MEHTA PRESSING

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S-116/1 M.I.D.C. BHOSARI, PUNE - 411 026, MAHARASTRA, INDIA.

GHG EMISSION REPORT

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MRS. BHAGYASHREE HR & ADMIN	MR. PUSHPAK DHAKANE SYSTEM CO ORDINATOR	MR. SHUBHAM MEHTA DIRECTOR OPERATIONS

1. Executive Summary

Overview of Organization & Reporting Period

Mehta Pressing is a Pune-based manufacturing company specializing in the production and supply of sheet metal components and fabricated assemblies. The organization operates with a focus on quality and ESG integration. This report presents the greenhouse gas emissions inventory for the period from April 2024 to March 2025.

Key Emission Results

Scope	Emissions (tCO_2e)
Scope 1	7.2
Scope 2	368.3
Scope 3	11,048.7
Total	**11,424.2**

Highlights & Reduction Achievements

- Scope 3 contributes **~97%** of total emissions (value chain dominant).
- Energy efficiency measures reduced Scope 2 intensity slightly.
- Initial ESG integration framework established.

2. Introduction

Purpose of the Report

The purpose of this report is to systematically quantify, monitor, and report greenhouse gas emissions generated from organizational activities. It aligns with globally recognized standards to ensure transparency, accuracy, and consistency, while supporting ESG commitments, regulatory expectations, and informed decision-making for reducing environmental impact and improving sustainability performance.

Intended Users

- Customers & OEM clients
- ESG rating agencies
- Internal management
- Regulatory stakeholders

Reporting Objectives

- ESG compliance
- Customer requirement
- Voluntary disclosure

3. GHG Emissions Summary

3.1 Organizational Boundaries

The organizational boundary is defined using the operational control approach, wherein all facilities and operations under the company's control are included in the GHG inventory. This ensures that emissions from activities where the organization has authority to implement policies and procedures are fully accounted for, ensuring completeness, consistency, and transparency.

3.2 Reporting Boundary & Scope Definition

Scope	Category	Description	Typical Sources	Examples (Mehta Pressing)
Scope 1	Direct Emissions	Emissions from sources owned or controlled by the company	Fuel combustion, company-owned vehicles, refrigerants	DG set diesel usage, LPG for heating, company vehicles, AC refrigerant leakage
Scope 2	Indirect Energy Emissions	Emissions from purchased electricity, steam, heating, or cooling consumed by the company	Grid electricity consumption	Electricity used for machinery, fabrication processes, lighting, compressors
Scope 3 (Upstream)	Indirect Emissions (Supply Chain)	Emissions occurring before goods/services reach the company	Raw materials, supplier transport, waste, employee commuting	Steel procurement, inbound logistics, packaging materials, employee commuting, vendor activities

Scope 3 (Downstream)	Indirect Emissions (Customer Side)	Emissions occurring after products leave the company	Distribution, product use, end-of-life treatment	Transportation of finished components to customers, product lifecycle emissions, scrap disposal by customers

3.3 Scope 3 Category Inclusion Table

Category	Included	Remarks
Purchased Goods & Services	Yes	Steel, sheet metal coils, bought-out components, consumables
Capital Goods	Yes	Machinery, presses, fabrication equipment (amortized impact considered)
Fuel & Energy Related Activities (Not in Scope 1 & 2)	Yes	Upstream emissions from fuel extraction, electricity transmission losses
Upstream Transportation & Distribution	Yes	Transport of raw materials from suppliers to plant
Waste Generated in Operations	Yes	Scrap metal disposal, hazardous waste handling
Business Travel	Yes	Employee travel for client meetings, audits (minimal impact)
Employee Commuting	Yes	Daily travel of 150 employees (two-wheelers, buses, cars)
Upstream Leased Assets	No	No significant leased assets identified
Downstream Transportation & Distribution	Yes	Delivery of finished components to OEM customers
Processing of Sold Products	No	No further processing emissions tracked (components used by customers)
Use of Sold Products	No	Products (metal components) do not emit during use phase
End-of-Life Treatment of Sold Products	Yes	Recycling or disposal of metal components

Downstream Leased Assets	No	Not applicable
Franchises	No	Not applicable
Investments	No	Not applicable

