
GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Prepared in accordance with ISO 14064-1:2018
Supporting the Aluminium Stewardship Initiative (ASI) Performance Standard V3.1 — Criterion 5

GLS Aluminium Industries Pvt Ltd

Installation: Rewari, Haryana, India (Site Code 123035)
Reporting Period: 1 January 2025 – 30 June 2026 (15 months)

Document Reference: GLS-ALU/GHG-14064/2026/Rev.02
Revision 02 | Issued: 09 August 2026 | Status: Final
Classification: Confidential — Prepared exclusively for GLS Aluminium Industries Pvt Ltd
Prepared by Dr. Vijay Sonawane

Document Control

Document Information

Document Title	Greenhouse Gas Emissions Inventory Report — ISO 14064-1:2018 (ASI Performance Standard V3.1, Criterion 5 Alignment)
Document Reference	GLS-ALU/GHG-14064/2026/Rev.02
Reporting Organization	GLS Aluminium Industries Pvt Ltd, Rewari, Haryana, India
Prepared By	Dr. Vijay Sonawane
Approved By	
Reporting Standard	ISO 14064-1:2018; GHG Protocol Corporate Accounting and Reporting Standard; GHG Protocol Corporate Value Chain (Scope 3) Standard
Applicable Scheme Reference	Aluminium Stewardship Initiative (ASI) Performance Standard V3.1, Principle 5 — GHG Emissions and Energy
Source Data	Quarterly CBAM Communication Template declarations, Q1 FY25 — Q2 FY26 (4 workbooks, GLS Aluminium Industries / Hindalco Industries Limited); ASI Entity GHG Pathways Calculation Tool v2 (06/2026)
Reporting Period Covered	1 January 2025 — 30 June 2026 (15 months; 4 quarterly data points)
Classification	Confidential — Client Use Only
Report Status	Final for Client Issue — Not Required for External Review
Date of Issue	09 August 2026

Version History

Version	Date	Prepared / Revised By	Description of Changes	Status
00	02 May 2026	Dr. Vijay Sonawane	Initial draft — Q1 FY25–Q2 FY25 (10-month) dataset	Draft
01	09 Aug 2026	Dr. Vijay Sonawane	Updated with Q1 FY26 and Q2 FY26 CBAM data; 15-month inventory; ASI Criterion 5 cross-reference and quality/uncertainty sections added	Superseded
02	09 Aug 2026	Dr. Vijay Sonawane	Added Annexure I with complete quarterly CBAM declaration data; added ASI 1.5°C-aligned Entity GHG Pathway (2025 baseline) and illustrative decarbonization action plan; streamlined document control (single-preparer issue, no external review step)	Final for Client Issue

Distribution List

Recipient	Designation / Organization	Copy Type
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Preparation and Approval

Role	Name	Organization / Title	Signature	Date
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Approved by (Client)		GLS Aluminium Industries Pvt Ltd		

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Table of Contents

Document Control	2
Table of Contents.....	4
Abbreviations and Definitions	5
Executive Summary	6
1. Introduction and Objective	8
1.1 Background	8
1.2 Objective and Intended Use	8
1.3 Reporting Standard and Normative References	9
2. Organizational Description and Boundaries	10
3. Reporting Boundaries (GHG Scopes)	11
4. Identification of GHG Sources, Sinks and Reservoirs	12
5. Reporting Period and Base Year.....	13
6. Quantification Methodology.....	14
7. GHG Emissions Inventory Results	16
8. Data Quality and Uncertainty Assessment	19
9. GHG Inventory Quality Management	21
10. Mapping to ASI Performance Standard V3.1 — Principle 5	22
11. Verification Statement	23
12. ASI 1.5°C-Aligned Entity GHG Pathway & Illustrative Actions	24
12.1 The ASI Entity GHG Pathways Framework.....	24
12.2 Entity Baseline Data Applied	24
12.3 GLS's 1.5°C-Aligned Entity Pathway to 2050.....	25
12.4 Comparison with Aluminium Sector Benchmarks	26
12.5 Illustrative, Hypothetical Decarbonization Action Plan.....	27
12.6 Status and Next Steps.....	28
13. Conclusions and Recommendations	29
Annexure I — Complete Quarterly CBAM Declaration Data.....	31
Annexure II — Glossary of Terms.....	39
Annexure III — References	40

Abbreviations and Definitions

Term	Definition
ASI	Aluminium Stewardship Initiative
CBAM	Carbon Border Adjustment Mechanism (European Union, Regulation (EU) 2023/956)
CEA	Central Electricity Authority, Government of India
CO₂e / CO₂	Carbon Dioxide (Equivalent)
EF	Emission Factor
GHG	Greenhouse Gas
GHG Protocol	Greenhouse Gas Protocol — Corporate Accounting and Reporting Standard / Corporate Value Chain (Scope 3) Standard
GWP	Global Warming Potential
IAI	International Aluminium Institute
ISO 14064-1	ISO 14064-1:2018 — Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
MPP	Mission Possible Partnership
MWh	Megawatt-hour
SDA	Sectoral Decarbonization Approach — the archetype-based methodology underlying the ASI Entity GHG Pathways Calculation Tool
SEE	Specific Embedded Emissions (CBAM terminology; emissions per tonne of product)
SSR	Sources, Sinks and Reservoirs
t CO₂e/t	Tonnes of CO ₂ -equivalent per tonne of product (specific / intensity-based emissions)

Executive Summary

This report presents the Greenhouse Gas (GHG) emissions inventory of GLS Aluminium Industries Pvt Ltd ("GLS" or "the Operator"), located at Rewari, Haryana, India, covering a fifteen-month reporting window from 1 January 2025 to 30 June 2026. The inventory has been compiled in accordance with the principles and reporting structure of ISO 14064-1:2018, and is intended to support GLS's conformance against Principle 5 (GHG Emissions and Energy) of the Aluminium Stewardship Initiative (ASI) Performance Standard V3.1.

At the specific request of GLS Aluminium, this inventory addresses Scope 1 (direct) and Scope 2 (energy indirect) emissions in full, and — within Scope 3 (other indirect) emissions — reports exclusively on Category 1: Purchased Goods and Services, comprising the embedded (precursor) emissions of primary aluminium sourced from Hindalco Industries Limited, Hirakud. Other Scope 3 categories (e.g., transportation and distribution, waste, business travel, employee commuting) have been assessed by the Operator as not material to the aluminium product carbon footprint at this stage and are excluded from the current inventory boundary; this exclusion is discussed further in Section 3.3.

The underlying activity and emissions data were sourced directly from four quarterly CBAM (EU Carbon Border Adjustment Mechanism) Communication Template declarations already prepared and exchanged between GLS and Hindalco for regulatory purposes, and have been re-quantified and re-presented here under the ISO 14064-1 organizational GHG reporting structure. All emissions are reported on a specific (intensity) basis — tonnes of CO₂-equivalent per tonne of product (t CO₂e/t) — consistent with the CBAM Specific Embedded Emissions (SEE) methodology; absolute (total) tonnage figures were not available within the source dataset and are flagged as a data gap in Section 8.3.

Key Findings

Metric	Value
Reporting period	1 Jan 2025 – 30 Jun 2026 (15 months; 4 quarterly data points)
Scope 1 — Direct Emissions	0.000 t CO ₂ e/t in every reporting quarter
Scope 2 — Energy Indirect Emissions (15-month average)	0.945 t CO ₂ e/t (4.9% of total)
Scope 3, Category 1 — Purchased Goods & Services (15-month average)	18.293 t CO ₂ e/t (95.1% of total)
Total reported specific emissions (15-month average)	19.238 t CO₂e/t
Change in total specific emissions, Q1 FY25 → Q2 FY26	-9.6%
Change in Scope 2 intensity, Q1 FY25 → Q2 FY26	-29.3%
Change in Scope 3 Cat. 1 intensity, Q1 FY25 → Q2 FY26	-8.4%

GLS reports zero Scope 1 (direct) emissions across all four quarters, consistent with an electricity-driven conversion process with no on-site fuel combustion declared under the CBAM methodology. Scope 2 (purchased grid electricity) intensity fell from 1.115 t CO₂e/t in Q1 FY25 to 0.788 t CO₂e/t in Q2 FY26 — a reduction of 29.3%, reflecting improved electricity efficiency per tonne of product at the Rewari installation. Scope 3 Category 1 (embedded emissions in purchased primary aluminium from Hindalco) declined by a smaller 8.4% over the same period, and consistently accounts for the overwhelming majority of the Operator's total reported carbon footprint — averaging 95.1% of total specific emissions across the 15-month window.

