the breakdown of scope emissions for each individual product, the RO Group applies the following assumption to allocate emissions. The RO Group uses the spend on the supplier as the numerator, and divides this figure by the total RO Group spend across all suppliers as the denominator. This ratio is then multiplied by the reported scope emissions, as confirmed by the supplier in the Rio survey.

When activity data is available from suppliers, such as the quantity, type or weight of the materials, Rio applies material-specific emissions factors sourced from a variety of data sources, such as Life Cycle Assessments (LCAs), Environmental Product Declarations (EPDs). On an ad-hoc basis, Rio may employ carbon conversion factors from the Inventory for Carbon and Energy (ICE) database. These factors are multiplied by the quantity of materials purchased to calculate the total emissions associated with that activity. This provides a direct and product-specific estimate of embodied carbon.

Where activity data is not available, Rio applies the spend-based method. In this case, the total monetary value used by the RO Group to purchase the goods, or services from each supplier is used as the basis for calculation. In this instance, emissions factors from the Exiobase ClimaTiq database are employed, which represent the average emissions intensity per unit of spend in a given sector, are applied to estimate the emissions associated with those purchases.

In line with SBTi guidance, RO Group focuses these calculations on its largest suppliers by total spend. Only suppliers with spend occurring within the April-March reporting period are included. This ensures the inventory reflects activity within the defined reporting boundary for the RO Group.

For all estimated (EST) and measured (ACT) activity data, the following emissions calculations are applied to each data point dependent on scope, emissions source and location. All activity data is stored in the Rio platform, which automatically applies carbon conversion factors to each activity data point, using the appropriate source. Rio assigns carbon conversion factors based on the location that data is uploaded to. Based on the location, which in the RO Group's case is primarily based in the United Kingdom, Rio applies UK Government provided emissions factors from the Department for Environment and Rural Affairs (DEFRA).

Emissions factors are applied to activity data based on their publication data. For live data, the most up to date emissions factor will be applied. For historical data, the emissions factor published at the time of the activity was reported will be applied.

5. Assumptions & Limitations

In conducting operational data capture across assets, a range of estimation and proxy indicators are applied due to varied development stages of the properties and the maturity of data availability.

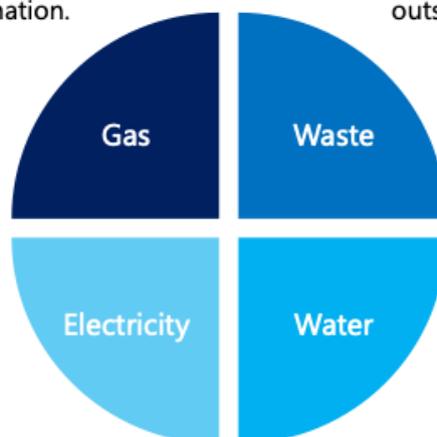
RO Group recognises that while its current Scope 3 emissions reporting is in the early stages, there are still opportunities to improve data accuracy and coverage. At present, some categories, especially category 1 purchased goods and services, are estimated using spend-based methods, due to limited availability of supplier activity data. While this approach aligns with the GHG Protocol and provides a reasonable baseline, it remains less precise than using supplier-specific or product-level data.

As data maturity across the supply chain improves, RO Group aims to increase its engagement with suppliers to obtain more detailed activity data, such as quantities of materials, life cycle assessments (LCAs), or environmental product declarations (EPDs). This will enhance the accuracy and representativeness of Scope 3 calculations over time, ensuring that results better reflect RO Group’s actual carbon impacts and supporting continued alignment with best practice reporting standards.

Where actual data is unavailable, specifically on utility invoices, Rio employs a structured method for performing estimates, as summarised in the diagram below:

Estimates are based on the same month from the previous year. If that data isn’t available, a month from the same quarter of the previous year is used to perform the estimation.

Location-based estimates using prior month with most complete data within the quarter. If no data is available within the quarter, the latest full month outside of the quarter is used.



Estimates to be made at meter level based on a prior month using the most complete data within the quarter. If data within the quarter is unavailable, the most recent complete month outside the quarter is utilised.

6. Governance & Continuous Improvements

Responsibilities for the implementation and ongoing improvement of this methodology is shared between internal RO Group Head of Sustainability and Rio AI.

The RO Group's Head of Sustainability, Ana Bajri, oversees the integration of carbon and ESG considerations, alongside data collection processes across sites and suppliers, liaising closely with Rio AI consultants. This includes ensuring that all projects and suppliers by top-spend undergo direct engagement to ascertain the level of maturity on ESG integration and carbon reporting mechanisms on-site. The RO Group Head of Sustainability is supported by colleagues across the group to enable effective carbon data collection.

Rio AI specifically supports the RO Group on its sustainability operations and acts as its data advisor, providing the software platform that captures and aggregates carbon emissions metrics across sites, to support ongoing data capture that is provided in real time, where data availability permits. As part of this remit, Rio AI is ultimately responsible for uploading data provided by operational managers across RO Group sites and complete the validation and input of data estimates on a quarterly basis. Rio AI also assists the RO Group in building ESG knowledge across staff and its network. Following successful onboarding and training of the RO Group staff in using the Rio platform, it is expected that RO Group staff will be self sufficient, and the responsibilities outlined above will transfer away from Rio consultants.

RO Group recognises that its carbon reporting is directly linked to the quality of data available. Over time, it will expand its coverage by engaging more closely with its local partners, suppliers and operational facility managers to improve access on project-level information. This includes sourcing more accurate consumption data through physical meter readings, capturing material and energy data earlier in the ownership cycle and building stronger feedback loops with contractors and operators during refurbishment and operational phases. By progressively expanding these data inputs, RO Group will enhance the reliability, comparability and decision-usefulness of its carbon reporting across the portfolio.

This methodology will be regularly reviewed and updated to reflect advancements in evolving ESG reporting standards, ensuring that RO Group demonstrates continued alignment with industry best practice and expectations. RO Group will continue to strengthen this carbon accounting methodology over time, incorporating new data, tools, and international standards as they emerge. This ensures its reporting remains transparent, decision-useful and aligned with stakeholder expectations.