SAKTHI SAI CARTONS

(Mfrs. of Printed Corrugated Cartons Box)

No. 3/78, Earrikkarai Road, Kollancherry,
Kundrathur, Chennai-600069. Tamil Nadu, India.

GHG Emission Report

April 2024 to March 2025

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Prepared by : S. Bhrathi
ESG Co-ordinator

SAKTHI SAI CARTONS KUNDRATHUR CHENNAI - 69

Approved by : G. Indirani
Manager

1. Executive Summary

1.1 Overview of Organization and Reporting Period

SSC is an India-based manufacturing company engaged in the production and supply of carton boards and corrugated boxes. The organization has integrated Environmental, Social, and Governance (ESG) principles into its operations. This GHG emission report covers emissions for the reporting period 1 April 2023 to 31 March 2024.

1.2 Key Emission Results

Organizational Boundary

Sakthi Sai Cartons

No. 3/78, Earrikkarai Road, Kollancherry, Kundrathur, Chennai-600069. Tamil Nadu, India.

Calculation period: April 2024 to March 2025

All values are in MT CO2 e

GHG Emission Reporting Frequency: Annually

EMISSIONS	CURRENT YEAR APRIL 2024 – MARCH 2025
Scope 1	0.84
Scope 2	146.72
Scope 3	1794.02
Scope 3 Upstream	1770.77
Scope 3 Downstream	23.25
Total GHG Emission	**1941.58**

1.3 Highlights & Reduction Achievements

- Electricity optimization through efficient machinery usage
- Increased use of recycled paper inputs
- Waste segregation and responsible disposal practices
- Monitoring of diesel consumption for DG sets
- Initiation of ESG-aligned data tracking systems

2. Introduction

2.1 Purpose of the Report

The purpose of this report is to systematically quantify, document, and transparently disclose SSC's greenhouse gas emissions in line with internationally recognized standards, enabling accurate monitoring, regulatory compliance, informed decision-making, and continuous improvement in environmental performance and climate change mitigation efforts.

2.2 Intended Users

- Customers and supply chain partners
- ESG rating agencies (e.g., EcoVadis)
- Regulators and auditors
- Management and internal stakeholders

2.3 Reporting Objectives

- Voluntary ESG disclosure
- Customer sustainability requirements
- Alignment with ISO 14064-1 and GHG Protocol
- Establishing a baseline for emission reduction planning

3. Organization Description

3.1 Company Profile

SSC manufactures carton boards and corrugated boxes catering to industrial and consumer packaging needs. Its operations include paper processing, board formation, printing, cutting, and finishing activities. These processes support the production of durable, customized, and sustainable packaging solutions while ensuring quality, efficiency, and compliance with applicable environmental and operational standards.

3.2 Organizational Structure

SSC operates under a centralized management structure to ensure effective governance and operational control. Dedicated functional teams manage production, procurement, logistics, administration, and ESG oversight. This structure enables clear accountability, streamlined decision-making, and coordinated implementation of sustainability initiatives across all departments and operational activities.

3.3 Operations, Facilities, and Boundaries

SSC's operations include a manufacturing facility with paperboard processing lines, warehousing and dispatch areas, and administrative offices. Utility systems comprise grid electricity supply and diesel generators for backup power. Organizational and operational boundaries cover all activities under SSC's direct control relevant to production, support functions, and energy consumption.

4. Reporting Boundary

4.1 Organizational Boundary

SSC has adopted the Operational Control Approach, as defined under the GHG Protocol.

4.2 Operational Boundary

Emissions are classified and reported under:

- **Scope 1:** Direct emissions
- **Scope 2:** Energy indirect emissions
- **Scope 3:** Other indirect emissions

4.3 Entities and Locations Covered

The greenhouse gas inventory covers one manufacturing facility located in India, along with all supporting administrative functions. These include production-related operations, on-site utilities, warehousing, dispatch activities, and office-based administrative processes that are under the operational control of the organization and contribute to its overall energy use and emissions profile.

5. Reporting Period

- **Start Date:** 1 April 2024
- **End Date:** 31 March 2025
- **Frequency**: Annual reporting

6. GHG Accounting Methodology

6.1 Standards Followed

- ISO 14064-1:2018
- GHG Protocol – Corporate Accounting and Reporting Standard
- IPCC Guidelines (2006 & 2019 Refinement)

6.2 Calculation Approach

GHG emissions were calculated using the formula:

- **GHG Emissions = Activity Data × Emission Factor**

6.3 Tools or Software Used

- Spreadsheet-based calculation templates
- Emission factor databases (IPCC, DEFRA, India Grid Factor)

7. Emission Sources Identification

7.1 Direct and Indirect Sources

- Diesel consumption (DG set)
- Purchased electricity
- Raw material procurement
- Transportation and logistics
- Waste management
- Employee commuting

7.2 Mapping of Emission Sources

All operational activities were systematically identified and mapped to relevant greenhouse gas emission sources. Each activity was evaluated based on SSC's level of control and influence, ensuring accurate allocation to the appropriate emission scope. This mapping supports completeness, consistency, and transparency in identifying direct and indirect emission sources.

7.3 Scope Categorization

Identified emission sources were classified under Scope 1, Scope 2, and Scope 3 in accordance with the GHG Protocol. This categorization distinguishes between direct emissions, indirect emissions from purchased energy, and other indirect emissions across the value chain, enabling structured reporting and effective emissions management.