This finding is material and expected: for downstream aluminium converters such as GLS, the carbon-intensive primary smelting stage in the supply chain — not the converter's own operations — is typically the dominant source of product-embedded emissions. It confirms why ASI Performance Standard V3.1 places explicit emphasis on Scope 3, Category 1 reporting (purchased goods and services) for aluminium value-chain participants, and underscores the importance of continued engagement with Hindalco on upstream decarbonization as the primary lever for reducing GLS's total product carbon footprint.

Report Scope Note

- Figures are specific (intensity-based) emissions — t CO₂e per tonne of product — not absolute organizational totals, as production-volume data was outside the source dataset.
- Scope 3 is limited to Category 1 (Purchased Goods and Services) at the Operator's instruction; other Scope 3 categories are treated as currently not material and are excluded from this inventory boundary.
- The reporting window spans four CBAM declaration periods of unequal length (3, 6, 3 and 3 months); see Section 5.1 and Section 8.3 for the resulting comparability caveat.

1. Introduction and Objective

1.1 Background

GLS Aluminium Industries Pvt Ltd operates an aluminium conversion installation at Rewari, Haryana, India, and sources primary aluminium input material from Hindalco Industries Limited's Hirakud smelter, Odisha, India. As a participant in aluminium value chains subject to both the EU Carbon Border Adjustment Mechanism (CBAM) and the Aluminium Stewardship Initiative (ASI) certification framework, GLS is required to demonstrate credible, structured quantification and reporting of its greenhouse gas emissions across its own operations and, where material, its upstream supply chain.

GLS has, since Q1 FY25, prepared quarterly CBAM Communication Template declarations jointly with Hindalco, capturing direct and indirect specific emissions data for both the Operator (GLS) and the precursor material supplier (Hindalco). This report consolidates four such quarterly declarations — spanning fifteen months from January 2025 to June 2026 — into a single, structured GHG inventory report aligned with the clause structure of ISO 14064-1:2018, for the specific purpose of evidencing conformance with ASI Performance Standard V3.1, Principle 5 (GHG Emissions and Energy).

1.2 Objective and Intended Use

The objective of this report is to:

- Present GLS's Scope 1, Scope 2, and Scope 3 (Category 1) greenhouse gas emissions for the 15-month period January 2025 – June 2026, quantified on a specific (per-tonne-of-product) basis;
- Structure this quantification and disclosure in accordance with the GHG inventory design, quantification, and reporting principles of ISO 14064-1:2018;
- Provide the documented evidence base required to demonstrate conformance with ASI Performance Standard V3.1, Criterion 5 sub-clauses relating to GHG emissions quantification, disclosure, and target-setting; and
- Identify data quality, uncertainty, and boundary limitations transparently, together with recommendations for strengthening the inventory in future reporting cycles.

This report is intended for use by GLS Aluminium's management, its ASI conformance assessment team, and (subject to the confidentiality terms in the Document Control section) ASI-accredited auditors and other stakeholders with a legitimate interest in GLS's climate-related disclosures. It is not intended, and should not be relied upon, as a statutory financial or regulatory CBAM filing in itself — the underlying CBAM declarations retain their own independent regulatory status.

1.3 Reporting Standard and Normative References

This report has been prepared with reference to the following standards, protocols, and schemes:

- ISO 14064-1:2018 — Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals;
- GHG Protocol Corporate Accounting and Reporting Standard (World Resources Institute / World Business Council for Sustainable Development) — for Scope 1 and Scope 2 quantification principles;
- GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard — for Category 1 (Purchased Goods and Services) quantification principles;
- Aluminium Stewardship Initiative (ASI) Performance Standard, Version 3.1 — Principle 5, GHG Emissions and Energy;

- EU Regulation (EU) 2023/956 (CBAM Regulation) and Commission Implementing Regulation (EU) 2023/1773 — as the source and format of the underlying declared emissions data.

2. Organizational Description and Boundaries

2.1 Reporting Organization

Field	Detail
Legal entity name	GLS Aluminium Industries Pvt Ltd
Installation location	Rewari, Haryana, India — Site Code 123035
Country of establishment	India
Primary activity	Aluminium product conversion / downstream processing
Precursor material supplier	Hindalco Industries Limited — Hiralud, Odisha, India (Site Code 768016)

2.2 Organizational Boundary Approach

In accordance with ISO 14064-1:2018, Clause 5.1, an organization must select and document a consolidation approach — equity share, financial control, or operational control — to define its organizational boundary. This inventory adopts the operational control approach: GLS Aluminium Industries Pvt Ltd's organizational boundary is defined as the Rewari installation over which GLS has full authority to introduce and implement its own operating policies, including those relating to GHG emissions.

Emissions and energy data relating to Hindalco Industries Limited's Hiralud installation are not consolidated into GLS's organizational boundary; they are captured solely as embedded (precursor) emissions attributable to purchased material, within the Scope 3, Category 1 reporting boundary described in Section 3.3.

2.3 Installation Description

The Rewari installation converts primary aluminium input (billet/ingot sourced from Hindalco) into finished aluminium products. The installation's own direct GHG emissions relate to any on-site fuel combustion or process emissions; its energy indirect emissions relate to grid electricity purchased and consumed in the conversion process. No direct (Scope 1) emissions were declared for GLS across the reporting period, consistent with an electricity-based conversion process without material on-site fuel combustion under the CBAM methodology used to source this data.

3. Reporting Boundaries (GHG Scopes)

ISO 14064-1:2018 Clause 5.2 requires an organization to define its reporting boundary by classifying GHG emissions as direct or indirect, and — for indirect emissions — by category. This report follows the conventional Scope 1 / Scope 2 / Scope 3 classification used in the GHG Protocol, which ISO 14064-1 explicitly accommodates.

3.1 Scope 1 — Direct GHG Emissions

Scope 1 comprises GHG emissions from sources owned or controlled by GLS at the Rewari installation (e.g., on-site fuel combustion, owned vehicles, fugitive process emissions). Across all four quarters in the reporting period, GLS declared specific direct emissions of 0.000 t CO₂e per tonne of product, indicating no material on-site combustion or process emission source under the CBAM "Attributed Emissions — Direct Emissions" category. This is treated as a confirmed nil return rather than a data gap, consistent with an electricity-driven conversion process.

3.2 Scope 2 — Energy Indirect GHG Emissions

Scope 2 comprises indirect GHG emissions from the generation of purchased electricity consumed by GLS at the Rewari installation. Electricity consumption is converted to emissions using the Central Electricity Authority (CEA), Government of India, grid emission factor applicable in each reporting quarter (see Section 6.3). This is the Operator's own energy-related footprint and is fully within GLS's operational control.

3.3 Scope 3 — Other Indirect GHG Emissions (Category 1 only)

The GHG Protocol Corporate Value Chain (Scope 3) Standard defines fifteen categories of other indirect emissions. At the specific instruction of GLS Aluminium for the purpose of this report, only Category 1 — Purchased Goods and Services — is quantified and disclosed. This category captures the embedded (precursor) emissions of the primary aluminium input purchased from Hindalco Industries Limited, using Hindalco's own site-specific, actual CBAM-declared direct and indirect emissions data — i.e., supplier-specific data, which represents the highest data-quality tier available under GHG Protocol Scope 3 guidance for this category (in preference to industry-average or spend-based estimation methods).

All other Scope 3 categories — including, but not limited to, upstream transportation and distribution, fuel- and energy-related activities not included in Scope 1 or 2, waste generated in operations, business travel, employee commuting, downstream transportation, and end-of-life treatment of sold products — have been assessed by GLS as not material to its current GHG disclosure objective and are excluded from this inventory boundary. This exclusion should be periodically reassessed and is discussed further as a recommendation in Section 12.

Materiality Basis for Scope 3 Boundary

- Category 1 (Purchased Goods and Services) is included because primary aluminium production is the dominant, well-evidenced source of embedded emissions in aluminium products, and supplier-specific data was already available via the CBAM declaration process.
- Other Scope 3 categories are excluded on the Operator's assessment of immateriality relative to Category 1, and because activity data for those categories was not available within the CBAM-derived source dataset used for this report.
- This is a scoping decision by the Operator, not a technical finding of this report; Dr. Vijay Sonawane recommends a full Scope 3 screening exercise be conducted to formally evidence this materiality determination for ASI audit purposes (see Section 13).

4. Identification of GHG Sources, Sinks and Reservoirs

ISO 14064-1:2018 Clause 6 requires the systematic identification of GHG sources, sinks and reservoirs (SSRs) associated with the organization's activities, and a documented basis for their inclusion in, or exclusion from, the reporting boundary. Table 4.1 summarizes the SSRs identified for GLS Aluminium's operations and its Category 1 supply chain relationship with Hindalco.