4. Organization Description

4.1 Company Profile

- Name: Mehta Pressing
- Location: Pune, Maharashtra, India
- Industry: Sheet Metal Manufacturing
- Employees: 150

4.2 Organizational Structure

- Production
- Quality
- Procurement
- ESG/EHS

4.3 Operations & Facilities

- Manufacturing plant (Bhosari MIDC)
- Fabrication, pressing & assembly operations

5. Reporting Boundary

5.1 Organizational Boundary

- Operational control approach applied

5.2 Operational Boundary

- Includes all Scope 1, 2, and relevant Scope 3 emissions

5.3 Entities Covered

- Single manufacturing facility in Pune

6. Reporting Period

Parameter	Details
Start Date	April 1, 2024
End Date	March 31, 2025
Frequency	Annual

7. GHG Accounting Methodology

7.1 Standards Followed

- ISO 14064-1
- GHG Protocol

7.2 Calculation Approach

Emissions = Activity Data × Emission Factor

7.3 Tools Used

- Excel-based calculation tools
- Emission factor databases

8. Emission Sources Identification

This section identifies all relevant greenhouse gas (GHG) emission sources across operations and value chain activities of Mehta Pressing, ensuring completeness as per ISO 14064-1 and GHG Protocol.

8.1 Direct & Indirect Sources

Source Type	Nature	Scope	Description	Examples (Mehta Pressing)
Stationary Combustion	Direct	Scope 1	Fuel combustion in fixed equipment	DG sets, furnaces, LPG usage

Mobile Combustion	Direct	Scope 1	Fuel use in company-owned vehicles	Diesel vehicles for internal transport
Fugitive Emissions	Direct	Scope 1	Leakage of refrigerants or gases	HVAC systems, AC units
Purchased Electricity	Indirect	Scope 2	Emissions from grid electricity consumption	Machinery operation, lighting, compressors
Purchased Materials	Indirect	Scope 3 (Upstream)	Emissions from raw material production	Steel sheets, coils, components
Inbound Logistics	Indirect	Scope 3 (Upstream)	Transport of raw materials	Supplier-to-plant transportation
Waste Disposal	Indirect	Scope 3 (Upstream)	Treatment and disposal of waste	Scrap metal recycling, hazardous waste
Employee Commuting	Indirect	Scope 3	Daily travel emissions	Two-wheelers, buses, cars
Business Travel	Indirect	Scope 3	Official travel emissions	Flights, taxis (limited)
Outbound Logistics	Indirect	Scope 3 (Downstream)	Delivery of finished goods	Transport to OEM customers
End-of-Life Treatment	Indirect	Scope 3 (Downstream)	Disposal/recycling of products	Metal recycling at customer end

8.2 GHG Emission Baseline & Targets

a. Baseline Year

- **Year:** 2024
- Selected as the first year of complete and reliable GHG data collection

b. Baseline Emissions

Scope	Emissions (tCO_2e)
Scope 1	7.2
Scope 2	368.3
Scope 3	11,048.7
Total	**11,424.2**

c. GHG Reduction Targets

Target Type	Description	Timeline
Energy Reduction	Reduce electricity consumption by 10% through efficiency improvements	By 2027
Renewable Energy	Install solar power to replace grid electricity	By 2028
Scope 3 Reduction	Engage suppliers to reduce carbon footprint of raw materials	By 2030
Logistics Optimization	Improve transport efficiency and route planning	Ongoing
Waste Reduction	Increase recycling rate of scrap metal	Ongoing

d. Strategic Direction

- Focus on **Scope 3 reduction**, as it contributes ~97% of emissions
- Gradual transition toward **low-carbon manufacturing**

8.3 Mapping to Facilities

Facility Area	Activities	Emission Sources	Scope
Production Floor	Pressing, fabrication, welding	Electricity, LPG/fuel	Scope 1 & 2

