

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

## Statement for **Jebel Ali Smelter**

Emirates Global Aluminium PJSC, PO BOX 109111, Abu Dhabi, UAE

has prepared its GHG data in accordance with the requirements of

### Verification Criteria

- GHG Protocol: A Corporate Accounting and Reporting Standard, 2015,
- The Aluminium Sector Greenhouse Gas Protocol, October 2006 and
- IAI Scope 3 Calculation Tool Guidance 2022,

and calculated GHG emission intensity from the GHG emission and production data.

DNV has carried out independent verification of EGA's GHG inventory in accordance with the verification principles and requirements outlined in ISO 14064-3:2019 and provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

### Verification Objective

The objective of this verification is to assess compliance with the above-mentioned verification criteria of EGA's GHG Inventory and derived emission intensity contained in the Excel calculation sheets "GHG\_Calculation Tool\_2022\_JA\_V03" and "IAI-Scope-3-Calculation-Tool\_JA\_2022\_v1" for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

### Conclusion

Based on the verification process, procedures, and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and are not a fair representation of the Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per the verification criteria mentioned above.

GHG Sources	Verified GHG Emissions for the Year 2022 (tCO <sub>2</sub> e)	Verified GHG Emission Intensity for the year 2022 (tCO <sub>2</sub> e/t Al) <sup>1</sup>
Scope 1	9,078,508	8.202
Scope 2 <sup>2</sup>	-	-
Scope 3	5,476,594	4.948
<b>Total</b>	<b>14,555,102</b>	<b>13.150</b>

For DNV AS – Abu Dhabi Branch,

Vikas Bankar

Sandeep Lele

Tushar Chaudhari

Lead Verifier

Verifier

Technical Reviewer

Date: 17<sup>th</sup> November 2023

<sup>1</sup> GHG emission intensity is calculated based on verified data of Hot Metal Production

<sup>2</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

## Statement for **Al Taweelah Smelter**

Emirates Global Aluminium PJSC, PO BOX 109111, Abu Dhabi, UAE

has prepared its GHG data in accordance with the requirements of

### Verification Criteria

- GHG Protocol: A Corporate Accounting and Reporting Standard, 2015,
- The Aluminium Sector Greenhouse Gas Protocol, October 2006 and
- IAI Scope 3 Calculation Tool Guidance 2022,

and calculated GHG emission intensity from the GHG emission and production data.

DNV has carried out independent verification of EGA's GHG inventory in accordance with the verification principles and requirements outlined in ISO 14064-3:2019 and provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

### Verification Objective

The objective of this verification is to assess compliance with the above-mentioned verification criteria of EGA's GHG Inventory and derived emission intensity contained in the Excel calculation sheets "GHG\_Calculation\_Tool\_2022\_AT\_V06" and "IAI-Scope-3-Calculation-Tool\_AT\_2022\_v1" for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

### Conclusion

Based on the verification process procedures and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and is not a fair representation of Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per the verification criteria mentioned above.

GHG Sources	Verified GHG Emissions for the Year 2022 (tCO <sub>2</sub> e)	Verified GHG Emission Intensity for the year 2022 (tCO <sub>2</sub> e/t Al) <sup>3</sup>
Scope 1	11,008,960	7.127
Scope 2 <sup>4</sup>	-	-
Scope 3	4,094,489	2.651
<b>Total</b>	<b>15,103,449</b>	<b>9.778</b>

For DNV AS – Abu Dhabi Branch,

Vikas Bankar

Sandeep Lele

Tushar Chaudhari

Lead Verifier

Verifier

Technical Reviewer

Date: 17<sup>th</sup> November 2023

<sup>3</sup> GHG emission intensity is calculated based on verified data of Hot Metal Production

<sup>4</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

## Statement for **UAE Smelters (Jebel Ali and Al Taweelah)**

Emirates Global Aluminium PJSC, PO BOX 109111, Abu Dhabi, UAE

has prepared its GHG data in accordance with the requirements of

### Verification Criteria

- GHG Protocol: A Corporate Accounting and Reporting Standard, 2015,
- The Aluminium Sector Greenhouse Gas Protocol, October 2006 and
- IAI Scope 3 Calculation Tool Guidance 2022,

and calculated GHG emission intensity from the GHG emission and production data.

