A EYE ALUMINUM

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GHG EMISSION REPORT

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1. Executive Summary

1.1 Overview of Organization and Reporting Period

A EYE Aluminum is a leading manufacturer of high-quality aluminum products in the UAE, specializing in aluminum ingots and aluminum engine parts. The organization integrates Environmental, Social, and Governance (ESG) principles into its operational and strategic decision-making. This GHG Emission Report covers the **reporting period from 1 January 2024 to 31 December 2024** and presents a quantified inventory of greenhouse gas (GHG) emissions in accordance with internationally recognized standards.

1.2 Key Emission Results

The total GHG emissions for the reporting year were estimated at:

Total GHG Emissions: 2812.91 tCO_2e

Scope	Emissions (tCO_2e)
Scope 1	472.50
Scope 2	56.99
Scope 3 Upstream	756.40
Scope 3 Downstream	1527.02
Scope 3	2283.42
Total	**2812.91**

Scope 3 emissions constitute the largest share due to purchased raw materials and downstream product-related emissions, which is typical for aluminum manufacturing value chains.

1.3 Highlights & Reduction Achievements

- Establishment of a **baseline GHG inventory** for future reduction planning
- Identification of **high-impact emission sources** across Scopes 1, 2, and 3
- Integration of emissions tracking into ESG governance processes
- Initial focus on energy efficiency, oil usage optimization, and supplier engagement

2. Introduction

2.1 Purpose of the Report

The purpose of this report is to quantify, document, and disclose the greenhouse gas emissions of A EYE Aluminum in a transparent, consistent, and auditable manner in accordance with **ISO 14064-1** and the **GHG Protocol**.

2.2 Intended Users

- Internal management and ESG committees
- Customers and supply-chain partners
- ESG rating agencies and auditors
- Financial institutions and investors
- Regulatory and voluntary disclosure platforms

2.3 Reporting Objectives

- Voluntary ESG disclosure
- Customer sustainability requirements
- Establishment of a baseline year for emissions reduction
- Alignment with international best practices

3. Organization Description

3.1 Company Profile

A EYE Aluminum operates in the aluminum manufacturing sector, producing aluminum ingots and precision aluminum engine components. The company serves domestic and international markets and emphasizes quality, safety, and sustainability.

3.2 Organizational Structure

The organization operates under a centralized management structure with dedicated departments for production, maintenance, procurement, quality, and ESG compliance. Environmental performance oversight is managed by senior leadership.

3.3 Operations, Facilities, and Boundaries

- Manufacturing facility located in the UAE
- Aluminum melting, casting, machining, and finishing operations
- Supporting utilities including power consumption, oil usage, and material handling

4. Reporting Boundary

4.1 Organizational Boundary

A EYE Aluminum has adopted the Operational Control Approach, whereby all operations over which the organization has full operational control are included in the GHG inventory.

4.2 Operational Boundary

Emissions are classified under:

- **Scope 1:** Direct emissions from owned or controlled sources
- **Scope 2:** Indirect emissions from purchased electricity
- **Scope 3:** Other indirect emissions from value-chain activities

4.3 Entities and Locations Covered

- Single manufacturing facility in the UAE
- All production and administrative operations under A EYE Aluminum control

5. Reporting Period

- **Start Date:** 1 January 2024
- **End Date:** 31 December 2024
- **Frequency:** Annual reporting

6. GHG Accounting Methodology

6.1 Standards Followed

- ISO 14064-1:2018 – Greenhouse gases
- GHG Protocol – Corporate Accounting and Reporting Standard
- IPCC Guidelines for National GHG Inventories

6.2 Calculation Approach

Emissions were calculated using the formula:

GHG Emissions = Activity Data × Emission Factor

All emissions are expressed in **metric tonnes of CO_2 equivalent (tCO_2e)** using Global Warming Potentials (GWP) from IPCC AR5.

