

Reporting criteria

Introduction

KPMG has been appointed to provide independent limited assurance of selected Croda International plc Sustainability Performance Measures. This reporting criteria document sets out how these selected performance measures have been prepared and reported.

Only those metrics outlined in the selected performance measures table below have been assured. Further performance measures reported in the Croda Annual Report, Sustainability Report, Non-Financial Data book or elsewhere have not been independently verified or assured, however all reasonable care has been taken to ensure the accuracy of the data presented.

Scope

This report covers the performance of Croda International Plc for the period 1 January 2023 to 31 December 2023. The scope of this report is at least all operations wholly owned for the full 12-month period, plus those operations where we have significant management influence due to a majority shareholding. Reporting is made on a full entity basis in all instances. Croda uses an operational control approach to calculate its GHG emissions. We update our reporting to include organisational changes. Unless otherwise stated data is included from the date of acquisition for acquisitions part-way through the year and for closed locations up until the date of closure.

Where significant divestment of a business occurs Croda will review the impact on the non-financial reporting and the need to re-state and re-baseline our performance reporting, publishing the results. Our policy is to recalculate base year emissions if there is a significant change in organisation structure or reporting methodology that would alter base year emissions by 5% or more.

We seek to continuously improve the accuracy of our reporting through increasing the use of primary data, reducing the use of estimates, correcting any identified errors and upgrading our calculation methods in line with best practice. We will clearly identify any significant impacts on prior reporting disclosures and seek an assurance opinion where these improvements alter the results by 5% or more.

Organisational changes in the reporting period:

Acquisition July 2023: Solus Biotech, South Korea - R&D centre in Bundag near Seoul and production centre in Iksan. Results for both have been included in the reporting for 2023.

Site Closure effective 30 June 2023: Manufacturing Operations in Cikarang, Indonesia closed. Results for Cikarang have been included in our full year reporting.

Restatement of prior years:

We have re-stated and re-verified our GHG emissions for 2018 – 2023. Full details are set out in the Reporting Data Pack. This and the re-verification statement are available at www.croda.com/sustainability. These updates reflect our commitment to good quality data and have allowed us the opportunity to improve the completeness of our reporting for arbitration of Renewable Energy Certificates at our site in Atlas Point, along with smaller corrections for adjustments in raw materials usage at our Singapore facility and improvements to application of emissions factors.

Selected performance measures

The data presented in the table below constitutes the limit of the assured information.

KPI	Unit	Assured Value
Scope 1 emissions	Tonnes CO ₂ e	86,740
Scope 2 GHG emissions (location-based)	Tonnes CO ₂ e	60,834
Scope 2 GHG emissions (market-based)	Tonnes CO ₂ e	14,506
Scope 3 GHG emissions (upstream)	Tonnes CO ₂ e	674,234
Emissions intensity	Tonnes CO ₂ e / £m value add	138
Carbon emissions avoided through use of products	Tonnes CO ₂ e	812,620
Carbon cover ratio		1.05 : 1
% organic raw materials bio-based	%	59
% leadership roles held by women	%	39
% women in the workforce	%	40
% women on the Board	%	50

Reporting methodology

a) Greenhouse gas emissions

Standards

Croda's GHG inventory has been completed in accordance with the World Resources Institute (WRI) / World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard (Revised Edition), The GHG Protocol Corporate Value Chain Scope 3 standard covering all relevant upstream categories, The GHG Protocol Scope 2 Guidance, and with Defra's Environmental reporting guidelines: Including Streamlined Energy and Carbon Reporting requirements.

Data gathering

Each site has a dedicated reporter and approver responsible for capturing data in our SpheraCloud Corporate Sustainability Reporting system on a quarterly basis. Data is primarily taken from meter readings or invoices. Interim estimates may be used where there is a delay to the availability of invoices at the quarterly reporting deadline. The local reporting team proposes the optimal basis for the estimate which is normally an average or pro-rata value for the missing information based on either the actual data available for prior months or equivalent period in prior year whichever is more representative of current use. Estimates are clearly identified and resolution to actual values monitored to ensure the best quality data is used in the full year report. Inclusive lease agreements for small offices or R&D facilities located in shared premises may not provide for discrete information on all Croda's utilities usage. Such locations provide estimates for the consumption of a range of standard utilities. This can be done either by multiplying the total utility consumption for the building by the area of it they occupy divided by the total floor space of the building. If this information is not available, then sites can employ a per head estimate of usage by applying calculated average utilities values per person per quarter at Croda non-manufacturing sites in 2022 for respective utilities to the local headcount.

