

INDEPENDENT VERIFICATION OPINION OF GREENHOUSE GAS EMISSIONS DATA

Avieco Ltd have prepared this verification opinion for Croda International PLC (hereby Croda), through which it is confirmed that Croda's reported scope 1, 2 and 3 greenhouse gas (GHG) emissions and intensity metric for reporting year 2020 have received **reasonable verification** in accordance with the requirements of the ISO 14064 – part 3: 2019 standard.

Reasonable verification is distinguished from limited verification as it provides a high degree of confidence that the information disclosed is accurate and complete compared to the limited level. This is because the verification procedures for reasonable verification employ a lower risk threshold and a higher level of data testing and review compared to limited verification, to reduce the risk of material misstatements to an acceptably low level.

The verification covers Croda's stated historic emissions and intensity metric reported for one reporting year – the 12 months starting 1st January 2020 and ending 31st December 2020 (FY20), as shall appear in Croda's Annual Report and Accounts and wider environmental reporting. In addition, the verification also covers the year-on-year performance change compared to reporting periods 2019 and 2018 and the emissions restatements of 2019 and 2018 reporting years due to integration of new business acquisitions in the GHG inventory.

RESPONSIBILITIES OF CRODA AND AVIECO

Croda was responsible for the preparation of the GHG emission statements and the internal management controls governing the data collection, collation and GHG calculations performed.

Avieco was responsible for carrying out a verification assessment in accordance with the ISO 14064-3: 2019 'Greenhouse gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements' and providing an independently expressed opinion to a **reasonable level** on the reported GHG emissions totals for each of the data sources included in the scope of this verification exercise.

VERIFICATION SCOPE AND SUBJECT MATTER

The boundary of the verification process included 21 manufacturing sites, 37 non-manufacturing sites, 10 Incotec sites and 20 Iberchem sites over which Croda International Plc have operational control, across 38 countries.

GHG sources included in the reasonable verification process:

- **Scope 1:** Natural gas; landfill gas; biogas; light fuel oil; heavy fuel oil; gasoline; diesel; propane/LPG; energy from waste oil; biodiesel, VOCs
- **Scope 2:** Electricity; steam; renewables; district heating
- **Scope 3:** Raw materials; water supply and treatment; legal services; capital goods; well to tank fuels; well to tank electricity; electricity transmission and distribution (T&D), waste; air travel; car travel; other travel; employee commuting, upstream transportation and distribution
- **Outside of scopes:** Biogenic portion of vehicles fuels; biofuels
- **Types of GHGs** included, as applicable: CO₂e, CO₂, N₂O, CH₄, HFCs, PFCs and SF₆

Croda's GHG statements verified by Avieco cover 100% of emissions by scope (in tCO₂e) as follows:

Year	Scope 1	Scope 2 (location-based)	Scope 2 (market-based)	Scope 3	Outside of scopes	Scope 1 + 2 (LB) tCO ₂ e/£mil turnover
2018	154,681	72,134	54,311	1,098,696	20,980	150.1
2019	141,910	68,585	39,164	1,017,135	15,397	134.6
2020	149,621	73,994	27,843	984,871	20,700	146.5

The 2018 and 2019 GHG emissions statements in the table above have been restated by Croda to incorporate the historic emissions from the new business acquisitions. This has resulted in an increase of 12% for 2018 and 2019 respectively compared to initial statements for scope 1, 2 and 3 emissions (location-based).

TEMPORARY BIOGENIC CARBON SEQUESTRATION

In addition to the above stated scope 1, 2 and 3 emissions, Avieco has also verified the temporary biogenic carbon sequestration associated with one specific¹ bio-based raw material Croda purchased in year ending 31st December 2020, as 226,943 tCO₂e. However, we note this figure does not take into account the associated downstream emissions and therefore does not include any end-of-life emissions associated with its use.

REPORTING METHODOLOGIES AND VERIFICATION CRITERIA

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 Scope 2 Guidance for market-based reporting and with Defra's 'Environmental reporting guidelines: Including Streamlined Energy and Carbon Reporting requirements'. The verification criteria assessed the adherence of Croda's GHG statements and procedures to the best practice reporting principles of relevance, completeness, consistency, transparency and accuracy.

Avieco conducted the reasonable verification engagement in three separate phases: in September/October 2020 through an initial phase of engagement with material and non-material sites to carry out verification of Q1 - Q2 data, in November/December through further engagement with the audited sites to carry out verification of Q3 cumulative data and throughout January/February 2021 to conduct verification of the final Q4 cumulative site data and central spreadsheets and scope 3 emissions. We used the appropriate verification planning, validation, GHG assessment and evaluation steps in accordance with the requirements of ISO 14064:3 2019, and in adherence to the standard's principles of independence, ethical conduct, fair presentation and due professional care.