6.3 Tools or Software Used

- Spreadsheet-based calculation models
- Manual data validation and cross-checks

7. Emission Sources Identification

7.1 Direct and Indirect Sources

- Fuel and oil combustion
- Purchased electricity
- Raw material procurement
- Transportation and commuting
- Waste handling and disposal
- Product use and lifecycle impacts

7.2 Scope Categorization

Each emission source was mapped to Scope 1, 2, or 3 in accordance with GHG Protocol guidance.

8. GHG Scope Classification

8.1 Scope 1 – Direct Emissions

Sources Identified:

- Stationary combustion (used oil consumption)
- Process-related fuel usage

Scope 1 Emissions: 472.50 tCO_2e

Gas-wise breakup includes CO_2 as the dominant gas, with minor CH_4 and N_2O components included via emission factors.

8.2 Scope 2 – Indirect Energy Emissions

Source:

- Purchased electricity from UAE grid

Electricity Consumption (estimated): 135,727 kWh
Scope 2 Emissions: 56.99 tCO_2e

8.3 Scope 3 – Other Indirect Emissions

Upstream Categories:

- Purchased raw materials
- Employee commuting
- Waste management

Downstream Categories:

- Use of sold aluminum products

Total Scope 3 Emissions: 2812.91 tCO_2e

9. GHG Data Collection & Quality

9.1 Data Sources

- Utility bills
- Fuel and oil usage records
- Procurement estimates
- HR data for commuting assumptions

9.2 Accuracy, Completeness, and Reliability

Where primary data was unavailable, conservative assumptions based on industry norms were applied to avoid under-reporting.

9.3 Data Management Controls

- Management review of calculations
- Documentation of assumptions
- Consistent methodology across reporting year

10. Emission Factors

10.1 Sources

- IPCC Emission Factor Database
- GHG Protocol
- DEFRA Guidelines
- Regional grid emission factors (UAE)

10.2 Units and Justification

Emission factors were selected based on relevance to aluminum manufacturing and regional applicability.

11. Calculation Results

11.1 Total GHG Emissions (GHG Emission Reporting Frequency: Annually)

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Scope 1	472.50
Scope 2	56.99
Scope 3 Upstream	756.40
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Total	**2812.91**

11.2 Emission Breakdown by Source

- Purchased goods & raw materials: Highest contributor
- Product use (downstream): Significant impact
- Fuel and oil combustion: Moderate
- Electricity consumption: Relatively low

(Graphical representation may be included in annexures.)

11.3 Emission Intensity Indicators

- **CO_2e per employee:** 126.63 tCO_2e / employee
- **CO_2e per tonne of product (assumed):** Industry-aligned baseline

12. Base Year & Trend Analysis

12.1 Base Year Selection

The year **2024** is established as the **base year** for emissions tracking.

12.2 Historical Comparison

No prior verified GHG inventory exists; future reports will enable trend analysis.

12.3 Adjustments

Any future structural or operational changes will trigger recalculation in line with ISO 14064-1 requirements.

13. Uncertainty Assessment

13.1 Sources of Uncertainty

- Assumed activity data
- Generic emission factors
- Estimation of Scope 3 emissions

13.2 Method

Qualitative uncertainty assessment using conservative assumptions.

13.3 Confidence Level

Estimated overall confidence level**: ±10–15%**

14. Data Quality Assessment

- Activity data: Medium to High
- Emission factors: High
- Overall inventory quality: **Medium-High**

Cross-checks were conducted to ensure consistency and reasonableness.

15. GHG Reduction Initiatives

15.1 Energy Efficiency

- Optimization of furnace and machinery energy use
- Preventive maintenance programs

15.2 Waste & Resource Management

- Oil reuse and recycling initiatives
- Improved scrap recovery

15.3 Future Sustainability Goals

- Transition to renewable electricity
- Low-carbon aluminum sourcing
- Supplier ESG engagement

16. Conclusions

A EYE Aluminum's first formal GHG inventory demonstrates a strong commitment to transparency and sustainability. The results indicate significant opportunities for emissions reduction, particularly within the value chain (Scope 3). Establishing this baseline enables informed decision-making and structured decarbonization planning.

17. Plan for Next Reporting Period

- Improve primary data collection
- Expand Scope 3 coverage
- Set science-aligned reduction targets
- Prepare for third-party verification