The SpheraCloud Corporate Sustainability Reporting system has a library of factors to convert:

- commonly reported units of energy (such as kWh, cubic meters of gas, kilograms of LPG) into a standard unit of energy GJ.
- GJ of energy into GHG emissions, tonnes CO₂e.

The library of emissions conversion factors is reviewed and updated on an annual basis in the fourth quarter of the reporting year. The updated conversion factors are applied to the current reporting year only. The table on the next page sets out the conversion factor sources used in our reporting.

Source	Data management	Emission Factor Application
The DEFRA GHG Conversion Factors for Company Reporting	Library is available directly through the SpheraCloud Corporate Sustainability Reporting system and the update applied via a command from a Croda administrator.	Scope 1 – all direct energy sources Scope 2 – Business travel in Electric / Electric component of hybrid Car Scope 3 upstream – all relevant sources
IEA Emissions Factors	Set of emissions factors is purchased by Croda from the IEA. The relevant data is uploaded to our reporting system by a Croda administrator.	Scope 2 – grid electricity by country Scope 3 – Electricity
AIB European Residual Mixes	Set of emissions factors is freely available online from the AIB. The relevant data is inputted to our reporting system by a Croda administrator.	Scope 2 market based – grid electricity for European countries
RTE average grid electricity emissions for reporting year.	Average emission factor for France for reporting year is freely available online from RTE. A Croda administrator enters this to the reporting system at a site level for all French sites without an alternative supplier specific conversion factor.	Scope 2 market based – grid electricity for France
Supplier Specific Conversion Factors (where available)	Entered to the reporting system at a site level supported by documented evidence from supplier.	Scope 2 market based – for electricity or purchased heat and applied to related sites only.
Renewable Electricity – Supplier Contracts or Energy Attribution Certificates	Sites report use of Renewable Electricity in dedicated section of our reporting system. Local and central checks confirm this is supported by documented evidence in the form of contractual instruments which Croda has purchased or entered or are provided by suppliers' contracts for supply or Energy Attribution Certificates.	Scope 2 market based – for electricity and applied to related sites only.

The SpheraCloud Corporate Sustainability Reporting system captures and converts data relevant to Scope 3 emissions including water emissions, waste emissions, fuel and energy related activities (not in scope 1 and scope 2). Where other data sources are used for scope 3 these are stated in the calculation methodology for the relevant category; see table in section Scope 3 (upstream) emissions.

Calculation methodology

Scope 1 emissions:

Scope 1 emissions are direct emissions from operations that are owned and controlled by Croda.

Our GHG Scope 1 sources include: natural gas; landfill gas; biogas; light fuel oil; heavy fuel oil; gasoline; diesel; propane/LPG; energy from waste oil; biodiesel, VOCs, refrigerants

Scope 1 emissions are calculated from data entered into the SpheraCloud Corporate Sustainability Reporting system which applies UK Government emission conversion factors for greenhouse gas company reporting.

Scope 2 emissions:

Scope 2 emissions are indirect emissions sources from the generation of purchased or acquired electricity, steam, heat or cooling consumed by Croda. They are a consequence of energy use at our organisational sites but occur at sources owned or controlled by another organisation (an electricity generator or utility).

Our GHG Scope 2 sources: purchased electricity; purchased steam for processes; purchased district heating.

We report both location and market-based Scope 2 emissions and actively encourage purchase of green energy both in selection of provider and purchasing green energy certificates. Scope 2 emissions are calculated from data entered into the SpheraCloud Corporate Sustainability Reporting system using the conversion factors as set out below.

Emissions factors are applied in the following order of preference, only using the next conversion factor in the absence of the former, to generate our market-based Scope 2 emissions:

	Purchased Electricity	Purchased heat / steam
1	Contractual instruments which Croda has purchased or entered or are provided by suppliers based on their fuel usage, in line with GHG Protocol's Scope 2 Market Based method.	
	Where an Energy Attribute Certificate (EAC) or Renewable Energy Certificate (REC) is applied, electricity consumption is reported as being renewable with an emission factor of zero.	
2	Residual Mix Value (available for all European countries)	DEFRA Heat / Steam Supplied (100% district heating)
3	International Energy Agency Value (available for all countries)	

Location-based scope 2 emissions are calculated using the International Energy Agency Value for Electricity and the DEFRA Heat / Steam Supplied (100% district heating) for purchased heat / steam.