OBJECTIVES

The objectives of the verification engagement were to ensure Croda's GHG statements are materially correct to an acceptable materiality threshold of 2% at the GHG source level and organisational level (appropriate for reasonable level of verification); and to ensure the GHG inventory provides the relevant material information required by stakeholders for the purpose of decision making.

¹ The specific raw material the biological sequestration is related to is commercially sensitive, so to avoid back calculation of the results the name has been redacted. Croda is prepared to discuss further details related to this raw material on specific request from stakeholders.

AVIECO'S VERIFICATION PROCESS

Our verification conclusions are based on the following activities:

- Agreement on the levels of verification, objectives, criteria, organisational scope and materiality thresholds
- Review of the processes and procedures for establishing the organisational and operational boundary, ensuring relevance in emissions reporting across scope 1, 2 and 3 emissions sources
- Development of the verification project plan and data sampling plan (based on risk and materiality appropriate for reasonable verification in relation to GHG emissions)
- To reflect the reasonable level of verification, Avieco's sample included >80% of Croda's total scope 1, 2 and 3 emissions
- Assessment of the GHG data collection system and controls through online interviews
- Assessment of the data collection process from raw data comparison with primary evidence, through to local and collation in the environmental system and GHG aggregation worksheets. This step included assessment of estimations and extrapolation systems in place and their underlying assumptions
- Review of online data collection systems and third-party supply chain impact tools
- Review of the appropriateness and application of the methodologies and calculations used for conversion of activity data to CO₂e emissions
- Review of the change in scope 1, 2 and 3 emissions and intensity metrics between 2019 and 2020 years and against the 2018 baseline
- Evaluation of the internal quality assurance procedures and results
- Our evidence gathering procedures included but were not limited to:
 - In depth online interviews with representatives of 10 sites to confirm completeness of GHG inventory, changes to previous years, operational behaviour and standard procedures for data collection and reporting to Group SHE.
 - In depth online interviews and virtual visits were carried out to 3 other manufacturing sites
 - Desktop study of data of 19 manufacturing and non-manufacturing sites and central data for scope 3 reporting against the primary evidence to confirm accuracy of source data into calculations.

VERIFICATION OPINION

Based on the verification procedures for **reasonable verification**, Avieco declares that Croda's scope 1, 2 and 3 emissions, intensity metrics and year-on-year performance changes to 2018 baseline are:

- Prepared in accordance with Croda 's relevant internal GHG emissions reporting methodologies, which adhere to the internationally recognized WRI/WBCSD Greenhouse Gas (GHG) Protocol Corporate Accounting and Reporting Standard (revised version) (scope 1, 2 and 3) and to Defra's "Environmental reporting guidelines: Including Streamlined Energy and Carbon Reporting requirements"
- Materially correct and a fair representation of their GHG emissions within the established scope of reporting
- Prepared in adherence to the best practice reporting principles of relevance, completeness, consistency, transparency and accuracy
- Worthy of the award of reasonable verification

AVIECO'S INDEPENDENCE AND TEAM COMPETENCIES

We can confirm our independence, ethics and competence as follows:

- We are independently appointed by Croda and no member of the verification team has a business reason for bias with regard to the reasonable verification engagement
- We have complied with the ethical requirements relevant for the performance of the ISO14064:3 engagement in respect of professional experience in environmental reporting and assurance. We have acted with the integrity, objectivity, professional competence, due care and confidentiality to be expected of a professional services provider and the rigor of our work is sufficient to the level required by the ISO 14064:3 standard
- Our team have extensive experience in GHG reporting to WRI/WBCSD GHG Corporate Accounting and Reporting Standard (revised) standard and ISO 14064 – part 3: 2019.

Avieco applies quality control and management approaches equivalent to ISO 9001 International Standard and as encompassed in the Avieco Quality and Ethics Policies. Our commitment to ethical conduct is appropriate for that required for environmental and sustainability professionals in respect of conducting the verification engagement.

RECOMMENDATIONS FOR IMPROVEMENT

In future Croda should:

1. Improve the methodology employed for calculating emissions from raw materials to improve precision of emissions reported from this material category. Consider a) increasing the use primary data and b) applying more relevant conversion factors to the remaining spend data.
2. Streamline the data collection and calculation of emissions using centralised systems to minimise the risk of data calculation and transcription errors from manual manipulation.

Avieco declares that Croda International Plc have received reasonable verification for reporting year ending 31st December 2020; and also, in previous years have received reasonable verification for reporting year 2019 and limited verification for reporting year 2018 for the following:

- Scope 1, 2 and 3 GHG emissions and intensity metric (tCO₂e/£m turnover)
- Scope 1, 2 and 3 year-on-year performance change relative to baseline
- Temporary biogenic carbon sequestration from raw material (2020 purchase)

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Issued: 24th February 2021

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