Critical Review Statement

of "Life Cycle Assessment of EGA's Primary Aluminium Ingot Production", commissioned by Emirates Global Aluminium PJSC

DNV AS - Abu Dhabi ("DNV", "us" or "we") were engaged by Emirates Global Aluminium ("EGA") to provide limited assurance on the robustness of their methodology within Life Cycle Analysis (LCA) study conducted for Al Taweelah (AT), and Jebel Ali (JA) Aluminium plants, in accordance with requirements of the International Life Cycle Assessment Standards ISO 14040:2006 and ISO 14044:2006.

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 LCA methodology for Selected Information within EGA's LCA study is not fairly stated and has not been prepared, in all material respects, in accordance with the requirements of ISO 14040:2006 and ISO 14044:2006.

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

Key observations are provided below. These observations do not affect our conclusion set out above.

- We recommend that EGA maintain their strong supplier engagement to secure primary data for unit processes in future environmental assessment projects. Implementing a centralized data input platform for suppliers would allow EGA to efficiently compile, track, and oversee inventory analysis for LCA model inputs, ultimately improving data quality and enhancing the reliability of assessments.
- While multiple scenarios have been considered for both sites, it is important to further improve data traceability within the assurance process. To facilitate this, we recommend constructing an additional table—complementing Table 3 of the report—that explicitly outlines the data used for each stage of the LCA and identify gaps (I.e., those compensated by IAI 2019).

Our competence, and Independence

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

Scope of Work: Cradle to Gate (mining to casting) for aluminium products, covers the two production sites, which are located in the United Arab Emirates:

- **Standard Aluminium Ingot**, three routes:
  - Total EGA Smelters (weighted average of ATS and JAS),
  - ATS (site specific)
  - JAS (site specific)
- **CelestiAL Aluminium Ingot, three routes:**
  - Total EGA Smelters (weighted average of ATS and JAS),
  - ATS (site specific)
  - JAS (site specific)
- **CelestiAL-R Aluminium Ingot,** three routes:
  - Total EGA Smelters (weighted average of ATS and JAS),
  - ATS (site specific)
  - JAS (site specific)

System boundaries: Detailed cradle-to-gate LCA. It covers all stages of primary aluminium production (including alloys and scraps addition in casting process)

Impact Indicators: The scope and boundary of our work is restricted to a review of the methodology within EGA's LCA system and LCA report (containing primary data for the calendar year 2023) for the Key Performance Indicators (the "Selected Information"), listed below:

- ADP (Abiotic Depletion Potential – fossil)
- EP (Eutrophication potential)
- POCP (Photochemical ozone creation potential)
- ODP (Ozone layer depletion potential)
- AP (Acidification potential)
- GWP100 (Global warming potential)

The methodology has been based on the LCA software GaBi (Sphera, 2024; Ecoinvent, 2021) with reference to ISO14044 principles, Aluminum sector GHG protocol and the IAI carbon footprint guidance 2019. This includes primary data from EGA sites and secondary data from upstream suppliers (with some limitations). To assess the robustness of the methodology within LCA report for the Selected Information, we reviewed EGA's LCA report system against the requirements of ISO 14040:2006 and ISO 14044:2006. 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.

Limitations: The system boundary ends after ingot casting unit process delivering primary aluminium ingot. Further shaping, dimensioning activities are out of scope of this project.

Standard and level of assurance:

We performed a **limited** assurance engagement in accordance with the requirements of the International Life Cycle Assessment Standards ISO 14040:2006 and ISO 14044:2006. 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 14044 and ISO 14040 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.
- Performing limited substantive testing on a selective basis of the Selected Information to check that methodology was appropriately robust.

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 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 and ISO 14044 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 and ISO 14044:2006 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.

DNV AS – Abu Dhabi Branch		
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