Table 4.1 — GHG Sources, Sinks and Reservoirs

SSR / Activity	Scope	Location	Boundary Status	Basis
Purchased grid electricity (own operations)	Scope 2	GLS Rewari installation	Included	Central Electricity Authority, India grid emission factor applied to metered electricity consumption per tonne of product
On-site fuel combustion / process emissions (own operations)	Scope 1	GLS Rewari installation	Included (nil return)	Declared as 0.000 t CO ₂ e/t in all four quarters under the CBAM methodology; no material source identified
Embedded direct (process) emissions of purchased primary aluminium	Scope 3, Cat. 1	Hindalco Hirakud installation	Included	Hindalco actual/site-specific direct emissions data, as declared under CBAM
Embedded indirect (electricity) emissions of purchased primary aluminium	Scope 3, Cat. 1	Hindalco Hirakud installation	Included	Hindalco actual/site-specific electricity consumption × CEA grid emission factor, as declared under CBAM
Upstream transport of purchased material; other Scope 3 categories	Scope 3, Cat. 2–15	Value chain (upstream & downstream)	Excluded	Assessed by Operator as not currently material; no activity data available in source dataset (see Section 3.3)

No GHG sinks or reservoirs (e.g., carbon sequestration) were identified as relevant to either installation's declared activities; none are therefore included in this inventory. Biogenic CO₂ emissions, where applicable, were not separately identified in the source CBAM data and are assumed not material to an aluminium conversion and primary smelting value chain.

5. Reporting Period and Base Year

5.1 Reporting Period

This inventory covers four consecutive CBAM declaration periods spanning fifteen months in total, as summarized in Table 5.1. These periods are of unequal duration: Q1 FY25, Q1 FY26 and Q2 FY26 each span three months, while Q2 FY25 spans six months (April–September 2025). This is a characteristic of the underlying CBAM declaration cycle adopted by GLS and Hindalco, and is not an adjustment introduced by this report. Because the reported figures are specific (per-tonne) emissions intensities rather than time-summed absolute quantities, the differing period lengths do not distort the intensity values themselves; however, unweighted averaging across the four data points implicitly gives Q2 FY25 the same statistical weight as the three-month quarters despite covering twice the duration. Both a simple (unweighted) average and a duration-weighted average are therefore presented in Section 7.4 for transparency.

Table 5.1 — Reporting Periods Covered

Period	Calendar Coverage	Duration	Note
Q1 FY25	January 2025 - March 2025	3 months	Base period
Q2 FY25	April 2025 - September 2025	6 months	—
Q1 FY26	January 2026 - March 2026	3 months	—
Q2 FY26	April 2026 - June 2026	3 months	—

5.2 Base Year

Q1 FY25 (January–March 2025) is adopted as the base period for this inventory, being the earliest quarter for which structured CBAM-aligned emissions data is available for both GLS and its Hindalco precursor supply. All period-on-period and trend comparisons in this report (Section 7) are expressed relative to this base period. Should GLS extend this inventory in future cycles, Dr. Vijay Sonawane recommends formally adopting a full financial year (rather than a single quarter) as the base year once a complete 12-month dataset is available, per ISO 14064-1 Clause 5.2 base year guidance, and documenting a base-year recalculation policy to address any future structural changes (e.g., change of precursor supplier, process changes, or changes in the applicable CEA emission factor methodology). Note that 2025 has separately been adopted as the baseline year for the ASI 1.5°C-aligned Entity GHG Pathway presented in Section 12, consistent with this same base period.

6. Quantification Methodology

6.1 Data Sources

All activity and emissions data used in this inventory were extracted directly from four quarterly CBAM Communication Template workbooks jointly completed by GLS Aluminium Industries Pvt Ltd (as Operator) and Hindalco Industries Limited (as precursor material supplier), covering Q1 FY25 through Q2 FY26. Both parties declared their data as "Actual data" (i.e., primary, measured or metered data, not estimated, default, or industry-average data), determined under the GHG Protocol methodology referenced in each workbook. No modification has been made to the underlying declared emissions values; this report re-classifies and re-presents them under the ISO 14064-1 Scope 1/2/3 structure and computes derived summary statistics (totals, averages, trend indicators) for GHG management and ASI reporting purposes.

6.2 Scope 1 Quantification Approach

Scope 1 direct emissions were declared by GLS under the CBAM "Attributed Emissions — Direct Emissions" category using the GHG Protocol methodology, reported in tonnes of CO₂ per tonne (unit) of product. All four quarters returned 0.000 t CO₂e/t.

6.3 Scope 2 Quantification Approach

Scope 2 indirect emissions were quantified using the location-based method: metered electricity consumption per tonne of product (MWh/unit) was multiplied by the applicable Central Electricity Authority (CEA), India, all-India average grid emission factor (t CO₂/MWh) for the relevant declaration period. The grid emission factor applied varied slightly across quarters, reflecting successive CEA baseline database releases used at the time each declaration was filed, as shown in Table 6.1.

Table 6.1 — Grid Emission Factors Applied (Scope 2 and Precursor Indirect)

Period	Emission Factor (t CO ₂ /MWh)	Source
Q1 FY25	0.716	Central Electricity Authority, India
Q2 FY25	0.727	Central Electricity Authority, India
Q1 FY26	0.71	Central Electricity Authority, India
Q2 FY26	0.71	Central Electricity Authority, India

Dr. Vijay Sonawane notes this as a methodological observation rather than an error: using the period-specific factor in force at the time of each declaration is defensible and consistent with the "actual data" determination type declared. For future inventories, GLS is recommended to document explicitly, on a per-cycle basis, which CEA factor release is applied and why, to support consistency and auditability (see Section 8.1 and Section 13).

6.4 Scope 3, Category 1 Quantification Approach

Scope 3 Category 1 emissions (purchased primary aluminium from Hindalco) were quantified using the supplier-specific method: Hindalco's own actual direct (process) emissions and actual indirect (purchased electricity × CEA grid factor) emissions, per tonne of aluminium supplied to GLS, were taken directly from the "Precursory/Embedded Emissions" columns of each CBAM declaration and summed to derive total embedded emissions per tonne of precursor material. This is the preferred, highest-quality data source under GHG Protocol Scope 3 guidance for Category 1, in preference to spend-based or industry-average emission factors.

6.5 Units of Measurement

All emissions figures in this report are specific (intensity-based) emissions, expressed in tonnes of CO₂-equivalent per tonne of product (t CO₂e/t), consistent with the CBAM Specific Embedded Emissions (SEE) convention used in the source declarations. This report does not present absolute (total, organization-wide) tonnes of CO₂e, as production-volume (tonnage) data was not included within the source CBAM workbooks made available for this exercise. This is recorded as a data gap in Section 8.3, together with a recommendation for closing it in future reporting cycles.

6.6 Global Warming Potentials

Emissions figures in the source CBAM declarations are reported on a CO₂-equivalent basis using the GHG Protocol methodology referenced in each workbook; the underlying declarations do not separately break out non-CO₂ gases (e.g., PFCs from anode effects in primary smelting) by individual GWP-weighted contribution. Where GLS wishes to extend this inventory to explicitly quantify PFC and other non-CO₂ gas contributions from primary aluminium smelting (a recognized material source in the aluminium sector), Dr. Vijay Sonawane recommends engaging directly with Hindalco on IPCC AR5 (or later) GWP-weighted disaggregated data, per the ASI Performance Standard's expectation for aluminium-sector GHG completeness.

7. GHG Emissions Inventory Results

7.1 Quarterly Emissions Summary

Table 7.1 presents the full quarterly emissions inventory across the 15-month reporting window, broken down by scope, with Scope 3 Category 1 additionally split into its direct (process-related) and indirect (electricity-related) components at the Hindalco precursor installation, for transparency.

Table 7.1 — Quarterly Specific GHG Emissions by Scope (t CO₂e / t product)

Period	Coverage	Scope 1 (Direct)	Scope 2 (Energy Indirect)	Scope 3 Cat.1 – Direct component	Scope 3 Cat.1 – Indirect component	Scope 3 Cat. 1 Total	Total (All Scopes)
Q1 FY25	January 2025 - March 2025	0.000	1.115	2.054	16.976	19.030	20.145
Q2 FY25	April 2025 - September 2025	0.000	1.011	2.054	17.237	19.291	20.302
Q1 FY26	January 2026 - March 2026	0.000	0.866	1.856	15.570	17.426	18.293
Q2 FY26	April 2026 - June 2026	0.000	0.788	1.856	15.570	17.426	18.214

Figures are as declared in the source CBAM workbooks, re-classified under ISO 14064-1 Scope 1/2/3 terminology; minor rounding differences (± 0.001 t CO₂e/t) versus manually-summed totals may occur due to display rounding to three decimal places.