DNV has carried out independent verification of EGA's GHG inventory in accordance with the verification principles and requirements outlined in ISO 14064-3:2019 and provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

### Verification Objective

The objective of this verification is to assess compliance with the above-mentioned verification criteria of EGA's GHG Inventory and derived emission intensity contained in the Excel calculation sheets "GHG\_Calculation Tool\_2022\_JA\_V03", "GHG\_Calculation Tool\_2022\_AT\_V06", "IAI-Scope-3-Calculation-Tool\_JA\_2022\_v1", and "IAI-Scope-3-Calculation-Tool\_AT\_2022\_v1" for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

### Conclusion

Based on the verification process procedures and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and is not a fair representation of Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per the verification criteria mentioned above.

GHG Sources	Verified GHG Emissions for the Year 2022 (tCO <sub>2</sub> e)	Verified GHG Emission Intensity for the year 2022 (tCO <sub>2</sub> e/t Al) <sup>5</sup>
Scope 1	20,087,468	7.576
Scope 2 <sup>6</sup>	-	-
Scope 3	9,571,083	3.610
<b>Total</b>	<b>29,658,551</b>	<b>11.186</b>

For DNV AS – Abu Dhabi Branch,

Vikas Bankar

Sandeep Lele

Tushar Chaudhari

Lead Verifier

Verifier

Technical Reviewer

Date: 17<sup>th</sup> November 2023

<sup>5</sup> GHG emission intensity is calculated based on verified data of Hot Metal Production  
<sup>6</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

## Statement for **Al Taweelah Refinery**

Emirates Global Aluminium PJSC, PO BOX 109111, Abu Dhabi, UAE

has prepared its GHG data in accordance with the requirements of

### Verification Criteria

- GHG Protocol: A Corporate Accounting and Reporting Standard, 2015,
- The Aluminium Sector Greenhouse Gas Protocol, October 2006 and
- IAI Scope 3 Calculation Tool Guidance 2022,

and calculated GHG emission intensity from the GHG emission and production data.

DNV has carried out independent verification of EGA's GHG inventory in accordance with the verification principles and requirements outlined in ISO 14064-3:2019 and provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

### Verification Objective

The objective of this verification is to assess compliance with the above-mentioned verification criteria of EGA's GHG Inventory and derived emission intensity contained in the Excel calculation sheets "GHG\_Calculation\_Tool\_2022\_\_ATA\_final approved" and "IAI-Scope-3-Calculation-Tool\_ATA\_2022\_v1" for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

### Conclusion

Based on the verification process procedures and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and is not a fair representation of Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per the verification criteria mentioned above.

GHG Sources	Verified GHG Emissions for Year 2022 (tCO <sub>2</sub> e)	Verified GHG Emission Intensity for the Year 2022 (tCO <sub>2</sub> e/t Alumina) <sup>7</sup>
Scope 1	1,032,699	0.422
Scope 2 <sup>8</sup>	-	-
Scope 3	1,418,696	0.580
<b>Total</b>	<b>2,451,395</b>	<b>1.003</b>

For DNV AS – Abu Dhabi Branch,

Vikas Bankar

Sandeep Lele

Tushar Chaudhari

Lead Verifier

Verifier

Technical Reviewer

Date: 17<sup>th</sup> November 2023

<sup>7</sup> GHG emission intensity is calculated based on verified data of Alumina Production

<sup>8</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

## Statement for **Guinea Alumina Corporation (GAC)**

Emirates Global Aluminium PJSC, PO BOX 109111, Abu Dhabi, UAE

has prepared its GHG data in accordance with the requirements of

### Verification Criteria

- GHG Protocol: A Corporate Accounting and Reporting Standard, 2015,
- The Aluminium Sector Greenhouse Gas Protocol, October 2006 and
- IAI Scope 3 Calculation Tool Guidance 2022,

and calculated GHG emission intensity from the GHG emission and production data.