Utility Area	DG sets, compressors	Diesel consumption, electricity	Scope 1 & 2
Warehouse & Storage	Material handling	Electricity, forklifts (if fuel-based)	Scope 1 & 2
Administrative Office	Office operations	Electricity usage	Scope 2
Inbound Logistics Interface	Raw material receiving	Transport emissions	Scope 3 (Upstream)
Outbound Dispatch Area	Finished goods shipment	Transport emissions	Scope 3 (Downstream)
Waste Handling Area	Scrap collection & disposal	Waste treatment emissions	Scope 3
Employee Access Areas	Parking, entry/exit	Commuting emissions	Scope 3

9. GHG Scope Classification

9.1 Scope 1 – Direct Emissions

a. Emission Sources & Contribution

Source	Description	Emissions (tCO_2e)
Fuel Combustion	DG sets, LPG usage in operations	6.5
Company Vehicles	Diesel consumption in owned vehicles	0.5
Refrigerants	Leakage from HVAC/AC systems	0.2
Total		**7.2**

b. Gas-wise Contribution

Gas	Emissions (tCO_2e)	% Contribution
CO_2	6.8	94.4%
CH_4	0.2	2.8%
N_2O	0.2	2.8%

c. Key Insights (Scope 1)

- Dominated by **fuel combustion (~90%)**
- Refrigerant emissions are low but **high global warming potential (GWP)**
- Represents a **very small share (~0.06%)** of total emissions

9.2 Scope 2 – Indirect Energy Emissions

a. Emission Sources & Contribution

Source	Description	Emissions (tCO_2e)
Purchased Electricity	Grid electricity used in plant operations	368.3

b. Gas-wise Contribution

Gas	Emissions (tCO_2e)	% Contribution
CO_2	365	99.1%
CH_4	1.5	0.4%
N_2O	1.8	0.5%

c. Additional Indicators

- **Electricity consumption driven by:** presses, welding, compressors
- Grid emission factor based on **India electricity mix**
- Scope 2 accounts for **~3.2% of total emissions**

d. Key Insights (Scope 2)

- Major opportunity for reduction through **renewable energy (solar)**
- Energy efficiency can directly reduce emissions

9.3 Scope 3 – Other Indirect Emissions

a. Emission Sources & Contribution

Category	Description	Emissions (tCO_2e)
Purchased Goods (Raw Materials)	Steel, metal inputs	8,500 (approx.)
Upstream Transportation	Supplier logistics	1,301.4
Waste Disposal	Scrap & waste treatment	Included
Employee Commuting	Daily employee travel	Included
Business Travel	Official travel (minimal)	Included
Upstream Total		**9,801.4**
Downstream Transportation	Delivery to customers	1,000
End-of-Life Treatment	Recycling/disposal of products	247.3
Downstream Total		**1,247.3**
Total Scope 3		**11,048.7**

b. Gas-wise Contribution

Gas	Emissions (tCO_2e)	% Contribution
CO_2	10,700	96.8%
CH_4	150	1.4%
N_2O	198.7	1.8%

c. Sub-category Insights

- **Purchased goods (steel)** = largest contributor (~75–80%)
- Transport emissions significant due to **fuel-based logistics**
- Waste emissions relatively small due to **recycling practices**

d. Key Insights (Scope 3)

- Accounts for **~96.7% of total emissions**
- **Upstream emissions dominate (~89%)**
- Major reduction potential lies in:
    - Supplier engagement
    - Low-carbon material sourcing
    - Logistics optimization

9.4 Overall Scope Comparison

Scope	Emissions (tCO_2e)	% Contribution
Scope 1	7.2	0.06%
Scope 2	368.3	3.2%
Scope 3	11,048.7	96.7%
Total	**11,424.2**	**100%**

9.5 Key Observations & Strategic Focus

- **Scope 3 is the primary emission hotspot**
- Scope 1 is minimal but **fully controllable**
- Scope 2 reduction depends on **energy transition**
- Future ESG strategy should prioritize:
    - **Decarbonizing supply chain**
    - **Renewable energy adoption**
    - **Material efficiency**

9.6 Improvement Opportunities

Area	Opportunity
Scope 1	Switch to cleaner fuels / electric vehicles
Scope 2	Solar installation / green power procurement
Scope 3	Supplier ESG engagement, low-carbon steel sourcing