7.2 Visual Summary

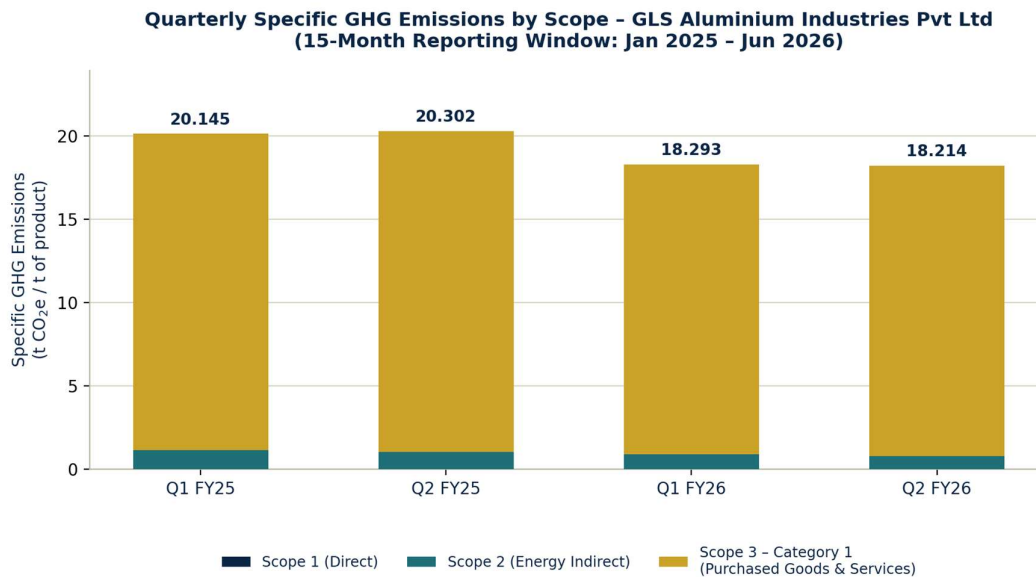


Figure 7.1 — Quarterly specific GHG emissions by scope, Q1 FY25 – Q2 FY26

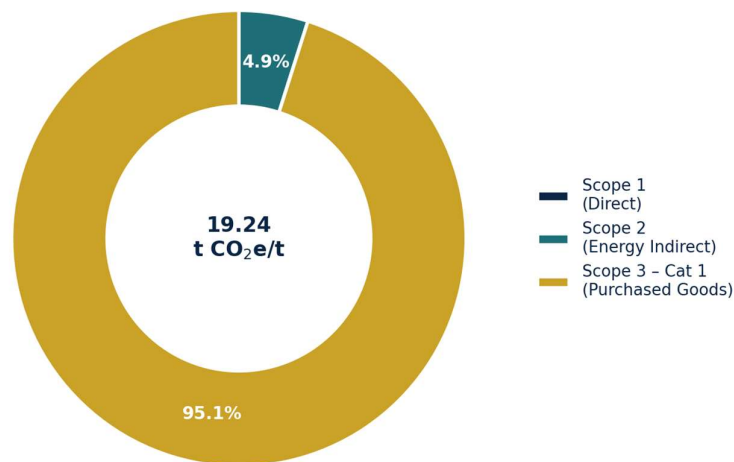
**15-Month Average GHG Emissions Share by Scope
(Specific Emissions, t CO₂e / t product)**

Figure 7.2 — 15-month average share of total specific emissions by scope

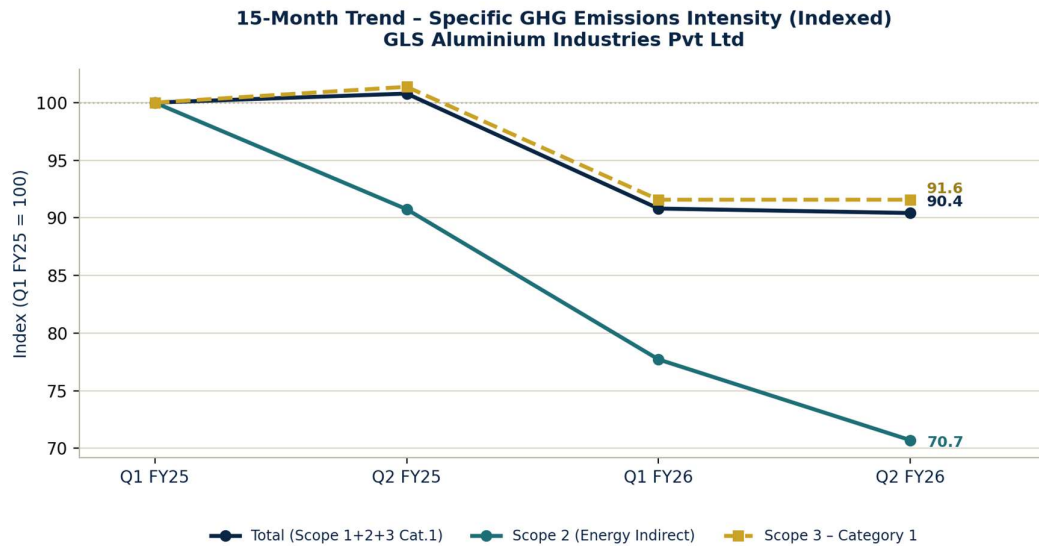


Figure 7.3 — Indexed trend of Scope 2, Scope 3 Category 1, and total specific emissions (Q1 FY25 = 100)

7.3 Interpretation

Scope 3, Category 1 (purchased primary aluminium) consistently accounts for 95.1% of GLS's total reported specific emissions across the 15-month window (Figure 7.2), confirming it as the dominant driver of the product's carbon footprint, as expected for an aluminium converter sourcing from primary smelting. Scope 2 (own electricity use) contributes the remaining 4.9% on average, with Scope 1 remaining nil throughout.

Figure 7.3 indexes all three series to Q1 FY25 = 100 to allow direct comparison of relative movement. Scope 2 intensity shows the steepest and most consistent decline (down to 70.7 by Q2 FY26, a 29.3% reduction), indicating a genuine and sustained improvement in GLS's own operational energy efficiency per tonne of product. Scope 3 Category 1 intensity declined more modestly (to 91.6, a 8.4% reduction), tracking Hindalco's own reported efficiency gains between FY25 and FY26 (notably, the precursor electricity consumption factor fell from 23.709 MWh/unit in FY25 to 21.930 MWh/unit in FY26). Because Scope 3 Category 1 dominates the total, the blended total specific emissions series (also down 9.6%) tracks closely with the Scope 3 Category 1 trend rather than the (proportionally larger, but numerically smaller) Scope 2 improvement.

7.4 15-Month Aggregate Summary

Table 7.2 presents both a simple (unweighted) average across the four quarterly data points and a duration-weighted average that accounts for Q2 FY25's six-month coverage (see Section 5.1). The two measures differ only modestly (within approximately 1%), because Q2 FY25's specific emissions were close to the overall period average; nonetheless, the weighted figure is considered the more statistically defensible representation of the "typical" 15-month specific emissions rate and is recommended as the reference figure for ASI Criterion 5 reporting purposes.

Table 7.2 — Aggregate Summary Statistics (t CO₂e / t product)

Statistic	Scope 1	Scope 2	Scope 3, Cat. 1	Total (All Scopes)
Sum across 4 quarters (unweighted)	0.000	3.780	73.173	76.954
Simple average (per quarter, unweighted)	0.000	0.945	18.293	19.238

Statistic	Scope 1	Scope 2	Scope 3, Cat. 1	Total (All Scopes)
Duration-weighted average (per month)	0.000	0.958	18.493	19.451

8. Data Quality and Uncertainty Assessment

8.1 Data Quality Assessment

ISO 14064-1:2018 Clause 8 requires an organization to manage the quality of data used in its GHG inventory, including consideration of accuracy, completeness, consistency, transparency, and relevance (the ISO 14064-1 GHG information quality principles). Table 8.1 summarizes Dr. Vijay Sonawane's qualitative assessment of the data underlying this report.

Table 8.1 — Data Quality Assessment by Data Element

Data Element	Data Quality Rating	Basis for Rating
GLS direct emissions (Scope 1)	High	Declared as actual data (nil return) under CBAM methodology; low uncertainty given no identified combustion source.
GLS electricity consumption (Scope 2 activity data)	High	Metered, actual data as declared; consistent quarter-on-quarter reporting basis.
Grid emission factor (CEA)	Medium	Secondary (published) emission factor, applied to GLS's own metered consumption; factor value varies by CEA release date used in each period (Section 6.3).
Hindalco direct emissions (Scope 3 Cat.1 component)	Medium-High	Actual data as declared by Hindalco under CBAM; not independently verified for this report.
Hindalco electricity consumption (Scope 3 Cat.1 component)	Medium-High	Actual, metered data as declared by Hindalco; not independently verified for this report.
Production volume / absolute tonnage	Not available	No tonnage data included in source CBAM workbooks; absolute (total) emissions cannot currently be derived (see 8.3).