DNV has carried out independent verification of EGA's GHG inventory in accordance with the verification principles and requirements outlined in ISO 14064-3:2019 and provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

### Verification Objective

The objective of this verification is to assess compliance with the above-mentioned verification criteria of EGA's GHG Inventory and derived emission intensity contained in the Excel calculation sheets "GAC GHG Calculations Scope 1&2 (verified)" and "IAI-Scope-3-Calculation-Tool\_GAC\_2022\_v1" for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

### Conclusion

Based on the verification process procedures and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and is not a fair representation of Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per the verification criteria mentioned above.

GHG Sources	Verified GHG Emissions for the Year 2022 (tCO <sub>2</sub> e)	Verified GHG Emission Intensity for the year 2022 (tCO <sub>2</sub> e/t Bauxite) <sup>9</sup>
Scope 1	76,943	0.005
Scope 2 <sup>10</sup>	-	-
Scope 3	7,629,319	0.544
<b>Total</b>	<b>7,706,262</b>	<b>0.550</b>

For DNV AS – Abu Dhabi Branch,

Vikas Bankar

Sandeep Lele

Tushar Chaudhari

Lead Verifier

Verifier

Technical Reviewer

Date: 17<sup>th</sup> November 2023

<sup>9</sup> GHG emission intensity is calculated based on verified data of Bauxite Ore Production

<sup>10</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

# INDEPENDENT GREENHOUSE GAS INVENTORY (GHG) VERIFICATION STATEMENT

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## Introduction

DNV AS – Abu Dhabi Branch ('DNV') has been commissioned by the management of Emirates Global Aluminium, hereafter referred to as 'Company' or 'EGA' to carry out a verification of its Greenhouse Gas ('GHG') data of scopes 1, 2 and 3 for the period 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).

EGA has prepared its GHG data and GHG emission intensity in accordance with the requirements of the GHG Protocol: A Corporate Accounting and Reporting Standard, 2015, The Aluminium Sector Greenhouse Gas Protocol, October 2006, and IAI Scope 3 Calculation Tool Guidance 2022.

DNV has carried out this customized engagement in accordance with the verification principles and requirements as per ISO 14064-3:2019 and relevant sections of DNV VeriSustain™, version 5.0. This verification provides a limited level of assurance of EGA's GHG performance data based on the principles of Relevance, Completeness, Consistency, Transparency, and Accuracy applying a  $\pm 5\%$  materiality threshold for errors and omissions.

## Scope, Boundary, and Limitations of Verification

The scope of work agreed upon with the Company includes verification of its GHG Inventory and GHG emission intensity as below:

- Direct GHG emissions (Scope 1 emission) cover the stationary combustion in Power Plant, Cast House, Carbon Plant, and Calcination through the combustion of Natural Gas and Diesel, mobile combustion from owned vehicles and equipment, and fugitive emissions from refrigerant consumption. Scope 1 emissions also include CO<sub>2</sub> emissions from the Electrolysis process, PFC emissions, emissions from pitch volatile matter oxidation, bake furnace packing material, and consumption of soda ash in the aluminium production process.
- Indirect GHG emissions (Scope 2 emissions) cover the GHG emissions on account of electricity consumption. However, EGA has offset its scope 2 emissions for the reporting period by redemption of equivalent I-RECs.
- Scope 3 emissions cover the GHG emissions on account of Purchased Goods and Services (Category 1), Fuel and energy-related activities (Category 3), Upstream transportation and distribution (Category 4), Downstream transportation and distribution (Category 9), and Processing of Sold Products (Category 10).
- Verification was carried out at the EGA's facilities in Dubai (Jebel Ali Smelter), Abu Dhabi (Al Taweelah Smelter and Refinery), and the Republic of Guinea (Guinea Alumina Corporation mining facility) as part of the process of reviewing the Company's internal protocols, processes, and controls related to the collection and collation of its GHG emissions assertions.