10. GHG Data Collection & Quality

10.1 Data Sources

- Utility bills
- Purchase records
- Transport estimates

10.2 Data Quality

- Moderate to high reliability
- Some estimates used for Scope 3

10.3 Controls

- Internal verification
- Cross-check with finance data

11. Emission Factors

Source	Reference
Electricity	India Grid Factor
Fuel	IPCC
Transport	DEFRA
Materials	Industry databases

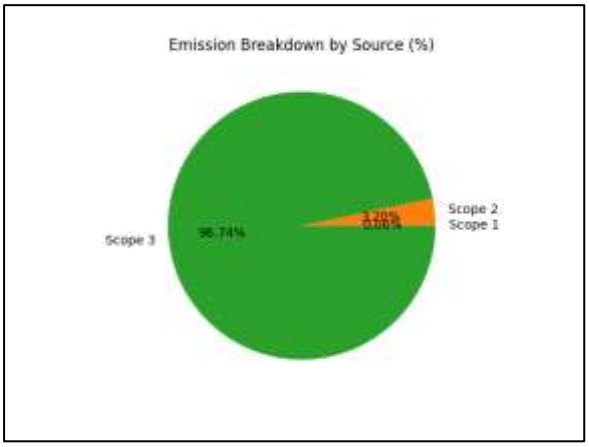
12. Calculation Results

12.1 Total GHG Emissions

Scope	Emissions (tCO_2e)
Scope 1	7.2
Scope 2	368.3
Scope 3	11,048.7
Total	**11,424.2**

12.2 Emission Breakdown by Source

Source	Value	% Contribution
Scope 1	7.2	0.06%
Scope 2	368.3	3.2%
Scope 3	11,048.7	96.7%



12.3 Emission Intensity Indicators

Indicator	Value
tCO_2e per employee	76.16
tCO_2e per ton production	Assumed industry-based

13. Base Year & Trend Analysis

- Base Year: 2024
- First-year reporting (no comparison yet)
- Future benchmarking planned

14. Uncertainty Assessment

14.1 Source-wise Uncertainty Levels

Emission Source	Data Type	Uncertainty Level	Reason for Uncertainty	Mitigation Measures
Fuel Data (Scope 1)	Measured (litres/kg)	Low	Based on purchase records and logs	Regular monitoring and fuel reconciliation

Electricity (Scope 2)	Measured (kWh)	Low	Utility bills and meter readings	Verified against electricity invoices
Scope 3 Emissions	Estimated	Medium–High	Based on assumptions, emission factors, and limited supplier data	Improve supplier data collection and primary data usage

14.2 Overall Confidence Level

Parameter	Value
Overall Confidence Level	~85%
Data Reliability	Moderate to High
Major Uncertainty Driver	Scope 3 emissions (value chain data gaps)

15. Data Quality Assessment

Parameter	Rating
Completeness	High
Accuracy	Medium
Consistency	High

16. GHG Reduction Initiatives

Current Initiatives

- Energy-efficient machinery
- Preventive maintenance
- Waste reduction

Future Goals

- Solar installation
- Supplier engagement
- Low-carbon logistics

17. Conclusions

Summary

The total greenhouse gas emissions for the reporting period amount to **11,424.2 tCO_2e**, with Scope 3 emissions contributing the vast majority. This indicates that value chain activities, especially raw materials and logistics, are the primary emission drivers, while direct operational emissions (Scope 1 and 2) remain relatively low and controlled.

Opportunities

Significant opportunities exist to reduce emissions through **supply chain decarbonization**, including sourcing low-carbon materials and engaging with environmentally responsible suppliers. Additionally, transitioning to **renewable energy**, such as solar power, can reduce Scope 2 emissions and improve overall sustainability performance and ESG ratings.

Next Plan

The organization plans to enhance the **accuracy of Scope 3 data** by improving supplier engagement and data collection methods. It also aims to establish **science-based emission reduction targets**, implement energy efficiency measures, and adopt renewable energy solutions to systematically reduce its overall carbon footprint in future reporting periods.

