

Independent Assurance Statement to The Celanese Corporation

ERM Certification and Verification Services, Inc. ('ERM CVS') was engaged by The Celanese Corporation ('Celanese') to provide assurance in relation to the indicators set out below and presented in its 2021-2022 Sustainability Report (the 'Report') for the year ending December 31st, 2021

Engagement summary	
Scope of our assurance engagement	<p>Whether the 2021 data and information for the following selected indicators are fairly presented in the Report, in all material respects, with the reporting criteria:</p> <p>Greenhouse Gas Emissions</p> <ul style="list-style-type: none"> Total scope 1 GHG emissions [metric tons CO₂e] Total scope 2 GHG emissions (market-based approach) [metric tons CO₂e] Total scope 1 and 2 GHG emissions intensity based per unit of production [metric tons CO₂e / metric tons of production] <p>Energy</p> <ul style="list-style-type: none"> Net energy consumed [MMBTU] Net energy intensity [MBTU/lbs.] <p>Water</p> <ul style="list-style-type: none"> Total water consumed [thousand cubic meters] Water consumption intensity [cubic meters / metric tons of production] <p>Waste</p> <ul style="list-style-type: none"> Total waste generated as total hazardous and non-hazardous [metric tons] Total hazardous waste generated [metric tons] Total waste disposal intensity based per unit of production [metric tons / metric tons of production] % Hazardous waste recycled (excluding waste managed through energy) <p>Production</p> <ul style="list-style-type: none"> Total production [metric tons]
Reporting period	1 st January 2021 – 31 st December 2021
Reporting criteria	WRI & WBCSD Greenhouse Gas Protocol standard, SASB Chemicals Sustainability Accounting Standard and Celanese internal reporting guidelines
Assurance standard	International Standard on Assurance Engagements ISAE 3000 (Revised)
Assurance level	Limited assurance
Respective responsibilities	<p>Celanese is responsible for preparing the Report and for the collection and presentation of the information within it.</p> <p>ERM CVS' responsibility is to provide a conclusion on the agreed scope based on the assurance activities performed and exercising our professional judgement.</p>

Our conclusion

Based on our activities, as described below, nothing has come to our attention to indicate that the 2021 data and related explanatory notes for the environmental indicators under "Scope of our assurance engagement" above are not fairly presented in the Report, in all material respects, with the reporting criteria.

Our assurance activities

A multi-disciplinary team of sustainability and assurance specialists performed a range of assurance procedures which varied across the disclosures covered by our assurance engagement, as follows:

- Virtual interviews with relevant corporate and site-level energy, GHG, EHS, Utilities Technology leads, environmental specialists and other subject matter experts to understand the energy model calculations that detail steam basis allocations, co-generation specifics; water intake, water discharge calculations and water make from stoichiometry for certain production processes; waste generation sources, definitions; production and evaluate the relevant data collection and reporting processes, as well as internal review procedures used for the selected disclosures;
- Walkthrough of the data management systems with relevant personnel for each of the metrics in scope;

- A review at corporate level for energy, net energy, emissions, water, waste and production data on the reporting system, including validation of emissions factors and conversion factors used;
- An analytical review of the 2021 data for the metrics in scope for all sites and an assessment of the completeness and accuracy of the data consolidation at the Celanese corporate level;
- In-person site visits to 3 locations, Clear Lake (Texas, USA), Jurong (Singapore) and Frankfurt (Germany), to conduct a site tour of operations and interviews with site-level data owners and for a review of data consolidation, calculation processes and QA/QC procedures for all the metrics in scope;
- Virtual site visits with 2 locations (Bishop, USA and Cangrejera, Mexico) with the objective of understanding of operational processes to evaluate the consistency of reported annual data through interviews with site-specific contacts and a detailed review of evidence for the activity data underlying the calculations for energy, GHG, waste and production metrics;
- Desk-based review of source data, supporting documentation and test the consistency of reported annual data with the underlying sources for each of the metrics in scope, as well as assessment of renewable energy credit documentation for a sample of facilities;
- Desk-based review of net energy and waste estimation methodology and calculations, including supporting documentation for a sample of facilities; and
- Reviewing the presentation of information relevant to the scope of our work in the Report to assess consistency with our findings.

The limitations of our engagement

The reliability of the assured information is subject to inherent uncertainties, given the available methods for determining, calculating or estimating the underlying information. It is important to understand our assurance conclusions in this context. We do not, in giving this opinion, accept or assume responsibility for any third party using or placing reliance on our opinion in order to make a decisions related to Celanese.

Observations

We provide Celanese with a separate management report with our detailed (non-material) findings and recommendations. Without affecting the conclusions presented above, we have the following key observation:

- Celanese sites could benefit from developing detailed written documentation that describes the methodology used for estimation of non-hazardous waste, particularly noting assumptions and standard references used to enhance the clarity of the audit trail of this metric.

Our independence

ERM CVS is a member of the ERM Group. The work that ERM CVS conducts for clients is solely related to independent assurance activities. Our processes are designed and implemented to ensure that the work we undertake with clients is free from bias and conflict of interest. ERM CVS staff that have undertaken this engagement work have provided no consultancy related services to Celanese in any respect.



Gareth Manning
Partner, Corporate Assurance

12 October 2022

ERM Certification and Verification Services, Inc.
www.ermcvs.com | post@ermcvs.com

ERM CVS
Informed Assured