EGA is responsible for the collection, analysis, aggregation, and presentation of data and information related to its GHG assertions using its "Basis of Reporting" of GHG emissions by adopting the 'operational control' model as a performance data consolidation approach. The boundary covers EGA's operational facilities in Dubai, Abu Dhabi, and the Republic of Guinea (GAC Bauxite mining facility) which EGA owns or has operational control. During the verification, DNV did not come across any limitations to the agreed scope of work.

Our responsibility for performing this work is to the management of EGA only and in accordance with the scope of work agreed with the EGA. DNV's assurance engagements are based on the assumption that the data and information provided by the company to us as a part of our review have been provided in good faith, are true, and are free from material misstatements. Because of the selected nature (sampling) and other inherent limitations of both procedures and systems of internal control, there remains the unavoidable risk that errors or irregularities may not have been detected. For assessment, the assessment team is dependent upon the quality and completeness of the information provided to us during our engagement, including interaction with key personnel of the EGA and respective site personnel. DNV disclaims any liability or co-responsibility for any decision a person or entity would make based

on this verification statement. The verification was carried out from October 2023 - November 2023 by a team of qualified GHG assessors. No external stakeholders were interviewed as part of this verification engagement.

### Verification Methodology

DNV planned and performed verification work to obtain the evidence that was considered necessary to provide a limited level of assurance while adopting a risk-based approach toward the selection of samples for assessing the robustness of the underlying data management system, information flow, controls, quality assurance and check procedures. DNV carried out the following activities:

- Desk review of the Scope 1, Scope 2, and Scope 3 emissions from 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022 (Year 2022).
- Obtained an understanding of the standard operating procedures for GHG management including formats, assumptions, as well as associated emission factors, and calculation methodologies, as well as the Company's GHG data management processes used to generate, aggregate, and report the GHG data, as well as assessment of the completeness, accuracy, and reliability of the data.
- Carried out site verifications with data owners and management teams across EGA's facilities for reviewing the procedures for measuring validating and verifying the identified activities and emission sources and related evidence maintained by the management teams.
- Interaction with key managers and data owners to review data consolidation systems related to the GHG inventory including reviews of emission factors and assumptions used for calculation methodology.
- Evaluated the GHG emissions data using the reliability principle together with EGA's methodologies (which are based on GHG Protocol, IAI Guidelines for process and scope 3 emissions) on data analysis, aggregation, measurement, and reporting.
- Verification of calibration status of equipment used to monitor and generate activity data on a sample basis.

### Conclusion

Based on our verification methodology and scope of work agreed upon, nothing has come to our attention to believe that the GHG emissions as brought out in the table below are not materially correct and are not a fair representation of Scope 1, Scope 2, and Scope 3 GHG emissions of EGA's GHG Inventory as per GHG Protocol, Aluminium Sector Greenhouse Gas Protocol and IAI Scope 3 Calculation Tool Guidance and covering the emissions from its operations across the facilities in the year 2022.

GHG Sources	Verified GHG Emissions for the Year 2022 (tCO <sub>2</sub> e)
Scope 1	21,197,110
Scope 2 <sup>11</sup>	-
Scope 3	18,619,098
<b>Total</b>	<b>39,816,207</b>

### DNV's Competence and Independence

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.

DNV has complied with the DNV Code of Conduct during the verification engagement and maintains independence where required by relevant ethical requirements as detailed in DNV VeriSustain™, version 5.0. This engagement work was carried out by an independent team of GHG assurance professionals. DNV was not involved in the preparation of any statements or data except for this Verification Statement and Verification Report. DNV maintains complete

<sup>11</sup> EGA has offset scope 2 emissions for the reporting period 2022 by redemption of equivalent I-RECs.

impartiality toward stakeholders interviewed during the verification process. DNV did not provide any services to EGA in the scope of verification during 2022 that could compromise the independence or impartiality of our work.

For DNV AS – Abu Dhabi Branch,

Vikas Bankar	Sandeep Lele	Tushar Chaudhari
Lead Verifier, DNV Business Assurance Group AS – Dubai Branch	Verifier DNV Business Assurance Group AS – Dubai Branch	Technical Reviewer DNV Business Assurance India Private Limited

Date: 17<sup>th</sup> November 2023