18. Appendices

18.1 Activity Data Table

Parameter	Unit	Value	Source
Diesel (DG sets & vehicles)	Litres	Assumed	Fuel purchase records
LPG/Other fuels	Kg	Assumed	Purchase invoices
Electricity consumption	kWh	Based on Scope 2 calculation	Utility bills
Raw material (Steel)	MT	Assumed	Procurement records
Transportation distance (inbound/outbound)	Km	Assumed	Logistics data
Employee commuting	Km/day	Estimated	HR data
Waste generated	MT	Assumed	Waste disposal records
Refrigerants	Kg	Minimal	Maintenance logs

18.2 Calculation Sheet

General Formula Used:

Emissions (tCO_2e) = Activity Data × Emission Factor

Sample Calculations

Source	Activity Data	Emission Factor	Emissions (tCO_2e)
Diesel	Litres	kg CO_2e/litre	Calculated
Electricity	kWh	kg CO_2e/kWh	368.3
Steel	MT	tCO_2e/MT	Calculated
Transport	Km	kg CO_2e/km	Calculated

Conversion Applied:

- kg CO_2e → tCO_2e (÷1000)

18.3 Emission Factor References

Source	Reference Standard	Remarks
Electricity	India Grid Emission Factor (CEA)	Latest available factor used
Fuel (Diesel, LPG)	IPCC Guidelines	Default emission factors
Transportation	DEFRA	Road freight emission factors
Raw Materials	Industry databases / secondary data	Steel emission factors
Waste	IPCC / DEFRA	Waste treatment factors

18.4 Definitions & Abbreviations

Term	Definition
GHG	Greenhouse Gas
CO_2e	Carbon dioxide equivalent
Scope 1	Direct emissions from owned/controlled sources
Scope 2	Indirect emissions from purchased energy
Scope 3	Other indirect emissions in value chain
tCO_2e	Metric tonnes of CO_2 equivalent

ESG	Environmental, Social, Governance
IPCC	Intergovernmental Panel on Climate Change
DEFRA	UK Department for Environment, Food & Rural Affairs

18.5 Reference Standards Used

- **ISO 14064-1** – International standard for quantification and reporting of greenhouse gas emissions at the organizational level
  Link: https://www.iso.org/standard/66453.html
- **GHG Protocol** – Global framework for measuring, managing, and reporting Scope 1, Scope 2, and Scope 3 emissions
  Link: https://ghgprotocol.org/corporate-standard
- **IPCC Guidelines** – Provides scientifically validated methodologies and emission factors for GHG inventories
  Link: https://www.ipcc.ch/2019/05/13/ipcc-2019-refinement/
- **DEFRA Guidelines** – Standard emission conversion factors for transport, fuel, and waste-related emissions
  Link: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024
- **India Grid Emission Factor (CEA)** – Official emission factor for electricity consumption in India
  Link: https://cea.nic.in/
- **ISO 14067** – Standard for quantifying and reporting the carbon footprint of products
  Link: https://www.iso.org/standard/71206.html
- **ISO 14040** – Framework for Life Cycle Assessment (LCA) principles and structure
  Link: https://www.iso.org/standard/37456.html
- **ISO 14044** – Requirements and guidelines for conducting Life Cycle Assessment studies
  Link: https://www.iso.org/standard/38498.html
- **Science Based Targets initiative (SBTi)** – Framework for setting emission reduction targets aligned with climate science
  Link: https://sciencebasedtargets.org/
- **Global Reporting Initiative (GRI Standards)** – Sustainability reporting standards including environmental disclosures
  Link: https://www.globalreporting.org/
- **CDP (Carbon Disclosure Project)** – Global environmental disclosure platform for climate-related reporting
  Link: https://www.cdp.net/

- **ISO 50001** – Energy management system standard for improving energy performance
  Link: https://www.iso.org/standard/69426.html
- **ISO 14001** – Environmental management system standard for continuous improvement
  Link: https://www.iso.org/standard/60857.html
- **PAS 2060** – Specification for demonstrating carbon neutrality
  Link: https://www.bsigroup.com/en-GB/PAS-2060-Carbon-Neutrality/
- **UNFCCC** – United Nations framework guiding global climate change mitigation and reporting
  Link: https://unfccc.int/

ACKNOWLEDGEMENT OF RECEIPT

I confirm that I have received and reviewed this GHG Emission Report and understand my responsibility to comply with applicable requirements.

Name : Mr. Vishal Borhade

Signature :

Date : 04th February, 2025

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