IES INNOVATIVE ENGG AUTOMATIONS PRIVATE LIMITED

No 91-C, Main Road, Maniyakarampalayam, Idikarai, Coimbatore - 641022, Tamilnadu, India.

GHG EMISSION REPORT

For the Year January 2025 to December 2025

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1. Executive Summary

1.1 Organization Overview

IEAPL India is engaged in the design, manufacture, and supply of automation systems for automobile industries. The company integrates Environmental, Social, and Governance (ESG) principles into its operations, focusing on minimizing environmental impact and enhancing sustainability performance across its activities. As part of its climate responsibility, IEAPL has developed this Greenhouse Gas (GHG) Emission Report to quantify, monitor, and manage its emissions. The report has been prepared in accordance with internationally recognized standards and methodologies, including ISO 14064-1:2018, GHG Protocol Corporate Standard, IPCC Guidelines, DEFRA Emission Factors, and the India Grid Emission Factor, ensuring transparency, accuracy, and alignment with global best practices

1.3 Key Emission Results

Organizational Boundary

IES INNOVATIVE ENGG AUTOMATIONS PRIVATE LIMITED

No. 91-C, Main Road, Maniyakarampalayam, Idikarai, Coimbatore - 641022, Tamilnadu, India.

Calculation period: January 2025 to December 2025

All values are in MT CO2 e

GHG Emission Reporting Frequency: Annually

EMISSIONS	CURRENT YEAR JANUARY 2025 TO DECEMBER 2025
Scope 1	2,497.41
Scope 2	545.86
Scope 3	39.32
Scope 3 Upstream	39.05
Scope 3 Downstream	0.27
Total GHG Emission	**3,082.59**

1.3 Highlights & Reduction Achievements

- 8% reduction in diesel consumption through operational efficiency
- 5% reduction in electricity usage through LED lighting
- Implementation of preventive maintenance program
- Increased use of virtual meetings to reduce travel emissions
- Introduction of waste segregation and recycling program

2. Introduction

2.1 Purpose of the Report

The purpose of this report is to quantify and disclose greenhouse gas (GHG) emissions generated from IEAPL's operations and identify opportunities for emission reduction and improved environmental performance. This report establishes a clear emissions baseline, enabling IEAPL to monitor trends, set measurable reduction targets, and implement effective climate action strategies. It also supports regulatory compliance, stakeholder transparency, and alignment with ESG commitments. By identifying major emission sources across Scope 1 and Scope 2 activities, IEAPL aims to enhance energy efficiency, optimize resource utilization, and promote sustainable practices, contributing to climate change mitigation and long-term operational resilience.

2.2 Intended Users

- Customers
- Investors
- Regulatory Authorities
- ESG Rating Agencies
- Management & Employees

2.3 Reporting Objectives

- ISO 14064-1 compliance
- Customer sustainability requirements
- ESG reporting
- Carbon reduction planning

3. Organization Description

3.1 Company Profile

Company Name: IEAPL
Location: India
Industry: Industrial Automation for Automobile Industry
Services:

- Design of automation systems
- Manufacturing automation equipment
- Installation & commissioning
- After-sales support

3.2 Organizational Structure

This GHG inventory covers emissions from all operational boundaries of IEAPL, including the Corporate Office, Manufacturing Facility, Design Center, Project Sites, and Warehouse operations. The Corporate Office emissions primarily include electricity consumption and fuel use for administrative activities. The Manufacturing Facility represents the major emission source due to machinery, equipment operation, and energy consumption. The Design Center includes emissions from engineering and testing activities. Project Sites contribute emissions from installation, commissioning, and on-site operations. The Warehouse emissions arise from storage, material handling equipment, and logistics-related energy consumption. Together, these facilities represent IEAPL's comprehensive operational footprint for greenhouse gas assessment.

3.3 Operations & Facilities

- Fabrication shop
- Assembly line
- Testing facility
- Office operations
- Project installation sites

4. Reporting Boundary

4.1 Organizational Boundary

IEAPL follows the Operational Control Approach in accordance with ISO 14064-1, accounting for emissions from operations under its direct control. The inventory includes emissions from direct fuel combustion in generators and company vehicles, electricity consumption across facilities, transportation and logistics activities, waste disposal, business travel, and employee commuting.

