MOKSHAPRADA ENTERPRISES

No. 27, Sai Ganesh Appartments, GVMC 55 Ward / Dasapatrunipalem,
Visakhapatnam, Andhra Pradesh – 531021, India.

GHG EMISSION REPORT

For the period April 2024 to March 2025

Form No :

- **MPE/ESG/F-210**

Issue No:

- **02**

Rev No:

- **00**

Date:

- **07th April, 2025**

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1. Introduction

MPE, based in India, specializes in electrical, plumbing, and construction installation activities, and is committed to integrating Environmental, Social, and Governance (ESG) principles into its operations. As part of our sustainability efforts, we conduct an annual assessment of our greenhouse gas (GHG) emissions to identify and manage our environmental impact. This report summarizes our Scope 1 and Scope 2 emissions in accordance with the GHG Protocol and relevant national guidelines. It includes quantified emissions by gas type, emission sources, applied emission factors, and global warming potentials (GWPs). The report also outlines our reporting boundaries, methodology, and a statement on data uncertainty.

2. GHG Emission Overview

MPE reports greenhouse gas emissions in alignment with the GHG Protocol, categorizing them into Scope 1 (direct emissions from fuel use) and Scope 2 (indirect emissions from purchased electricity) to measure and manage its operational carbon footprint effectively.

Scope 1 (direct emissions)

Scope 1 emissions are direct greenhouse gas emissions from sources that are owned or controlled by MPE. These include emissions resulting from the combustion of diesel fuel in company-owned vehicles, onsite generators, and construction machinery used during project execution. As a construction and installation service provider, such fuel use is integral to daily operations. For the current reporting year, MPE's total Scope 1 emissions amounted to 1.34 tonnes of CO_2e, with the majority attributed to diesel combustion. Emission estimates are calculated using IPCC and DEFRA emission factors, ensuring transparency, accuracy, and alignment with international GHG accounting standards.

Scope 2 (direct emissions)

Scope 2 emissions are indirect greenhouse gas emissions resulting from the consumption of purchased electricity used across MPE's operations, including offices, project sites, and warehouses. Although the emissions are physically produced by power plants, they are accounted for in MPE's GHG inventory because the electricity is consumed by the company. For the reporting year, Scope 2 emissions totaled 6.49 tonnes of CO_2e. Emission calculations are based on the Central Electricity Authority (CEA) India's national grid emission factor. This quantification enables MPE to monitor its energy-related impact and pursue energy efficiency and renewable sourcing strategies under its ESG commitments.

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3. GHG EMISSION SUMMARY

Organizational Boundaries
MOKSHAPRADA ENTERPRISES

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Calculation period: April 2024 to March 2025

All values in MT CO2e

GHG Emission Reporting Frequency: Annually

4. Reporting Boundary and Justification

Boundary Category	Approach Used	Justification
Organizational Boundary	Operational Control	MPE has full authority to implement operating policies and GHG emissions controls across all owned facilities and projects.
Reporting Boundary	Financial Control	Emissions are reported from operations where MPE has financial control, ensuring alignment with corporate GHG accounting policies.

5. Emissions Summary (in tonnes of CO2e)

Scope	Description	Emissions (tCO_2e)
Scope 1	Direct emissions from fuel combustion (e.g., diesel for generators, vehicles)	**1.34**
Scope 2	Indirect emissions from purchased electricity	**6.49**
Total	**Scope 1 + Scope 2**	**7.83**

6. Scope 1 Emissions Breakdown (by GHG type)

GHG	Quantity (tonnes)	GWP (AR5)	tCO_2e	Emission Source	Emission Factor Source
CO_2	0.351 tonnes	1	0.351	Diesel combustion	IPCC 2006 Guidelines / DEFRA
CH_4	0.0008 tonnes	28	0.022	Diesel combustion	IPCC 2006 / GHG Protocol
N_2O	0.0003 tonnes	265	0.080	Diesel combustion	IPCC 2006 / GHG Protocol
Total Scope 1	–	–	**1.34**	–	–

7. Scope 2 Emissions Details

Source	Electricity Consumption (kWh)	Emission Factor (tCO_2e/MWh)	tCO_2e	Emission Factor Source
Purchased Grid Electricity	9152 kWh	0.708 (India national grid factor, CEA 2023)	6.49	Central Electricity Authority (CEA), India

8. Statement of Uncertainty

The GHG emission estimates are derived using standard emission factors and sound assumptions from reliable sources like IPCC, DEFRA, and CEA. However, uncertainties exist due to variability in diesel fuel quality, combustion efficiency, approximation of emission factors for specific processes, and potential under-reporting of minor fuel usage at decentralized project sites. Additionally, fluctuations in regional grid emission factors may affect Scope 2 estimates. Based on these factors, an uncertainty range of ±5–10% is estimated for Scope 1 emissions and ±7–12% for Scope 2 emissions. These estimates reflect reasonable accuracy within accepted reporting standards.