Scope 3 (upstream) emissions:

Scope 3 emissions are indirect emissions (not included in scope 2) that occur in the value chain of a reporting organisation and include both upstream and downstream emissions. Currently Croda is only assuring the Scope 3 emissions in our value chain upstream.

Our GHG Scope 3 (upstream) sources: We include emissions from 7 upstream Scope 3 categories – 1) purchased goods and services, 2) capital goods, 3) fuel and energy-related activities (not included in Scope 1 or 2), 4) upstream transportation and distribution, 5) waste generated in operations, 6) business travel, 7) employee commuting.

Croda uses a hybrid approach to calculate its scope 3 (upstream) emissions, using the following methods:

- Process-based method – using actual consumption data on a given activity and the associated carbon conversion factor to calculate the emissions. Emissions factors have been sourced from:
 - Croda’s in-house Life Cycle Analysis (LCA) tool for raw materials, this follows ISO 14010 and ISO 14044.
 - A Life Cycle Analysis database (Ecoinvent)
 - Life Cycle Analysis studies published by our suppliers and reviewed by Croda
 - Published conversion factors sets for reporting on organisational GHGs (DEFRA/IEA)
- Spend-based method – using spend data, emissions are calculated using Extended Environmental Input-Output (EEIO) models to quantify the emissions associated with a sector of the economy in a given geography. Our EEIO Factors are based on Accenture UK EEIO data from underlying EORA global supply chain database.

Where actual consumption is available the process-based method is applied, as this is a more accurate estimation of emissions. Over time, as better consumption-based data is accessible across the value chain, Croda will be able to swap out the EEIO model method with the process-based method to improve the overall accuracy of its upstream scope 3 reporting.

More detailed information of the Scope 3 categories included in our disclosure and the calculation methodology applied for each is provided below. Where acquisition locations are still migrating to central systems then spend data is obtained from them directly to ensure full coverage in our reporting.

Category	Emissions calculation methodology
1. Purchased goods and services	<p><u>Hybrid Calculation Method:</u> Croda in-house Life cycle analysis (LCA) studies completed for key raw materials which for palm oil and palm kernel oil derivatives, now includes the ability to represent the reduction in carbon footprint associated with purchasing palm certified by the Roundtable on Sustainable Palm Oil (RSPO). 35-40% of our emissions within our Purchased Goods and Services category are covered by these supply chain specific studies. We use Ecoinvent database to assign volume-based industry-recognised LCA figures to a further 50% of our purchased goods and services emissions. This is based on purchased volumes of our feedstocks with proxies used where an exact match to our feedstock is not available. We use supplier specific LCA data where available and only once reviewed to verify quality matches rigor of Croda in-house methodology. This covers c.6% of our category 1 emissions. We have used spend data only where we cannot use a better LCA method. Here using spend data from the General Ledger, emissions are</p>

