

INDEPENDENT VERIFICATION OPINION OF 2021 GHG EMISSIONS DATA – INCLUDING RESTATEMENT OF 2020 & 2019 DATA

Avieco Ltd has prepared this verification opinion for Elementis plc (Elementis), through which it is confirmed that Elementis' global reported scope 1 and 2 greenhouse gas (GHG) emissions and associated environmental indicators for the years 2021, 2020 and 2019 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 Elementis' 2021 environmental data. It also covers restatements associated with previously published 2019 and 2020 environmental data:

- The 12 months starting 1st January 2021 and ending 31st December 2021 (FY21)
- The 12 months starting 1st January 2020 and ending 31st December 2020 (FY20)
- The 12 months starting 1st January 2019 and ending 31st December 2019 (FY19)

RESPONSIBILITIES OF ELEMENTIS AND AVIECO

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

Avieco was responsible for carrying out a reasonable verification assessment in accordance with 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, environmental totals and intensity metrics, for each of the data sources included in the scope of this verification exercise.

VERIFICATION SCOPE AND SUBJECT MATTER

The operational control boundary (as defined by Elementis') of the verification process included 22 manufacturing sites plus all non-manufacturing sites globally.

GHG and other environmental data sources included in the reasonable verification process:

- **Scope 1 greenhouse gas emissions:** Operational fuel (stationary combustion: natural gas, fuel oils, coal, biomass, and other material combusted on site, and mobile combustion: vehicle fuels), process emissions and fugitive emissions
- **Scope 2 greenhouse gas emissions:** (location & market): Electricity, heat, steam, and cooling
- **Energy consumption:** Sum of scope 1 and 2 energy sources - 2021 only
- **Water withdrawn:** 2021 and 2020 only
- **Waste generated:** 2021 and 2020 only
- **Outside of scope emissions:** 2021 biogenic emissions of biomass combustion and corn sugar oxidation only (excluding all other stationary or mobile fuel use)

Types of GHGs included, as applicable: CO₂, N₂O, CH₄, HFCs, PFCs, SF₆ and NF₃: CO₂e

REPORTING METHODOLOGIES AND VERIFICATION CRITERIA

Elementis' 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 and WRI/WBCSD GHG Protocol Scope 2 Guidance (for market-based reporting). The verification criteria assessed the adherence of Elementis' GHG statements and procedures to the best practice reporting principles of relevance, completeness, consistency, transparency and accuracy.

Avieco conducted the verification engagement throughout January and February 2022. 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 firstly, to ensure Elementis' GHG statements and associated intensity metrics are materially correct to an acceptable materiality threshold of 2% (appropriate for reasonable verification) at the GHG source level and organisational level, and to ensure the GHG inventory provides the relevant material information required by stakeholders for the purpose of decision making.

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 across scope 1 and 2 emissions sources, environmental metrics and associated intensity metrics
- Development of the verification project plan and data sampling plan (based on risk and materiality appropriate for reasonable verification in relation to GHG 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 global collation in GHG aggregation worksheets. This step included assessment of estimations and extrapolation systems in place and their underlying assumptions used
- Review of the appropriateness and application of the methodologies and calculations used for conversion of activity data to CO₂e emissions
- Evaluation of the internal quality assurance procedures and results
- Our evidence gathering procedures included, but were not limited to:
 - In depth online/telephone interviews with the global representatives to confirm operational behaviour and standard operating procedures
 - Desktop study of data and evidence to confirm accuracy of source data into calculations.
 - In depth online/telephone interviews with representatives covering three manufacturing sites to confirm operational behaviour and standard operating procedures
 - Virtual site tours of three selected manufacturing sites
 - Desktop study of data and evidence of all six sites sampled to confirm accuracy of source data into calculations

VERIFICATION OPINION

Based on the verification procedures for **reasonable verification**, Avieco declares that Elementis' scope 1 and 2 emissions, environmental metrics (waste generated and water withdrawn), energy consumption and intensity metrics across 2021, 2020 and 2019 reporting periods are:

- Prepared in accordance with:
 - World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol, Corporate Accounting and Reporting Standard, Revised Edition (for Scope 1 and 2)
 - WRI/WBCSD GHG Protocol Scope 2 Guidance (for market-based reporting)

- WRI/WBCSD Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard
- Materially correct to the emissions sources provided and a fair representation of Elementis' GHG emissions, environmental metrics and intensity metrics within the established scope of reporting
- Prepared in adherence to the best practice reporting principles of relevance, completeness, consistency, transparency and accuracy

Elementis' GHG statements and associated intensity metrics verified by Avieco cover 100% of emissions by scope (in tCO₂e) as follows:

Emissions Type	Footprint verification year		
	2019	2020	2021
Scope 1 (tCO ₂ e)	205,314	193,826	211,619
Scope 2: location-based (tCO ₂ e)	108,474	102,232	93,768
Scope 2: market-based (tCO ₂ e)	143,974	136,063	66,743
Energy Consumption (GJ)	4,918,727*	4,501,375*	4,844,343
Water withdrawn (m ³)	3,767,854*	3,707,947	3,076,738
Waste generated (metric tonnes)	29,850*	34,190	43,274
Intensity by production mass (LB) (location-based tCO ₂ e/tonne production)	0.377	0.399	0.417
Intensity by production mass (MB) (market-based tCO ₂ e/tonne production)	0.420	0.444	0.334
Outside of scopes (tCO ₂ e)	6,325*	5,753*	5,189

* Data underpinning the metrics for this emission type were not included within the scope of this verification; but have been displayed for the purposes of comparison for the reader.

RECOMMENDATIONS FOR IMPROVEMENT

In future Elementis should:

1. Review and update its internal 'Corporate Procedure for Sustainability Metric Reporting' protocol to ensure that it is fit for purpose, kept up to date year on year, and consistently applied to all sites and Elementis' central data systems
2. Elementis should ensure full categorisation and quantification of emissions associated with VOCs (anticipated to be immaterial) across their sites and report associated Kyoto protocol gases in their scope 1 inventory as appropriate
3. Elementis should look to further quantify their out of scope emissions from scope 1 fuels across their portfolio, notably the biofuel component of vehicle fuels

AVIECO'S INDEPENDENCE AND TEAM COMPETENCIES

We can confirm our independence and objectivity as follows:

- We are independently appointed by Elementis - no member of the verification team has a business reason for bias in regard to Elementis
- 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 is experienced in GHG reporting to WRI GHG protocol and ISO 14064:1 standards; and have extensive experience of verification using ISO 14064-3: 2019



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