9. GHG Emissions Summary (MT CO2e)

Calculation period: April 2024 to March 2025
All values in MT CO2 e
GHG Emission Reporting Frequency: Annually

EMISSION	CURRENT YEAR April 2024 to March 2025	TARGET 2025-2026	TARGET 2050
Scope 1	1.34	5%	Net Zero
Scope 2	6.49	5%	Net Zero
Total GHG Emission	7.83	5%	Net Zero

10. GHG Emission Reduction Strategies

10.1 Short-Term Measures

MPE is implementing energy-saving measures including transitioning to LED lighting and energy-efficient HVAC systems, procuring BEE 4-star and above rated equipment, and optimizing fuel use through driver training and route planning. Additionally, awareness programs on energy conservation are conducted for site workers to promote sustainable practices across operations.

10.2 Medium-Term Measures

MPE aims to reduce emissions by shifting to hybrid or electric vehicles for site operations, exploring rooftop solar installations at construction offices, and implementing an Energy Management System (EMS) for real-time energy tracking, enabling data-driven decisions and enhanced efficiency across operational sites.

10.3 Long-Term Measures

MPE plans to switch to green construction methods and low-emission equipment, participate in carbon offset programs such as Renewable Energy Certificates (RECs) and afforestation projects, and introduce Scope 3 emissions accounting while actively collaborating with suppliers and clients to identify and implement joint emission reduction strategies across the value chain.

11. Monitoring, Verification and Reporting

MPE will conduct an annual review of its GHG inventory in alignment with ISO 14064-1:2018 standards to ensure accurate, consistent, and credible reporting of greenhouse gas emissions. This process includes data collection, validation, and documentation of Scope 1 and Scope 2 emissions. To enhance transparency and build stakeholder trust, MPE will consider third-party external verification of the GHG data by independent, accredited auditors. Verified emissions data will be incorporated into MPE's broader ESG and sustainability reports, providing stakeholders with a clear understanding of the company's environmental impact and ongoing efforts to reduce emissions and promote sustainable practices.

12. Conclusion

MPE remains committed to sustainable development by actively monitoring and managing its greenhouse gas (GHG) emissions. Through accurate reporting of Scope 1 and Scope 2 emissions in alignment with the GHG Protocol, the company ensures transparency and accountability in its environmental performance. MPE's emission reduction strategies—including energy-efficient technologies, cleaner fuels, renewable energy adoption, and workforce engagement—demonstrate its dedication to minimizing environmental impact. With a structured plan and regular review process, MPE is well-positioned to achieve its sustainability targets and contribute meaningfully to climate action. Continuous improvement and stakeholder collaboration will drive the company's journey toward a low-carbon future.

13. Standards and Protocols

1. International Standards and Guidelines

- **GHG Protocol: Corporate Accounting and Reporting Standard (WRI/WBCSD)**
  Website: https://ghgprotocol.org
  (Primary global standard for Scope 1, Scope 2, and Scope 3 emissions reporting.)
- **IPCC Guidelines for National Greenhouse Gas Inventories (2006 & 2019 Refinement)**
  Website: https://www.ipcc-nggip.iges.or.jp
  (Provides emission factors and Global Warming Potential (GWP) values.)
- **ISO 14064-1:2018** – Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of GHG emissions and removals.

2. Indian Regulatory Sources

- **Central Electricity Authority (CEA), India – CO_2 Baseline Database for the Indian Power Sector**
  Website: https://cea.nic.in
  (Provides India-specific grid emission factors for Scope 2 calculations.)
- **Bureau of Energy Efficiency (BEE), Government of India**
  Website: https://beeindia.gov.in
  (Useful for appliance energy ratings, benchmarking, and energy conservation guidelines.)

3. Emission Factor Databases

- **UK Department for Environment, Food & Rural Affairs (DEFRA) Emission Factors**
  Website: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting
  (Provides detailed fuel combustion emission factors.)
- **U.S. EPA Emission Factors for Greenhouse Gas Inventories**
  Website: https://www.epa.gov/climateleadership
  (Used as a secondary reference for fuel-based emissions if localized data is unavailable.)

4. Scientific Articles & Reports

- Intergovernmental Panel on Climate Change (IPCC) – Fifth Assessment Report (AR5)
  (For GWP values used in converting GHGs to CO_2e.)
- World Resources Institute (WRI) – "Working 9 to 5 on Climate Change"
  (GHG measurement practices for service-oriented and site-based industries.)

14. Emission Factors Reference Table

Source Type	GHG	Emission Factor	Unit	GWP (AR5)	Reference Source
Diesel (Fuel Combustion)	CO_2	2.68	kg CO_2 / litre	1	IPCC 2006 Guidelines / DEFRA 2023
	CH_4	0.005	g CH_4 / litre	28	IPCC 2006 Guidelines
	N_2O	0.005	g N_2O / litre	265	IPCC 2006 Guidelines
Petrol (if used)	CO_2	2.31	kg CO_2 / litre	1	DEFRA 2023 / EPA
	CH_4	0.024	g CH_4 / litre	28	IPCC 2006
	N_2O	0.015	g N_2O / litre	265	IPCC 2006
Electricity (India Grid)	CO_2	0.82	kg CO_2 / kWh	1	CEA Baseline Database v19 (2023), India
LPG (if used)	CO_2	2.98	kg CO_2 / litre	1	DEFRA 2023
	CH_4	0.1	g CH_4 / litre	28	IPCC 2006
	N_2O	0.1	g N_2O / litre	265	IPCC 2006

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MOKSHAPRADA ENTERPRISES Date

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