Category	Emissions calculation methodology
	<p>calculated using Extended Environmental Input-Output (EEIO) models which quantify the emissions associated with a sector of the economy in a given geography.</p> <p>This hybrid approach provides us with the tools to carry out a complete assessment as well as identify carbon hotspots across the value chain, ensuring we focus our attention where it matters most.</p>
2. Capital goods	<p><u>Spend-based calculation method:</u></p> <p>Capital expenditure data is taken the General Ledger. Emissions are calculated using Extended Environmental Input-Output (EEIO) models which quantify the emissions associated with a sector of the economy in a given geography.</p>
3. Fuel-and-energy-related activities (not included in Scope 1 or 2)	<p><u>Process-based average data calculation method:</u></p> <p>Energy consumption at each of our manufacturing locations globally is collected and reported in our SpheraCloud Corporate Sustainability Reporting system. Emissions factors are used to estimate the scope 3 emissions associated with this energy use, which includes upstream well-to-tank (WTT) emissions of purchased fuels, electricity and steam. Plus, transmission and distribution (T&D) losses for electricity and steam, and the WTT impact therein. Emission factors are sourced from DEFRA for the majority of our category 3 emissions with International Energy Agency T&D factors used for grid electricity and green electricity.</p>
4. Upstream transportation and distribution	<p><u>Process-based distance-based calculation method:</u></p> <p>Emissions are calculated using actual journey data from the Commercial Dashboard. This dataset captures movements both external, such as delivery of goods to customers, and internal, between Croda locations, but does not capture inbound freight, which is already accounted for where possible within Category 1: Purchased Goods and Services. Two datasets are provided; one for air freight and one for all other freight. Air freight data includes the start and end city and the weight of goods freighted. The distance is calculated using the Haversine Function and the DEFRA 2022 freighting factor for short/long haul flights applied (including RF and WTT). Other freight data includes the start city, mid-point city and end country. The journeys are split into 2 legs: start to mid-point and mid-point to end. Where the start and end point of a journey leg are in the same continent, it is assumed to be road and where the start and end point are in different continents it is assumed to be sea. The exception to this rule is shipments from Singapore, Shiga, and Cikarang which are always assumed to be by sea, unless movements are within country. The distance is calculated using the Haversine Function and the DEFRA 2022 freighting factor for Average Loaded Average HGV/Average Shipping container applied (including WTT).</p>
5. Waste generated in operations	<p><u>Process-based average data reporting method:</u></p> <p>The amount of waste disposed to each of recycling, incineration (without energy recover) and other disposal operations is reported by each of our global sites for the reporting year through our SpheraCloud Corporate Sustainability Reporting system. DEFRA conversion factors for each disposal type are used to estimate emissions based on total waste going to each disposal method.</p>
6. Business travel	<p><u>Hybrid calculation method</u></p> <p>1. Air travel: Air travel data is obtained from travel agencies where available and DEFRA emissions factors are applied to the distance travelled (including WTT). Where this is not available, spend data from the Croda General Ledger Balance sheet is used, and a standard conversion</p>

Category	Emissions calculation methodology
	<p>variable from spend to km (£0.1 per km, based averages) is used to calculate distance. From this the DEFRA emissions factors are applied to the distance provided (including WTT).</p> <p>2. Car travel: where actual data is available (UK mileage claimed on expenses) DEFRA emissions factors are applied to the distance provided (including WTT). Where this is not available, spend data from the Croda General Ledger Balance sheet is used, and the UK EEIO factor for road travel is applied.</p> <p>3. Other travel: spend data is taken from central financial figures and UK EEIO factor for Hotels and Restaurants applied.</p>
7. Employee commuting	<p><u>Process-based average data calculation method</u></p> <p>Emissions are estimated using employee headcount, based on other assumptions for distance travelled (local estimate or general average) and transportation mode (car) – it is assumed that all manufacturing staff commute to site 100% of the working year due to the 24/7 operational nature of Croda’s manufacturing sites and that all staff on non-manufacturing sites commute to site 75% of the working year.</p>

Emissions Intensity

Croda reports an emissions intensity metric on the basis of scope 1 plus scope 2 market-based emissions per £million Value add.

Value add is a profit related measure. Stating our emissions intensity in this way allows Croda to demonstrate our ability to decouple business value growth from environmental impact.

Value add is defined as Croda Group adjusted operating profit before depreciation, amortisation and Group employment costs including Directors, Share based payment costs and non-exceptional redundancies, at reported currency. This value is determined at the end of the reporting year. Employment costs are as defined in note 9 of the Group’s 2023 Annual Report and Accounts excluding exceptional items. Depreciation and amortisation are defined in note 13 of the Group’s 2023 Annual Report and Accounts excluding exceptional items.

b) Avoided Emissions and Carbon Cover Ratio

Data gathering

Croda is continuing to review and drive improvement in our reporting of avoided emissions. The data reported captures only those aspects we have been able to measure so far. The opportunity to expand our data set is regularly assessed. To date a 'Benefits in Use Framework' has been developed in accordance with WRI / WBCSD GHG Protocol for Project Accounting and used to identify, quantify and describe the benefit(s) from use and application of twelve of Croda's products and a biomass waste stream. The data used to quantify the improvement made by using our product, and the consequential real-world benefit generated through avoided GHG emissions or water per unit sold was sourced from Croda's internal technical team, industry standards and relevant published studies at the time of initial calculation. The quality of the data is assessed for each case study for time-related representativeness, geographical representativeness, technological representativeness, precision / accuracy and data replication.

Annual Sales data for each product with a benefit in use case is obtained from the Qlik Sense Commercial dashboard which extracts data from the General Ledger (SAP).

