



# Independent Limited Assurance Statement

## to the Directors of Emirates Global Aluminium

DNV AS - Abu Dhabi (“DNV”, “us” or “we”) were engaged by Emirates Global Aluminium (“EGA”) to provide limited assurance on the robustness of their Carbon Footprint calculations conducted for Al Taweelah (AT), and Jebel Ali (JA) Aluminium plants, in accordance with requirements of the International Life Cycle Assessment and Product Carbon Footprint Standards ISO 14067:2018. This statement provides opinion on “**CelestiAL Aluminium Ingot**” produced in Al Taweelah (AT) and Jebel Ali (JA) plants, representing a weighted average of annual production.



**Our Conclusion:** Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the PCF calculation for Selected Information within EGA’s aluminium products is not fairly stated and has not been prepared, in all material respects, in accordance with the requirements of ISO 14067:2018.

This conclusion relates only to the Selected Information, and it is to be read in the context of this Independent Limited Assurance Report, in particular the inherent limitations explained overleaf.

DNV AS - Abu Dhabi (DNV) has carried out independent verification of Emirates Global Aluminium (“EGA”) Product Carbon Footprint Calculations following a functional unit of 1000 kg of Aluminium Ingot and bases on the inventory compiled for the 2022 Reporting Year. The verification was carried out on all upstream and internal process emissions (Cradle to Gate) for the primary aluminium ingot products identified in EGA Life Cycle Assessment for Primary Aluminium Ingot products LCA report. DNV’s verification was performed in accordance with the following criteria:

- ISO 14067-1:2018 - Greenhouse gases — Carbon footprint of products - Requirements and guidelines for quantification
- ISO 14044-1:2006 - Environmental management - Life cycle assessment - Requirements and guidelines

The verification was conducted using:

International Standard ISO 14064-3:2019, Greenhouse Gases Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

DNV has conducted a full verification of EGA Carbon Footprint calculations (functional unit) to a limited level of assurance with +/-5% materiality. Based on DNV’s verification activities and findings, EGA’s report of its Carbon Footprint of a Product (CFP) is inline with the Standards/Regulations listed above.

**Scope of work:** CelestiAL Aluminium Ingot, produced in Al Taweelah (AT) and Jebel Ali (JA) plants, representing a weighted average. This specific product represents a certain part of the standard product, which is produced exclusively with solar energy in all EGA processes and the most efficient electrolysis technology/ potline (DX+ for ATS and D18+ for JAS) available.

**System boundaries:** Cradle-to-gate, encompassing bauxite mining, alumina refining, electrolysis (including the production of prebaked anodes) and the ingot casting process.

**Carbon Footprint of product:**

Impact category	Unit	Characterization factor	Abbreviation	CelestiAL Aluminium Ingot (Average)
Climate Change	[kg CO2 eq./ kg of product]	Global Warming Potential	GWP 100	4.273

The verification team reviewed emissions and production data provided including supporting evidence where available, including some review of systems and processes for collection and compilation of data, as well as calculation methodology and emissions calculation spreadsheets presented in the LCA Report. We have not performed any work, and do not express any conclusion, on any other information that may be published or available on EGA’s website.

**DNV AS - Abu Dhabi**

Abu Dhabi, UAE  
29<sup>th</sup> November 2023



DNV

Lead Verifier

LCA Expert

Independent Technical Reviewer

**Standard and level of assurance**

We performed a **limited** assurance engagement with +/- 5% materiality in accordance with the requirements of the International Life Cycle Assessment Standards ISO 14040:2006, ISO 14044:2006 and Product Carbon Footprint Standard ISO 14067:2018. These standards require that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance.

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2015 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; and the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We planned and performed our work to obtain the evidence we considered sufficient to provide a basis for our opinion, so that the risk of this conclusion being in error is reduced but not reduced to very low.

**Basis of our conclusion**

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information; our work included, but was not restricted to:

- Reviewing that the methods used to carry out the LCA studies were consistent with ISO 14040/44 and ISO 14067 requirements;
- Reviewing that the methods used to carry out the LCA studies were scientifically and technically valid;
- Ascertaining that the database(s) used were appropriate and reasonable in relation to the overall goal of the studies;
- Confirming that the limitations of the model and the methodology were identified and assessed;
- Assessing that the LCA methodology documentation was transparent and consistent.
- Reviewing the methodological structure in terms of general LCA methods and relation with the specific animal production systems-related methodological documents;
- Reviewing the LCA system, including the review of a case-study with application of the methodology to model the effects of feed additives on the environmental footprint of animal production;
- Reviewing the data management processes;
- Reviewing a fully implemented client project, from background processes for data gathering and modelling to final outcomes; and
- Performing limited substantive testing on a selective basis of the Selected Information to check that methodology was appropriately robust.

**Our observations and areas for improvement will be raised in a separate report to EGA’s Management. Selected observations are provided below. These observations do not affect our conclusion set out above.**

*DNV AS - Abu Dhabi is part of DNV – Business Assurance, a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance.*

**Inherent limitations**

All assurance engagements are subject to inherent limitations as selective testing (sampling) may not detect errors, fraud or other irregularities. Non-financial data may be subject to greater inherent uncertainty than financial data, given the nature and methods used for calculating, estimating and determining such data. The selection of different, but acceptable, measurement techniques may result in different quantifications between different entities. Our assurance relies on the premise that the data and information provided to us by EGA have been provided in good faith. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Independent Limited Assurance Report.

**Responsibilities of the Directors of EGA and DNV**

The Directors of EGA have sole responsibility for:

- Preparing and presenting the Selected information in accordance with the ISO 14040/44 and ISO 14067 requirements;
- Designing, implementing and maintaining effective internal controls over the information and data, resulting in the preparation of the Selected Information that is free from material misstatements;

Our responsibility is to plan and perform our work to obtain limited assurance on whether the methodology that sits behind the Selected Information in LCA report has been prepared in accordance with the ISO 14040:2006, ISO 14044:2006 and ISO 14067:2018 requirements and to report to EGA in the form of an independent limited assurance conclusion, based on the work performed and the evidence obtained. We have not been responsible for preparing any information that may be found within LCA report.

**Our competence, independence and quality control**

DNV established policies and procedures are designed to ensure that DNV, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV) and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. DNV holds other audit and assurance contracts with EGA, none of which conflict with the scope of this work. Our multi-disciplinary team consisted of professionals with a combination of environmental, LCA and sustainability assurance experience.