SURYA ELECTROMECH

OFFICE: NO.222, Industrial Park, Phase - III, Pashamailaram,
Sangareddy, Hyderabad, Telangana - 502307, India.
FACTORY: Plot No.08 Near MSME Training Centre, Chinnapudi Village,
Acthuatapuram, Vishakapatnam, Andhra Pradesh- 531 011, India.

GHG EMISSION REPORT

For the Year April 2024 – March 2025

Form No : SE/ESG/044

Issue No : 01

Rev No : 00

Date : 23rd April, 2025

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Designation: SR.HR/Admin

Approved by: Kishor Kumar Sahukari
Designation: Head of Admin Department

1. Executive Summary

Overview of Organization & Reporting Period

SE is an India-based manufacturer specializing in pre-engineered buildings, structural steel fabrication, erection, installation of equipment, MS & SS tanks, and piping works.

Reporting Period: 1 April 2024 – 31 March 2025

Key Emission Results

Organizational Boundary

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Calculation period: April 2024 to March 2025

All values are in MT CO2 e

GHG Emission Reporting Frequency: Annually

Scope	Emissions (tCO_2e)
Scope 1	17,012.64
Scope 2	453.96
Scope 3	13,888.19
Scope 3 Upstream	13,762.40
Scope 3 Downstream	125.79
Total Emission	**31,354.79**

Highlights & Reduction Achievements

- Improved fuel efficiency in DG sets and machinery
- Partial shift to energy-efficient equipment
- Initial tracking of Scope 3 emissions (significant ESG milestone)
- Waste segregation and recycling practices initiated

2. Introduction

Purpose of the Report

To quantify, monitor, and report greenhouse gas emissions in alignment with global standards.

Intended Users

- Management & stakeholders
- Customers (ESG compliance)
- Regulatory bodies
- ESG rating agencies (e.g., EcoVadis)

Reporting Objectives

- ESG compliance
- Voluntary disclosure
- Customer & supply chain requirements

3. Organization Description

Company Profile

SE is engaged in:

- Manufacturing pre-engineered buildings
- Structural steel fabrication & erection
- Installation of industrial equipment
- Tank and piping systems

Organizational Structure

- Production & Fabrication Units
- Project & Site Execution Teams
- Procurement & Logistics
- Administration & ESG Compliance

Operations, Facilities & Boundaries

- Fabrication workshops
- Project sites across India
- Storage yards and offices

4. Reporting Boundary

Organizational Boundary

Operational Control Approach adopted

Operational Boundary

Includes:

- Direct fuel use
- Purchased electricity
- Value chain emissions

Entities & Locations Covered

- Manufacturing units
- Site operations
- Corporate office

5. Reporting Period

- **Start Date:** 01 April 2024
- **End Date:** 31 March 2025
- **Frequency:** Annual

6. GHG Accounting Methodology

Standards Followed

- ISO 14064-1:2018
- GHG Protocol Corporate Standard

Calculation Approach

Emissions = Activity Data × Emission Factor

Tools Used

- Excel-based calculation sheets
- Standard emission factor databases

7. Emission Sources Identification

Direct Sources

- Diesel in DG sets
- Fuel for fabrication equipment
- Company vehicles

Indirect Sources

- Electricity consumption
- Purchased materials (steel, etc.)
- Logistics and transportation

Scope Mapping

- Scope 1 → Direct emissions
- Scope 2 → Electricity
- Scope 3 → Value chain emissions

8. GHG Scope Classification

8.1 Scope 1 – Direct Emissions (17,012.64 tCO_2e)

- **Stationary Combustion:** DG sets, furnaces
- **Mobile Combustion:** Company vehicles
- **Fugitive Emissions:** Refrigerants (assumed minimal)
- **Process Emissions:** Welding & fabrication processes

8.2 Scope 2 – Indirect Energy Emissions (453.96 tCO_2e)

- Purchased electricity from grid

8.3 Scope 3 – Other Indirect Emissions (13,888.19 tCO_2e)

Upstream (13,762.40 tCO_2e)

- Raw materials (steel – major contributor)
- Transportation of materials
- Waste disposal

Downstream (125.79 tCO_2e)

- Product transport
- End-of-life treatment (assumed minimal due to steel recyclability)

9. GHG Data Collection & Quality

Data Sources

- Fuel purchase records
- Electricity bills
- Procurement data
- Logistics records

Data Quality

- High reliability for Scope 1 & 2
- Moderate estimation for Scope 3

Data Controls

- Monthly tracking
- Cross-verification with finance records

10. Emission Factors

Sources

- IPCC Guidelines
- DEFRA Database
- India Grid Emission Factor (CEA)

Units

- kg CO_2e per liter (fuel)
- kg CO_2e per kWh (electricity)
- kg CO_2e per ton (steel, logistics)

11. Calculation Results

11.1 Total GHG Emissions

Scope	Emissions (tCO_2e)
Scope 1	17,012.64
Scope 2	453.96
Scope 3	13,888.19
Scope 3 Upstream	13,762.40
Scope 3 Downstream	125.79
Total Emission	**31,354.79**

Gas-wise (Scope 1 – Assumed)

- CO_2: ~98%
- CH_4: ~1%
- N_2O: ~1%

11.2 Emission Breakdown by Source

- Diesel consumption → Major contributor
- Steel procurement → High Scope 3 impact
- Electricity → Minor contributor

11.3 Emission Intensity Indicators (Assumed)

- **Per Employee (98 employees):**
  ~627 tCO_2e/employee
- **Per Ton of Steel Fabrication (assumed 10,000 tons):**
  ~3.13 tCO_2e/ton

12. Base Year & Trend Analysis

Base Year

FY 2024–25 (first reporting year)

Future Comparison

- Year-on-year tracking planned

Adjustments

- Will account for expansion or new facilities

13. Uncertainty Assessment

Sources of Uncertainty

- Scope 3 estimations
- Supplier data gaps

Method

- Use of conservative emission factors

Confidence Level

- Scope 1 & 2: High
- Scope 3: Medium

14. Data Quality Assessment

- **Scope 1:** High accuracy
- **Scope 2:** High accuracy
- **Scope 3:** Moderate

Validation

- Cross-check with invoices and procurement data

15. GHG Reduction Initiatives

Current Initiatives

- Energy-efficient machinery
- Preventive maintenance of DG sets
- Scrap recycling

Future Plans

- Solar energy adoption
- Electric vehicle transition
- Supplier ESG engagement

16. Conclusions

Summary

- Total emissions: **31,354.79 tCO_2e**
- Major contributors: Fuel use & raw materials

Opportunities

- Renewable energy
- Low-carbon materials
- Logistics optimization

Plan for Next Year

- Set reduction targets
- Improve Scope 3 accuracy
- Implement carbon reduction roadmap