Operational boundaries cover all major locations, including the Head Office, Manufacturing Unit, Project Locations, and Warehouse. These emission sources collectively represent IEAPL's operational footprint and enable accurate monitoring of greenhouse gas emissions, identification of key emission hotspots, and implementation of targeted reduction initiatives aligned with the company's ESG and sustainability commitments.

5. Reporting Period

Start Date : 1st January 2025
End Date : 31st December2025
Frequency: Annual Reporting

6. GHG Accounting Methodology

6.1 Standards Followed

- ISO 14064-1:2018
- GHG Protocol Corporate Standard
- IPCC Guidelines
- DEFRA Emission Factors

6.3 Tools Used

- Excel-based GHG Calculator
- Emission factor database
- Energy consumption tracking

7. Emission Sources Identification

IEAPL's greenhouse gas emissions are categorized into direct and indirect sources. Direct sources include diesel consumption from generators, fuel used in company vehicles, LPG usage for operational activities, and refrigerant leakage from air-conditioning and cooling systems. These emissions fall under Scope 1 as they originate from sources controlled by the organization. Indirect sources include purchased electricity consumption, raw material transportation, waste disposal, employee commuting, and business travel. These emissions fall under Scope 2 and Scope 3 categories. Identifying both direct and indirect sources enables IEAPL to comprehensively assess its carbon footprint and implement targeted emission reduction strategies.

8. GHG Scope Classification

8.1 Scope 1 – Direct Emissions

Source	Emissions (tCO_2e)
Diesel Generator	1,945.23
Company Vehicles	315.42
LPG Usage	198.67
Refrigerant Leakage	38.09
Total Scope 1	**2,497.41**

Gas-wise Scope 1 Breakdown

Gas	Emissions
CO_2	2,310.56
CH_4	96.18
N_2O	90.67

8.2 Scope 2 – Indirect Energy Emissions

Source	Emissions
Purchased Electricity	545.86
Total Scope 2	**545.86**

8.3 Scope 3 – Other Indirect Emissions

Source	Emission (tCO_2e)
Purchased Materials	18.92
Waste Disposal	6.31

Transportation	7.24
Employee Commuting	4.21
Business Travel	2.37
Upstream Total	**39.05**

Data Sources

- Electricity bills
- Fuel purchase records
- Vehicle logs
- Waste disposal records
- Travel records

Data Quality

- High accuracy for Scope 1 & 2
- Estimated values for Scope 3

10. Emission Factors

Greenhouse gas emissions for IEAPL were calculated using internationally recognized emission factors and methodologies to ensure accuracy and consistency. The primary references include the IPCC 2006 Guidelines for National Greenhouse Gas Inventories, which provide standard emission calculation methodologies, and DEFRA 2023 Emission Factors for fuel consumption, transportation, waste, and business travel activities. Additionally, electricity-related emissions were calculated using the India Grid Emission Factor of 0.82 kg CO_2 per kWh, representing the average carbon intensity of grid electricity in India. These standardized factors enable reliable quantification of emissions and ensure alignment with global reporting frameworks and sustainability best practices.

11. Calculation Results

11.1 Total GHG Emissions

Scope	Emissions
Scope 1	2,497.41
Scope 2	545.86
Scope 3	39.05

Upstream	39.05
Downstream	0.27

11.2 Emission Breakdown by Source

Source	Emissions
Diesel	63%
Electricity	18%
Vehicles	10%
Others	**9%**

11.3 Emission Intensity Indicators

Employees: 67
Production Output: 450 Automation Projects

Indicator	Value
tCO_2e / Employee	21.26
tCO_2e / Project	36.26

12. Base Year & Trend Analysis

IEAPL has established 2024–25 as the base year for greenhouse gas (GHG) accounting, as this represents the first year of structured emissions quantification and reporting. Setting a base year enables consistent tracking of emissions performance and supports the development of measurable climate objectives. Future comparisons will be conducted annually to evaluate progress, identify emission trends, and assess the effectiveness of reduction initiatives. IEAPL will establish science-based reduction targets aligned with operational growth and sustainability commitments. Continuous monitoring, periodic reviews, and performance benchmarking will help drive emission reductions, improve energy efficiency, and strengthen IEAPL's long-term climate and ESG performance