8. GHG Scope Classification

8.1 Scope 1 – Direct Emissions (0.84 tCO_2e)

- Stationary combustion: Diesel used in DG set
- Mobile combustion: Minimal company-owned vehicle usage
- Fugitive emissions: Negligible (no refrigerant systems)
- Process emissions: Not applicable

8.2 Scope 2 – Indirect Energy Emissions (146.72 tCO_2e)

- Purchased electricity from the Indian grid
- Calculated using India grid emission factor

8.3 Scope 3 – Other Indirect Emissions (1,794.02 tCO_2e)

Upstream (1,770.77 tCO_2e):

- Purchased paper and board raw materials
- Inbound transportation
- Waste disposal
- Employee commuting

Downstream (23.25 tCO_2e):

- Outbound transportation of finished products
- Distribution to customers

9. GHG Data Collection & Quality

9.1 Data Sources & Collection Method

- Electricity bills
- Fuel purchase records
- Supplier invoices
- Transport logs
- HR commuting data

9.2 Accuracy, Completeness, and Reliability

Primary data was used wherever available. Secondary data and assumptions were applied conservatively where gaps existed.

9.3 Data Management Procedure & Controls

- Centralized ESG data tracking
- Management review and validation
- Version-controlled calculation sheets

10. Emission Factors

10.1 Source of Emission Factors

Greenhouse gas calculations were carried out using internationally recognized references, including the IPCC Guidelines, the DEFRA Emission Factor Database, the Central Electricity Authority of India grid emission factors, and GHG Protocol Technical Guidance. These sources ensure the use of credible, consistent, and regionally relevant emission factors, supporting accuracy, transparency, and comparability of reported emissions.

10.2 Units and Justification

All emission factors are expressed in kilograms of carbon dioxide equivalent (kg CO_2e) per unit of activity and are consistently applied across all emission sources. For reporting and aggregation purposes, the calculated emissions are converted into metric tonnes of carbon dioxide equivalent (tCO_2e), ensuring clarity, standardization, and alignment with international greenhouse gas reporting practices.

11. Calculation Results

11.1 Total GHG Emissions

Scope	Emissions (tCO_2e)
Scope 1	0.84
Scope 2	146.72
Scope 3	1794.02
Total GHG Emission	**1941.58**

Gas-wise breakup (Scope 1):

- CO_2: Majority
- CH_4 & N_2O: Minor contributions

11.2 Emission Breakdown by Source

- Raw materials procurement – dominant contributor
- Electricity consumption – second highest
- Transportation – moderate contribution

(Graphical representation recommended for final published report)

11.3 Emission Intensity Indicators (assumed values)

- CO_2e per employee
- CO_2e per tonne of carton board produced

12. Base Year & Trend Analysis

12.1 Base Year Selection

FY 2023–24 has been selected as the base year for greenhouse gas accounting, as it represents the first year in which SSC implemented a structured and systematic GHG inventory. This base year provides a reliable reference point for future performance tracking, target setting, and continuous improvement in emissions management.

12.2 Historical Comparison

Historical comparison is not applicable for the current reporting period, as FY 2023–24 represents SSC's first year of formal greenhouse gas reporting. Consequently, no prior verified or structured emissions data is available to enable year-on-year comparison or trend analysis at this stage.

12.3 Adjustments

No structural, organizational, or operational changes occurred during the reporting period that would materially affect greenhouse gas emissions. Accordingly, no adjustments to the base year or reported emissions data were required, ensuring consistency and reliability of the emissions inventory for FY 2023–24.

13. Uncertainty Assessment

13.1 Sources of Uncertainty

- Supplier-provided activity data
- Estimated transportation distances
- Emission factor variability

13.2 Method Used

A qualitative uncertainty assessment was conducted based on the reliability, accuracy, and completeness of data sources used for greenhouse gas calculations. Factors such as primary versus secondary data, measurement methods, assumptions applied, and consistency of records were evaluated to understand potential uncertainties and their influence on overall emission estimates.

13.3 Confidence Level

Based on the qualitative assessment of data quality and calculation methods, the overall confidence level of the greenhouse gas inventory is assessed as medium to high. The use of recognized standards, credible emission factors, and verified activity data supports reasonable assurance of the accuracy and reliability of reported emissions.

14. Data Quality Assessment

14.1 Quality Rating

- Activity data: Medium–High
- Emission factors: High

14.2 Cross-Checks and Validations

- Consistency checks
- Year-on-year plausibility review
- Management sign-off

15. GHG Reduction Initiatives

15.1 Energy Efficiency Programs

- Preventive maintenance of machinery
- Load optimization

15.2 Waste & Water Reduction Measures

- Increased recycled paper usage
- Waste segregation and vendor audits

15.3 Future Sustainability Goals

- Renewable electricity sourcing
- Supplier engagement on carbon reduction
- Low-emission logistics planning

16. Conclusions

SSC's total GHG emissions for the reporting year stand at 1,941.58 tCO_2e, with Scope 3 emissions being the most significant contributor. The organization has taken meaningful initial steps toward ESG integration and GHG management. Going forward, SSC plans to strengthen data accuracy, set reduction targets, and implement carbon-reduction initiatives aligned with best practices.