8.2 Sources of Uncertainty

The principal sources of quantification uncertainty in this inventory are:

- **Emission factor uncertainty:** the CEA all-India grid emission factor is a national average and does not reflect the specific generation mix supplying either the Rewari or Hirakud installation at the time of consumption; actual grid-mix carbon intensity can vary regionally and seasonally.
- **Third-party data reliance:** Scope 3 Category 1 figures rely entirely on data declared by Hindalco and have not been independently verified, audited, or re-measured as part of this engagement.
- **Period-length inconsistency:** Q2 FY25's six-month coverage versus three-month coverage for the other three periods introduces a minor comparability caveat when quarters are averaged without duration weighting (addressed via the weighted average in Table 7.2).
- **Emission factor vintage inconsistency:** the CEA emission factor applied varies slightly by declaration period (0.710–0.727 t CO₂/MWh) depending on which CEA baseline release was current at the time of filing, rather than a single consistently-applied factor across the full inventory.
- **Absence of production volume data:** without tonnage data, this report cannot corroborate whether declining specific-emissions intensity corresponds to declining absolute emissions, stable production with efficiency gains, or a change in product mix.

No quantitative (e.g., Monte Carlo or IPCC Approach 1/2) uncertainty analysis has been performed as part of this engagement; the above is a qualitative, structured uncertainty assessment consistent with ISO 14064-1

Clause 8.2 disclosure expectations. A quantitative uncertainty assessment is recommended as a future enhancement, particularly ahead of any third-party verification under ISO 14064-3 (see Section 11).

8.3 Limitations and Assumptions

- This report presents specific (intensity-based) emissions only (t CO₂e per tonne of product); absolute, organization-wide total emissions (t CO₂e) could not be calculated as production-volume data was outside the scope of the source CBAM workbooks provided.
- Scope 3 is limited to Category 1 (Purchased Goods and Services) at the Operator's explicit instruction; this report makes no representation as to the materiality of, or emissions from, other Scope 3 categories, which have not been screened or quantified.
- Underlying Hindalco data has been taken at face value from the jointly-prepared CBAM declarations and has not been independently verified or re-calculated as part of this engagement.
- The reporting periods are of unequal length (Section 5.1); both simple and duration-weighted averages are presented to mitigate resulting comparability distortion.
- This report has not been subject to independent third-party verification (see Section 11); all figures should be considered self-reported pending such verification.

9. GHG Inventory Quality Management

9.1 Roles and Responsibilities

Role	Responsibility	Assigned To
Data Owner (GLS)	Provision and accuracy of GLS-side CBAM declaration data (electricity consumption, direct emissions)	Mr. Abhishek Jain, GLS Aluminium Industries Pvt Ltd
Precursor Data Owner (Hindalco)	Provision and accuracy of Hindalco-side precursor emissions data	Mr. Satish Guvvala, Hindalco Industries Limited
Inventory Compilation & Reporting	Re-classification of source data under ISO 14064-1 structure; quantification; report authorship	Dr. Vijay Sonawane
Management Sign-off	Client-side acceptance of final report for ASI submission use	GLS Aluminium Industries Pvt Ltd Management

9.2 Data Management and Record-Keeping

Source data for this inventory is retained in the four original CBAM Communication Template workbooks and the ASI Entity GHG Pathways Calculation Tool (identified in Section 1.3 and Annexure I), which remain the primary evidentiary record. This report and its calculation workings are retained as controlled work product under the version history in the Document Control section. GLS is recommended to retain both the source workbooks and this report, together with any future verification correspondence, for a minimum of the period required under applicable ASI and CBAM record-retention requirements.

9.3 Quality Assurance Checks Performed

This report is issued directly by its preparer, Dr. Vijay Sonawane, without a separate external review step. The following quality assurance checks were nonetheless performed prior to issue: (i) traceability of every reported figure back to the source CBAM workbook cell or ASI pathway tool cell; (ii) arithmetic verification of all derived totals, averages, and percentage changes; (iii) consistency of terminology and scope classification with ISO 14064-1:2018 and the GHG Protocol; and (iv) plain-language accessibility of the narrative for non-specialist client use.

10. Mapping to ASI Performance Standard V3.1 — Principle 5 (GHG Emissions and Energy)

Table 10.1 cross-references the principal sub-clauses of ASI Performance Standard V3.1, Principle 5 (GHG Emissions and Energy) that this report is intended to evidence, together with Dr. Vijay Sonawane's assessment of the current conformance status. Sub-clause numbering and wording are paraphrased for readability; GLS's ASI conformance assessment team should confirm exact clause wording against the current published ASI Performance Standard V3.1 text.

Table 10.1 — ASI Principle 5 Cross-Reference

Sub-clause	Requirement (Paraphrased)	Evidence in This Report	Status
5.1	Quantify and publicly disclose (at minimum, to relevant stakeholders) Scope 1 and Scope 2 GHG emissions on an annual basis.	Sections 3.1, 3.2, 7.1, 7.2 — Scope 1 and Scope 2 specific emissions quantified and disclosed for all four quarters within the 15-month window.	Substantially addressed — quantified on a specific-emissions basis; absolute (t CO ₂ e) totals pending production-volume data (Section 8.3).
5.2	Quantify and disclose significant Scope 3 emissions, with particular attention to purchased goods and services (Category 1) given the significance of primary aluminium production emissions.	Sections 3.3, 6.4, 7.1 — Scope 3 Category 1 quantified using supplier-specific (Hindalco actual) data for all four quarters.	Addressed for Category 1; other Scope 3 categories not screened (Operator scoping decision, Section 3.3).
5.3	Use a recognized GHG accounting methodology / standard (e.g., GHG Protocol, ISO 14064-1) for quantification.	Sections 1.3, 6.1–6.4 — GHG Protocol (as declared in source data) and ISO 14064-1:2018 structure applied throughout.	Addressed.
5.4	Establish a base year / base period and report emissions trends over time; develop an Entity GHG Pathway from the chosen base year.	Section 5.2, Section 7.3, Figure 7.3, Section 12 — 2025 adopted consistently as base period/base year for both the inventory and the ASI Entity GHG Pathway.	Addressed — single-quarter inventory base period recommended for extension to a full base year once 12 months of continuous data are available.
5.5	Identify and document data quality, assumptions, and uncertainty in GHG reporting.	Section 8 — structured data quality assessment and qualitative uncertainty discussion provided.	Addressed.
5.6	Set, and report progress against, GHG emissions reduction targets aligned with a 1.5°C sectoral pathway.	Section 12 — ASI Entity GHG Pathways Calculation Tool output presented (2025 baseline, archetype-matched 1.5°C-aligned slope to 2050), together with an illustrative, hypothetical decarbonization action plan.	Partially addressed — a data-derived pathway and illustrative actions are presented; these are not yet adopted as a formal, Board-approved GLS target (see Section 12.5 disclaimer).
5.7	Support independent verification of reported GHG data where required by the applicable ASI certification tier.	Section 11 — verification status and readiness discussed; no third-party verification has yet been performed.	Partially addressed — verification-readiness discussion provided; formal verification not yet conducted.

Status ratings are Dr. Vijay Sonawane's professional assessment for internal GLS management planning purposes and do not constitute, and should not be represented as, a formal ASI conformance determination — which remains the sole prerogative of an accredited ASI auditor.

11. Verification Statement

ISO 14064-1:2018 Clause 10 addresses the reporting organization's role in supporting independent verification of its GHG assertions, typically conducted under ISO 14064-3. This report has not, as of its date of issue, been subject to independent third-party verification.

11.1 Verification Status

This report constitutes a self-reported GHG inventory, prepared by Dr. Vijay Sonawane on the basis of data supplied by GLS Aluminium Industries Pvt Ltd and Hindalco Industries Limited. It has not been independently verified or assured by an accredited third-party verification body under ISO 14064-3, or by any ASI-accredited auditor, at the time of issue.

11.2 Verification Readiness

Should GLS elect to pursue third-party verification (recommended ahead of any formal ASI certification audit, and required outright for higher ASI certification tiers), the following are recommended as pre-verification preparatory steps:

- Retain and organize the four source CBAM workbooks referenced in this report (Annexure I) in a form readily accessible to a verifier;
- Obtain, from Hindalco, either a signed data-sharing confirmation or (preferably) evidence that Hindalco's own emissions data has itself been through an internal control or verification process;
- Close the production-volume data gap identified in Section 8.3, to allow absolute (t CO₂e) emissions to be calculated and verified alongside specific (intensity) emissions;
- Consider engaging an ISO 14064-3 accredited verification body, or an ASI-recognized verifier, once the above data gaps have been addressed.

This section should not be interpreted as, and does not constitute, a verification opinion, limited assurance statement, or reasonable assurance statement of any kind.