Scope 1, 2 and 3 emissions results are obtained from the results of the analysis described in section a) of this Reporting Criteria.

Calculation methodology

Croda's benefits in use case studies are not comprehensive lifecycle assessments. The boundary only considers avoided emissions during the in-use lifecycle stage of the product based on sales volumes of each product per year. This assessment does not include the upstream production emissions for the product, transport to customer or emissions associated with final disposal. Where Croda's products are intermediary and need to be added to a secondary final product prior to public sale, the avoided emissions claimed are, as far as possible, only those attributable to Croda. In these cases, emissions arising from the production of the final product are also excluded.

Typical sources of avoided emissions include but are not limited to:

- Reducing need for additional material
- Extending life of products
- Increased operating efficiency
- Enabling lower emissions solutions

Croda has prepared benefits in use case studies for a selection of products and a biomass waste stream. The following table sets out the application of these materials and the avoided carbon mechanisms.

Application	Avoided Carbon Mechanism
<p>Laundry performance additive for fabric conditioners. Provides increased substantivity to fabric and fibres, protecting garments from damage, colour loss and greying.</p>	<p><i>Washing:</i> Using Croda's product means that clothes can be washed more times before becoming damaged. This means that fewer new clothes will be required to replace the damaged clothes. Hence the embedded carbon (and water) that goes into manufacturing the new garments will be saved.</p> <p><i>Ironing:</i> Using Croda's product helps protect fibres from damage, meaning it takes less time to remove creases from clothes through ironing. Ironing clothes less frequently and for less time reduces emission associated with the ironing.</p>
<p>Malodours in clothes can be caused by bacteria build up in clothes. Croda's product has been shown to eliminate such bacteria. It is used in a spray formulation diluted with water and sprayed onto clothes to reduce malodour between washing.</p>	<p>Using Croda's product reduce and even eliminate malodour in between washing. Reducing or eliminating the malodour can enable consumers to wash clothes less frequently. Washing clothes less frequently reduces the emissions associated with washing.</p>
<p>A range of Croda products from several of our sites are sold for energy generation. The products can be used directly as biofuel which are used in varying proportions for heat, CHP and biogas.</p>	<p>By using Croda's products, the end customer is able to substitute the use of fossil fuels to generate their energy. These fossil fuels that would have been used by the end customer have high carbon emissions. These emissions can be avoided by using Croda's products instead.</p>
<p>Croda's products are bio-stimulants which have been demonstrated to stimulate nutrient uptake leading to increased crop resilience and more robust plant growth. Our products are used as bio-stimulants for soybean plants which result specifically in a greater number of soybean pods and grains per plant. This gives a substantial benefit in soybean production, resulting in higher yields and efficient land use.</p>	<p>Using Croda's product stimulates selective ion transport channels in membranes, increasing the calcium concentration within cells of soybean. The effect of this is:</p> <ul style="list-style-type: none"> - Reduced flower and soybean pod loss - Increased vigour for more robust plants - More soybean pods per plant and more grains per plant. - Proven and consistent average soybean yield increase for growers. <p>The increase in yield means that the land is used more effectively reducing the area of land that would have to be cultivated to obtain the same yield. This leads to a land saving which also has carbon and water inputs which are saved as a result of the increase in yield.</p>
<p>Croda's adjuvants, formulation aids, biostimulants and seed treatments from our Crop Protection, Plant Impact and Incotec businesses. These products have a range of specific properties which all lead to improving the yield of crops.</p>	<p>Croda's products have a tangible benefit on the yield obtained for each crop. The overall emissions associated with crop production originate from a number of sources including farming machinery, pesticide use and use of additional equipment. An assumption has been made that saving land, means fewer resources need to be put in which saves carbon.</p>
<p>Croda's product allows for extended breast-feeding.</p>	<p>Formula comes with a large environmental burden compared with breastfeeding - this is due to production of the powder and sterilisation of bottles</p>