13. Uncertainty Assessment

This GHG inventory includes certain limitations and assumptions that may influence overall accuracy. Scope 3 emissions are partly based on estimated data due to limited availability of supplier and transportation information. Additionally, emission factor variability from sources such as IPCC, DEFRA, and national databases may result in minor calculation differences. Despite these limitations, IEAPL has applied conservative and internationally recognized methodologies to ensure reliability. The overall confidence level for Scope 1 and Scope 2 emissions is estimated at ±5% due to availability of measured data, while Scope 3 emissions carry a higher uncertainty level of approximately ±15% due to estimation-based inputs and third-party dependencies.

14. Data Quality Assessment

IEAPL has assigned confidence ratings based on data reliability and availability. Scope 1 and Scope 2 emissions are rated as High confidence due to the use of measured fuel consumption and electricity data obtained from utility bills and operational records. Scope 3 emissions are rated as Medium confidence due to reliance on estimated and third-party data. To improve accuracy, cross-checks are conducted through monthly energy reviews, finance department validation of consumption data, and periodic management review to ensure transparency, data integrity, and continuous improvement in GHG reporting.

15. GHG Reduction Initiatives

♣ Energy Efficiency

IEAPL is implementing energy efficiency initiatives to reduce operational emissions and improve resource utilization. Key measures include replacing conventional lighting with LED lighting across offices and manufacturing areas to lower electricity consumption. Variable Frequency Drives (VFDs) are being installed on motors and compressors to optimize energy usage based on operational demand. Additionally, equipment optimization programs are being introduced to improve machine performance, reduce idle time, and enhance operational efficiency. These initiatives collectively contribute to lowering Scope 2 emissions and improving overall sustainability performance.

♣ Operational Improvements

IEAPL is strengthening operational controls to improve energy performance and reduce greenhouse gas emissions. Preventive maintenance programs are being implemented to ensure equipment operates efficiently and minimizes energy losses. Regular energy audits are conducted to identify improvement opportunities, monitor consumption trends, and implement corrective actions. Smart control systems, including automated shutdowns, sensor-based lighting, and intelligent monitoring systems, are also being introduced. These operational improvements help reduce unnecessary energy consumption, improve productivity, and support IEAPL's long-term sustainability and emission reduction objectives.

♣ Transportation

IEAPL is focusing on transportation-related emission reductions through improved logistics planning and fleet optimization. Route optimization strategies are being implemented to reduce fuel consumption, travel time, and operational costs. Efficient scheduling of deliveries and project visits is also being introduced to minimize unnecessary travel. Additionally, IEAPL plans to gradually introduce hybrid vehicles and fuel-efficient transportation options to further reduce Scope 1 and Scope 3 emissions. These initiatives support sustainable mobility practices and contribute to lowering the company's overall carbon footprint.

♣ Future Targets

IEAPL has established measurable greenhouse gas reduction targets to improve sustainability performance. The company aims to achieve a 10% reduction in Scope 1 emissions through fuel efficiency and equipment optimization. Scope 2 emissions are targeted for an 8% reduction through energy efficiency initiatives and renewable energy adoption. Scope 3 emissions are planned to reduce by 5% through improved transportation, waste management, and supplier engagement. Progress toward these targets will be monitored annually to ensure continuous improvement and alignment with IEAPL's ESG commitments.

16. Conclusion

IEAPL has identified key opportunities to further reduce greenhouse gas emissions and enhance sustainability performance. These include adoption of renewable energy such as rooftop solar to reduce grid electricity dependence, gradual electrification of company vehicles to lower fuel-related emissions, and supplier engagement programs to encourage low-carbon materials and sustainable logistics. These initiatives will support Scope 1, 2, and 3 emission reductions while strengthening IEAPL's long-term climate strategy and ESG commitments.