12. ASI 1.5°C-Aligned Entity GHG Pathway and Illustrative Decarbonization Actions (2025 Baseline)

12.1 The ASI Entity GHG Pathways Framework

ASI Performance Standard V3.1, Criterion 5.3 expects certified Entities to develop a GHG emissions reduction pathway aligned with a 1.5°C global warming trajectory, using ASI's published Entity GHG Pathways Calculation Tool. The tool applies a Sectoral Decarbonization Approach (SDA): an Entity enters its own baseline-year emissions intensity for each relevant process step (e.g., smelting, casthouse, semi-fabrication, material conversion), and the tool matches this to the nearest pre-calculated "archetype" performance band, then scales a 1.5°C-aligned sectoral decarbonization slope (built from International Aluminium Institute / Mission Possible Partnership sector data, published December 2023) to that Entity-specific starting point, producing a year-by-year required emissions-intensity trajectory from the baseline year to 2050.

This report uses ASI's published "v2 Entity GHG Pathways Calculation Tool" (Revision 20/02/2025, "v2 PUBLICATION FINAL", with the 08/05/2025 bug-fix applied), with 2025 selected as the baseline year — consistent with the base period already adopted for the GHG inventory in Section 5.2. Per the tool's own guidance, Entities developing a pathway for the first time are encouraged to use the most recent year for which data is available as the base year, and intermediate targets must cover a period of no more than five years from the chosen base year (i.e., a first intermediate target no later than 2030).

12.2 Entity Baseline Data Applied

GLS's own 15-month average specific emissions figures (Table 7.2) were entered into the ASI tool as the 2025 baseline for two process categories, on the following basis:

ASI Tool Field	Value Entered	Source / Basis
Own operations — Gate-to-Gate emissions intensity (Semi-Fabrication process)	0.945 t CO ₂ e/t Al	GLS's own 15-month average Scope 2 intensity (Table 7.2); Scope 1 is nil, so this equals GLS's total own-operations (gate-to-gate) footprint.
Purchased material — average carbon footprint of purchased aluminium input (Material Conversion process)	19.23 t CO ₂ e/t Al	GLS's 15-month average TOTAL specific emissions (Table 7.2), used as a conservative proxy for the embedded footprint of purchased primary aluminium input.
Data Note — Conservative Proxy Used for Purchased-Material Input - The precise Scope 3, Category 1 average (embedded emissions of purchased Hindalco material alone) is 18.293 t CO₂e/t (Table 7.2). The figure entered into the ASI tool (19.23 t CO₂e/t) is instead GLS's TOTAL average specific emissions, a marginally higher, more conservative figure. - Using the higher total figure as the procurement baseline is a deliberately cautious (not optimistic) simplification — it slightly overstates the purchased-material starting point, which if anything		

ASI Tool Field	Value Entered	Source / Basis
makes the resulting pathway targets marginally more demanding rather than less. • GLS may wish to re-run the ASI tool with the precise 18.293 t CO₂e/t figure in a future cycle for exact alignment; the difference does not materially change the shape of the pathway presented below.		

Based on this baseline data, the ASI tool matched GLS's own-operations intensity to the "semis_archetype_1.170" performance band and its purchased-material intensity to the "post-semis_procurement_archetype_24.8" performance band, and generated the Entity-specific 1.5°C-aligned trajectories presented in Section 12.3.

12.3 GLS's 1.5°C-Aligned Entity Pathway to 2050

Table 12.1 and Figure 12.1 present the ASI tool's archetype-matched output: the required year-by-year emissions-intensity trajectory for (a) GLS's own operations (gate-to-gate, Scope 1+2 equivalent) and (b) the embedded footprint of GLS's purchased aluminium input (Scope 3, Category 1 equivalent), at five-year milestones from the 2025 baseline to 2050.

Table 12.1 — Entity Pathway Milestones (t CO₂e / t Al)

Year	Own Operations (Gate-to-Gate)	Cumulative Reduction	Purchased Material (Scope 3, Cat.1)	Cumulative Reduction
2025	0.946	0.0%	19.249	0.0%
2030	0.787	16.9%	14.650	23.9%
2035	0.684	27.7%	5.497	71.4%
2040	0.559	40.9%	2.735	85.8%
2045	0.464	50.9%	1.409	92.7%
2050	0.056	94.1%	0.355	98.2%

If GLS's own operations and its purchased-material supply chain were to follow this archetype-matched 1.5°C-aligned trajectory, own-operations intensity would fall from 0.946 t CO₂e/t in 2025 to 0.787 t CO₂e/t by 2030 (a 16.9% reduction) and 0.056 t CO₂e/t by 2050 (94.1%), while the purchased-material footprint would need to fall far more steeply — from 19.25 t CO₂e/t in 2025 to 14.65 t CO₂e/t by 2030 (23.9%) and 0.355 t CO₂e/t by 2050 (98.2%). The much steeper required decline for purchased material reflects the fact that primary aluminium smelting (Hindalco's process) is the more carbon-intensive and currently less-decarbonized stage of the value chain, consistent with the Scope 3 Category 1 dominance already established in Section 7.

ASI 1.5°C-Aligned Entity GHG Pathway — GLS Aluminium Industries Pvt Ltd (2025 Baseline)

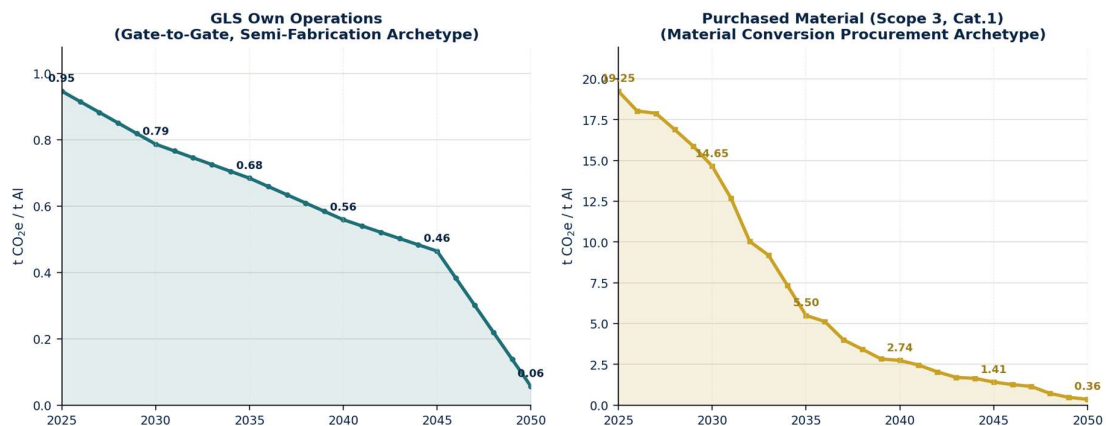


Figure 12.1 — ASI archetype-matched 1.5°C-aligned Entity pathway, 2025–2050 (own operations and purchased material)

12.4 Comparison with Aluminium Sector Benchmarks

The ASI tool's underlying "Sectoral Slopes" data table also publishes global sector-average cradle-to-gate benchmarks (IAI/Mission Possible Partnership, published December 2023), which provide useful context but are not directly comparable to GLS's own archetype slope on a like-for-like basis, because the sectoral figures are cradle-to-gate (i.e., they already include upstream primary production emissions) while GLS's own-operations figure is gate-to-gate only. The appropriate comparison is instead between GLS's purchased-material baseline and the Primary Sectoral Cradle-to-Gate benchmark, both of which represent the embedded footprint of primary aluminium.

Benchmark	2025 Value (t CO2e/t Al)	Comparison to GLS
Primary Aluminium Sectoral Cradle-to-Gate (IAI/MPP global average)	13.10	GLS's purchased-material baseline (19.23–19.25) is materially above this global average, indicating Hindalco's current supply to GLS is more carbon-intensive than the global primary aluminium sector average — plausibly reflecting India's coal-heavy grid electricity mix (Section 6.3) relative to smelters supplied by hydro- or renewable-heavy grids elsewhere.

This comparison reinforces the conclusion already reached in Section 7 and Section 13: the single highest-leverage lever available to GLS for reducing its total product carbon footprint is continued, structured engagement with Hindalco on the decarbonization of its primary smelting supply — GLS's own operations are already a comparatively small share of the total footprint and, on a gate-to-gate basis, are not the primary constraint against the sector's 1.5°C trajectory.

12.5 Illustrative, Hypothetical Decarbonization Action Plan

Important — This Action Plan

- GLS Aluminium Industries Pvt Ltd has not adopted, approved, funded, or committed to any of the actions listed below. No feasibility study, cost estimate, or implementation timeline has been prepared or endorsed by GLS management.
- This table is provided solely as a discussion starting point, showing illustrative categories of action that companies in the aluminium value chain typically pursue to work toward 1.5°C-aligned trajectories similar to the one in Section 12.3.
- It must not be presented to an ASI auditor, financier, customer, or any other third party as an adopted GLS target or committed decarbonization programme. Converting this into a genuine target requires GLS Board or senior management review, feasibility assessment, and formal sign-off — see Section 12.6 and Section 13.2.