Application	Avoided Carbon Mechanism
	and feeding equipment. Avoiding the use of formula leads to a reduction in the environmental impact of feeding an infant.
Croda's product is a polymeric chemistry with good water in oil emulsification characteristics and useful co-emulsification behaviour in oil in water emulsions. it contributes to stable Water in Oil emulsion with fine particle size, long shelf life and minimal impact on dry film properties. It is used as Water in Oil emulsifier for Solvent based paints.	Solvent based paints contain high levels of Volatile Organic Compounds (VOCs) which contribute to global warming. Croda's product can be used as an emulsifier in solvent-based paint which can stabilize around 20% of water allowing lower Volatile Organic Compound (VOC) containing components (ie water-based components) to be used in replacement of higher VOC containing (solvent-based) ones, whilst maintaining the performance characteristics of the final paint product.
Croda's product is a non-ionic polymeric surfactant that has been specifically selected to formulate oil in water epoxy emulsions with fine particle size, long shelf life and minimal impact on dry film properties. These speciality surfactants enable the market to formulate high performance water borne paints to replace traditional solvent borne ones.	To mitigate the contribution of VOCs from paints, water-based paints can be used as an alternative to solvent based ones. Croda's product is a surfactant that can be used as an emulsifier in water-based paints allowing lower VOC containing components (ie water-based components) to be used in replacement of higher VOC containing (solvent-based) ones, whilst maintaining the performance characteristics of the final paint product.
Croda's product is an efficient washing-off agent for removal of unfixed and hydrolysed reactive dye in both dyeing and printing applications at lower temperatures. It effectively disperses and prevents re-deposition of washed-off dyes to achieve better fastness property of dyed fabric and garment.	Using Croda's product allows the wash off process to be carried out at a lower temperature, effectively dispersing and preventing re-deposition of washed-off dyes to achieve better fastness property of dyed fabric and/or garment. This allows customers to reduce the temperature of the process, using less energy leading to carbon savings and still get the results they want.
Croda's product is a hair active for shampoos, conditioners and treatments. This is a novel encapsulate providing the targeted delivery of actives to the scalp to effectively reduce sebum, providing a consumer-perceivable improvement in scalp oiliness, for hair that looks and feels cleaner for longer.	Using Croda's product in hair care products helps reduce the sebum production and thus offers the possibility to adapt consumers usual hair wash routines by spacing it. Using Croda's product means that hair can be cleaned less often, offering the possibility to save energy leading to avoided carbon (and water) from wash cycles.
Croda's product is an adjuvant which enhances the bioavailability of the active ingredient (in a fungicide formulation for soy) which in turn can increase yield.	Using Croda's product enhances the bio-efficacy of the active ingredient reducing the amount of active ingredient that has to be included in the formulation for the same effect. Yield uplift comes as a result of the formulation with our product in it controlling the growth of fungi and protecting the soybean crop. The carbon saving can be calculated as a result of the land area saving thanks to yield uplift.

Total avoided emissions:

The total avoided emissions in the reporting period are the sum of the avoided emissions per tonne of product multiplied by the total tonnes of product sold.

Carbon cover ratio:

Carbon cover refers to the ratio between the emissions associated with our business, (Scope 1, 2 and upstream scope 3), and the emissions avoided as a result of the use of our products.

The total avoided emissions are divided by the total carbon emissions (Scope 1, Scope 2 market-based and Scope 3 upstream). This value is expressed as a ratio : 1 for the reporting period. This is our carbon cover ratio.

c) Bio-based Carbon

Data gathering

Sustainable sourcing metrics are calculated using data stored in the Qlik Sense Procurement dashboard which extracts data from the General Ledger (SAP). Each raw material in SAP is assigned a renewability indicator based on:

Renewable; Obtained carbon from regenerative source (plants, animals, marine)

Non-renewable; Obtained carbon from fossil fuels.

Inorganic; Either containing no carbon, or inorganic carbon (such as carbonates).

A material is only designated renewable where it is 100% renewable. Materials of mixed origin are classified as non-renewable.

The designation is based on information provided directly by the suppliers in response to questionnaires and evaluation by our procurement teams.

Where acquisition locations are still migrating to central systems then raw material data is obtained from them directly to ensure full coverage in our reporting.

Calculation methodology

The data gathered from the SAP extracted dashboard and direct from site locations is pulled together to calculate the total volume of raw materials purchased in the reporting year that was categorized as i) renewable and ii) non-renewable.

Inorganic materials are not a component of the bio-based calculations.

Croda calculates the percentage of biobased raw materials in accordance with ASTM D6866, EN16640:2017 and EB16785-1.