Table 12.2 sets out illustrative categories of action, mapped against the pathway milestones in Table 12.1, that could plausibly contribute toward the required trajectory if GLS chose to pursue them. Actions are grouped into GLS's own operations (gate-to-gate) and purchased-material / supplier engagement (Scope 3, Category 1), reflecting the two archetype slopes in Section 12.3.

Table 12.2 — Illustrative Decarbonization Action Categories

Horizon	Illustrative Own-Operations Actions (Gate-to-Gate)	Illustrative Procurement / Supplier-Engagement Actions (Scope 3, Cat.1)
2025–2030 (near-term)	Energy-efficiency retrofits on casting, rolling and finishing lines; compressed-air and process-heat audits; metering upgrades to track intensity per tonne more granularly.	Open a structured decarbonization dialogue with Hindalco; begin tracking the share of ASI-certified or recycled/secondary aluminium content in purchased input as a monitoring indicator.
2030–2035	Renewable electricity procurement (open-access solar/wind PPA or Group Captive arrangement) for a growing share of purchased grid load.	Increase the share of lower-carbon or recycled aluminium input where technically and commercially feasible; monitor Hindalco's own published decarbonization roadmap and renewable power transition.
2035–2040	Further electrification of any remaining thermal process steps; on-site renewable generation and storage where site conditions allow.	Formalize minimum low-carbon content expectations in procurement terms with primary aluminium suppliers, subject to commercial feasibility.
2040–2050 (long-term)	Target near-full renewable electricity supply for own operations; address any residual emissions only after all feasible reduction levers are exhausted.	Align purchased-material sourcing with suppliers pursuing near-zero-carbon primary production routes (e.g., inert-anode or renewable-powered smelting), consistent with the sector-wide 1.5°C transition referenced in Section 12.4.

These categories are deliberately generic and are not costed, sequenced, or technically validated for GLS's specific facility. They are drawn from decarbonization levers commonly discussed across the aluminium value chain and are intended only to give GLS management a starting vocabulary for its own internal target-setting discussion.

12.6 Status and Next Steps

Neither the pathway in Section 12.3 nor the illustrative actions in Section 12.5 constitute a GHG reduction target within the meaning of ASI Performance Standard V3.1, sub-clause 5.6, until GLS formally reviews, adjusts, and adopts them. Suggested next steps are:

- GLS management to review the baseline data entered in Section 12.2 (particularly the conservative procurement-footprint proxy) and, where appropriate, refine it using the precise Scope 3 Category 1 figure (18.293 t CO₂e/t).
- GLS management to review Table 12.2 and determine which, if any, illustrative actions are feasible, and on what cost and timeline basis, converting selected items into a costed, sequenced implementation plan.
- GLS Board or senior management to formally approve a resulting target and intermediate milestones (no more than five years apart, per Section 12.1), and to update Table 10.1's status for sub-clause 5.6 accordingly.
- Re-run the ASI Entity GHG Pathways Calculation Tool with updated data (including, ideally, production-volume data per Section 8.3) at each future reporting cycle to track actual performance against the archetype-matched trajectory.

13. Conclusions and Recommendations

13.1 Conclusions

Over the 15-month period from January 2025 to June 2026, GLS Aluminium Industries Pvt Ltd's total reported specific GHG emissions (Scope 1 + Scope 2 + Scope 3 Category 1) declined by 9.6%, from 20.145 t CO₂e/t in Q1 FY25 to 18.214 t CO₂e/t in Q2 FY26. This improvement was driven both by a 29.3% reduction in GLS's own Scope 2 (electricity) intensity and a 8.4% reduction in the embedded emissions of purchased primary aluminium from Hindalco. Scope 3, Category 1 remains, by a wide margin, the dominant contributor to GLS's total product carbon footprint, averaging 95.1% of total specific emissions across the period — consistent with the well-established emissions profile of the aluminium value chain, in which primary smelting rather than downstream conversion is the principal source of embedded carbon.

Section 12 placed this historical performance against ASI's own 1.5°C-aligned Entity GHG Pathway methodology: on an archetype-matched basis, GLS's own operations would need to reduce gate-to-gate intensity by a further 16.9% by 2030 and 94.1% by 2050 relative to the 2025 baseline, while the embedded footprint of purchased primary aluminium would need to fall by 23.9% by 2030 and 98.2% by 2050. The comparison against global sector benchmarks in Section 12.4 indicates GLS's purchased-material footprint currently sits above the global primary aluminium sector average, reinforcing supplier engagement with Hindalco as the highest-leverage lever available to GLS.

The inventory and pathway presented in this report provide a credible, standards-aligned evidence base for GLS's Scope 1, Scope 2, and Scope 3 Category 1 disclosures under ASI Performance Standard V3.1, Principle 5, and a data-derived (though not yet formally adopted) starting point for target-setting under sub-clause 5.6. Both remain subject to the data-availability and process limitations documented in Section 8.3 and Section 12.6 — most significantly, the absence of production-volume data, the absence of independent third-party verification, and the fact that the Section 12 pathway and action plan have not yet been reviewed or approved by GLS management.

13.2 Recommendations

- Close the production-volume data gap: capture tonnage of product converted (GLS) and tonnage of precursor material supplied (Hindalco) for each future reporting period, to enable calculation of absolute (t CO₂e) Scope 1, 2, and 3 Category 1 emissions alongside the specific emissions already reported.
- Formalize a GHG reduction target: review and adjust the illustrative pathway and hypothetical actions in Section 12, and secure GLS Board or senior management approval of a genuine, costed target and intermediate milestones, to satisfy ASI Performance Standard V3.1, sub-clause 5.6.
- Conduct a full Scope 3 screening exercise: formally assess all fifteen GHG Protocol Scope 3 categories for materiality (not only Category 1), to evidence — rather than assume — the materiality basis described in Section 3.3.
- Standardize the emission factor vintage policy: document, on a per-reporting-cycle basis, which CEA grid emission factor release is applied and why, to improve year-on-year comparability (Section 6.3, Section 8.2).
- Align reporting period lengths: where practicable, align future declaration cycles to consistent three-month quarters to remove the comparability caveat identified in Section 5.1 and Section 8.3.
- Pursue third-party verification: engage an ISO 14064-3 accredited verifier or ASI-recognized auditor once the above data gaps are addressed, per the readiness steps in Section 11.2.

- Extend supplier engagement: given Scope 3 Category 1 (Hindalco-sourced) dominance of GLS's total footprint and its position above the global primary sector benchmark (Section 12.4), prioritize structured engagement with Hindalco on its own decarbonization roadmap as the highest-leverage action available to GLS for reducing its product carbon footprint.
- Re-run the ASI Entity GHG Pathways Calculation Tool annually with updated baseline data, tracking actual performance against the archetype-matched trajectory in Table 12.1.

Annexure I — Complete Quarterly CBAM Declaration Data

This annexure reproduces, in full, every populated field from the four source CBAM Communication Template workbooks underlying this report, for GLS Aluminium Industries Pvt Ltd (Operator, Attributed Emissions) and Hindalco Industries Limited (Precursor, Precursory/Embedded Emissions). Fields left blank in the original source workbooks (e.g., carbon-price-due and covered-goods fields, which were not applicable for either party in any of the four quarters) are marked "Not reported" below, consistent with the source documents. The complete original workbooks remain the primary evidentiary record and are held by GLS Aluminium Industries Pvt Ltd and Dr. Vijay Sonawane per Section 9.2.

Q1 FY25 (January 2025 – March 2025)

Operator

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Operator Name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country	INDIA	INDIA
City with Code number	Rewari - 123035	Hirakud - 768016
Name	Abhishek Jain	Satish Guvvala
Phone number	919990908651	8422917700
e-mail	abhishek.jain@glspolyfilms.com	satish.guvvala@adityabirla.com

Installation

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Installation name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country of establishment	India	India

Direct Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Type of applicable reporting methodology	GHG Protocol	GHG Protocol
Specific (direct) emissions [t CO ₂ /unit]	0	2.054
Type of measurement unit	Tonnes	Tonnes

Indirect Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Source of emission factor	Other	Other
Source of electricity	Received from the grid	Received from the grid
Electricity consumed [Mwh/unit]	1.55676	23.7095
Emission factor [t CO ₂ /MWh]	0.716	0.716

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Specific (indirect) emissions [t CO ₂ /unit]	1.11464	16.976002
Type of measurement unit	Tonnes	Tonnes
Source of emissions factor value	Central Electricity Authority, India	Central Electricity Authority, India

Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of instrument	choose one of the options below	choose one of the options below
Description and indication of legal act	Not reported	Not reported
Amount of the carbon price due	Not reported	Not reported
Currency	Not reported	Not reported

Goods Covered Under Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of goods covered	choose one of the options below	choose one of the options below
Quantity of emissions covered	Not reported	Not reported
Quantity covered by free allocations, any rebate or any other form of compensation	Not reported	Not reported
CN code of goods covered	Not reported	Not reported
Additional information	Not reported	Not reported

Q2 FY25 (April 2025 – September 2025)**Operator**

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Operator Name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country	INDIA	INDIA
City with Code number	Rewari - 123035	Hirakud - 768016
Name	Abhishek Jain	Satish Guvvala
Phone number	919990908651	8422917700
e-mail	abhishek.jain@glspolyfilms.com	satish.guvvala@adityabirla.com

Installation

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Installation name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country of establishment	India	India

Direct Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Type of applicable reporting methodology	GHG Protocol	GHG Protocol
Specific (direct) emissions [t CO ₂ /unit]	0	2.054
Type of measurement unit	Tonnes	Tonnes

Indirect Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Source of emission factor	Other	Other
Source of electricity	Received from the grid	Received from the grid
Electricity consumed [Mwh/unit]	1.39133	23.7095
Emission factor [t CO ₂ /MWh]	0.727	0.727
Specific (indirect) emissions [t CO ₂ /unit]	1.011497	17.236807
Type of measurement unit	Tonnes	Tonnes
Source of emissions factor value	Central Electricity Authority, India	Central Electricity Authority, India

Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of instrument	choose one of the options below	choose one of the options below
Description and indication of legal act	Not reported	Not reported

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Amount of the carbon price due	Not reported	Not reported
Currency	Not reported	Not reported

Goods Covered Under Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of goods covered	choose one of the options below	choose one of the options below
Quantity of emissions covered	Not reported	Not reported
Quantity covered by free allocations, any rebate or any other form of compensation	Not reported	Not reported
CN code of goods covered	Not reported	Not reported
Additional information	Not reported	Not reported

Q1 FY26 (January 2026 – March 2026)**Operator**

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Operator Name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country	INDIA	INDIA
City with Code number	Rewari - 123035	Hirakud - 768016
Name	Abhishek Jain	Satish Guvvala
Phone number	919990908651	8422917700
e-mail	abhishek.jain@glspolyfilms.com	satish.guvvala@adityabirla.com

Installation

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Installation name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country of establishment	India	India

Direct Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Type of applicable reporting methodology	GHG Protocol	GHG Protocol
Specific (direct) emissions [t CO ₂ /unit]	0	1.856
Type of measurement unit	Tonnes	Tonnes

Indirect Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Source of emission factor	Other	Other
Source of electricity	Received from the grid	Received from the grid
Electricity consumed [Mwh/unit]	1.22	21.93
Emission factor [t CO ₂ /MWh]	0.71	0.71
Specific (indirect) emissions [t CO ₂ /unit]	0.8662	15.5703
Type of measurement unit	Tonnes	Tonnes
Source of emissions factor value	Central Electricity Authority, India	Central Electricity Authority, India

Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of instrument	choose one of the options below	choose one of the options below
Description and indication of legal act	Not reported	Not reported

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Amount of the carbon price due	Not reported	Not reported
Currency	Not reported	Not reported

Goods Covered Under Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of goods covered	choose one of the options below	choose one of the options below
Quantity of emissions covered	Not reported	Not reported
Quantity covered by free allocations, any rebate or any other form of compensation	Not reported	Not reported
CN code of goods covered	Not reported	Not reported
Additional information	Not reported	Not reported

Q2 FY26 (April 2026 – June 2026)**Operator**

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Operator Name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country	INDIA	INDIA
City with Code number	Rewari - 123035	Hirakud - 768016
Name	Abhishek Jain	Satish Guvvala
Phone number	919990908651	8422917700
e-mail	abhishek.jain@glspolyfilms.com	satish.guvvala@adityabirla.com

Installation

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Installation name	GLS Aluminium Industries Pvt Ltd	Hindalco Industries Limited
Country of establishment	India	India

Direct Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Type of applicable reporting methodology	GHG Protocol	GHG Protocol
Specific (direct) emissions [t CO ₂ /unit]	0	1.856
Type of measurement unit	Tonnes	Tonnes

Indirect Emissions

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of determination	Actual data	Actual data
Source of emission factor	Other	Other
Source of electricity	Received from the grid	Received from the grid
Electricity consumed [Mwh/unit]	1.11	21.93
Emission factor [t CO ₂ /MWh]	0.71	0.71
Specific (indirect) emissions [t CO ₂ /unit]	0.7881	15.5703
Type of measurement unit	Tonnes	Tonnes
Source of emissions factor value	Central Electricity Authority, India	Central Electricity Authority, India

Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of instrument	choose one of the options below	choose one of the options below
Description and indication of legal act	Not reported	Not reported

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Amount of the carbon price due	Not reported	Not reported
Currency	Not reported	Not reported

Goods Covered Under Carbon Price Due

Field	GLS (Attributed Emissions)	Hindalco (Precursory / Embedded Emissions)
Type of goods covered	choose one of the options below	choose one of the options below
Quantity of emissions covered	Not reported	Not reported
Quantity covered by free allocations, any rebate or any other form of compensation	Not reported	Not reported
CN code of goods covered	Not reported	Not reported
Additional information	Not reported	Not reported

Source workbooks: (1) Q1_FY_25 (Jan25–Mar25) CBAM report structure for supplier v.1, 04.04.2025; (2) Q2_FY_25 (Apr25–Sep25) CBAM report structure for supplier v.1, 04.10.2025; (3) CBAM_report_Data_structure_Q1 (Jan26–Mar26); (4) CBAM_report_Data_structure_Q2 (Apr26–Jun26).

Annexure II — Glossary of Terms

Term	Definition
Base year / base period	A specific historic period against which an organization's GHG emissions are tracked over time (ISO 14064-1:2018, 3.2.5, paraphrased).
Direct GHG emissions	GHG emissions from GHG sources owned or controlled by the organization (Scope 1).
Energy indirect GHG emissions	GHG emissions from the generation of imported/purchased electricity, heat, steam, or cooling consumed by the organization (Scope 2).
Other indirect GHG emissions	GHG emissions that are a consequence of an organization's activities but occur at sources owned or controlled by another organization (Scope 3).
Organizational boundary	The boundary that determines the operations owned or controlled by the reporting organization, based on the consolidation approach chosen (equity share, financial control, or operational control).
Reporting boundary	The scope of direct and indirect GHG emissions and removals determined by an organization for its GHG inventory.
Archetype / archetypal slope	Within the ASI Entity GHG Pathways Calculation Tool, a pre-calculated 1.5°C-aligned emissions-intensity trajectory representing a discrete band of baseline-year performance, to which an Entity's own baseline data is matched (Section 12.1).
Sectoral Decarbonization Approach (SDA)	A methodology that allocates a sector-wide decarbonization trajectory across individual entities based on their starting emissions intensity relative to the sector range.
Specific / intensity-based emissions	GHG emissions expressed per unit of output or activity (here, per tonne of aluminium product), rather than as an absolute total.
Supplier-specific data	Emissions data obtained directly from an entity's own supplier, reflecting that supplier's actual operations, as opposed to industry-average or estimated data.

Annexure III — References

- ISO 14064-1:2018 — Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. International Organization for Standardization.
- Greenhouse Gas Protocol — A Corporate Accounting and Reporting Standard (Revised Edition). World Resources Institute / World Business Council for Sustainable Development.
- Greenhouse Gas Protocol — Corporate Value Chain (Scope 3) Accounting and Reporting Standard. World Resources Institute / World Business Council for Sustainable Development.
- Aluminium Stewardship Initiative — ASI Performance Standard, Version 3.1.
- Aluminium Stewardship Initiative — Entity GHG Pathways Calculation Tool, v2 (Revision 20/02/2025, "v2 PUBLICATION FINAL", with 08/05/2025 bug-fix applied); sectoral archetype and benchmark data sourced from the International Aluminium Institute and Mission Possible Partnership (CCAF, published 4 December 2023).
- Regulation (EU) 2023/956 of the European Parliament and of the Council establishing a carbon border adjustment mechanism ('CBAM Regulation').
- Commission Implementing Regulation (EU) 2023/1773 laying down the rules for the application of Regulation (EU) 2023/956 as regards reporting obligations for the transitional period of the CBAM.
- Central Electricity Authority, Government of India — CO2 Baseline Database for the Indian Power Sector (User Guide, successive versions), as referenced for the grid emission factors applied in the source CBAM declarations.