Biobased % = Total organic carbon derived from biomass / Total organic carbon derived from biomass and petrochemical x 100

d) Gender Diversity

Data gathering

All locations globally report into MyCroda, our global human resources information system (HRIS). This is managed locally to ensure that records are generated and maintained for each Croda employee with central review to ensure that data sets are complete. Data pertaining to an employee's sex / gender is managed locally. Official documentation (passport / birth certificate / ID documents) is requested upon employment and inputted into our HRIS through HR. If changes need to be made, such as to update an employee's gender identity, the employee must discuss and raise with HR who will request the change in the system.

Calculation methodology

Data extracted from the MyCroda HRIS is filtered and presented in HR Dashboard to obtain values for:

1. % leadership roles held by women
2. % women in the workforce (employees)
3. % women on the Board

For each we reflect the relevant population of employees identified as women as a percentage of the relevant total population of employees.

A leadership role in Croda is defined as Grade, F, Grade G, Executive and Board level. The definition of roles follows our Grading and Level Policy and Process for Grades F and G. Croda reports the gender balance across members of the workforce employed by Croda and excludes contractors.

Annually reported data is based on values for 31 December of the reporting year.

Definitions

Table of Definitions	
£ value add	Croda Group adjusted operating profit before depreciation, amortisation and Group employment costs including Directors, Share based payment costs and non-exceptional redundancies at reported currency. This value is determined at the end of the reporting year. Employment costs are as defined in note 9 of the Group's 2023 Annual Report and Accounts excluding exceptional items. Depreciation and amortisation are defined in note 13 of the Group's 2023 Annual Report and Accounts excluding exceptional items.
Carbon dioxide equivalents, CO₂e	The universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing different greenhouse gases against a common basis.
Croda operations	All operations wholly owned by Croda for the full reporting year, plus those operations where we have significant management influence due to a majority shareholding.
Emission factor	A factor that converts activity data into greenhouse gas emissions data (e.g. kg CO ₂ e emitted per litre of fuel consumed, kg CO ₂ e emitted per kilometre travelled).
Energy Attribute Certificate (EACs)	A category of contractual instruments used in the energy sector to convey information about energy generation to other entities involved in the sale, distribution, consumption, or regulation of electricity. This category includes instruments that may go by several different names, including certificates, tags, credits, etc.
GHG Emissions Intensity	The sum of absolute scope 1 emissions and absolute scope 2 emissions (market based) per £m value add from our operations.
Greenhouse gas 'GHG' emissions	Gases in the earth's atmosphere that trap heat. Types of GHGs included in Croda's reporting, as applicable: CO ₂ e, CO ₂ , N ₂ O, CH ₄ , HFCs, PFCs and SF ₆
Leadership role	Grade F, Grade G, Executive and Board level roles in Croda
Location based	A method to quantify scope 2 GHG emissions based on average energy generation emission factors for defined locations, including local, subnational, or national boundaries.
Market based	A method to quantify scope 2 GHG emissions based on GHG emissions emitted by the generators from which the reporter contractually purchases electricity bundled with instruments, or unbundled instruments on their own

Table of Definitions	
Outside of GHG scopes:	GHG Outside of scope sources: Biogenic portion of vehicles fuels, Biofuels
Renewable energy certificates (RECs)	A type of energy attribute certificate, used in the U.S. and Australia. In the U.S., a REC is defined as representing the property rights to the generation, environmental, social, and other non-power attributes of renewable electricity generation.
Reporting Year	01 January to 31 December inclusive
Scope 1	<p>Emissions from operations that are owned and controlled by the Croda. These emissions are considered a direct emissions source.</p> <p>GHG Scope 1 sources: Natural gas; landfill gas; biogas; light fuel oil; heavy fuel oil; gasoline; diesel; propane/LPG; energy from waste oil; biodiesel, VOCs, refrigerants.</p>
Scope 2	<p>Emissions from the generation of purchased or acquired electricity, steam, heat or cooling consumed by Croda. These emissions are considered an indirect emissions source, because they are a consequence of activities of our organisation but occur at sources owned or controlled by another organisation (an electricity generator or utility).</p> <p>GHG Scope 2 sources: Electricity; steam; renewables; district heating</p>
Scope 3 (upstream)	<p>Indirect upstream emissions (not included in scope 2) that occur in the value chain of Croda.</p> <p>GHG Scope 3 (upstream) sources: Purchased goods and services, capital goods, fuel and energy-related activities, upstream transportation and distribution, waste, business travel, employee commuting.</p>