KUDUMA PRECISIONS

NO 252, BM Shankrappa Industrial Estate, Srigandadakavalu, Sukadakatte,
Vishwaneedam Post, Banglore - 560091, Karnataka, India.

GHG EMISSION REPORT

1st April 2025 to 31st March, 2026



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Prepared By: P. Indhu
Designation: Manager

Approved By: R. Kantharaju
Designation: Proprietor

1. Executive Summary

KP is an India-based manufacturing organization engaged in the manufacture of injection moulds, jigs and fixtures, mould bases, precision engineering components, and injection-moulded plastic parts and sub-assemblies for industrial applications. Its manufacturing activities may involve machining, cutting, drilling, milling, turning, grinding, mould/tool assembly, surface finishing, plastic injection moulding, inspection, packing and dispatch, depending on the actual facility process configuration. This report presents KP's greenhouse gas (GHG) inventory summary for 1 April 2025 to 31 March 2026. The supplied data sheet reports total emissions of 1,174.77 tonnes of carbon dioxide equivalent (tCO_2e). Scope 3 is the largest reported category.

Organizational Boundary

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Calculation period: April 2025 to March 2026
All values are in MT CO2 e

GHG Emission Reporting Frequency: Annually

EMISSIONS	CURRENT YEAR APRIL 2025 – MARCH 2026
Scope 1	2.13
Scope 2	149.67
Scope 3	1022.97
Scope 3 Downstream	459.37
Scope 3 Upstream	563.6
Total GHG Emission	**1174.77**

2. Introduction

2.1 Purpose

The purpose of this report is to document KP's GHG emissions inventory for the stated reporting period, communicate the reported emissions by scope, describe the manufacturing-related emission sources that should be assessed, and establish a consistent basis for monitoring and reducing emissions.

2.2 Intended users

- KP management and department heads responsible for operations, engineering, maintenance, procurement, logistics, human resources and EHS.
- Customers and business partners requesting organizational GHG information.
- Employees and other relevant stakeholders.
- Auditors, assurance providers or other reviewers, where the inventory is submitted for independent review.

2.3 Reporting objectives

The inventory is intended to support voluntary GHG management, customer and supply-chain information requests, internal performance monitoring and preparation for any applicable reporting or assurance requirements. This report does not claim that KP is legally required to report under a particular scheme or that the inventory has been independently verified.

3. Organization Description

3.1 Company profile

KP manufactures industrial tooling and engineered products, including injection moulds, jigs and fixtures, mould bases, precision engineering components, injection-moulded plastic parts and sub-assemblies. These product groups can involve energy-intensive machine operations, compressed air, material processing, heat generation, cooling systems, packaging and freight.

3.2 Organizational structure

An organization chart was not included with the material available for this report. KP should insert its approved organization chart and identify the persons accountable for GHG data collection and review. Suggested functional responsibilities are listed in Section 9; these are role recommendations and are not a representation of KP's confirmed reporting lines.

3.3 Operations, facilities and boundaries

The facility names, addresses, number of sites, leased premises, warehouses and any outsourced manufacturing locations were not supplied. The inventory boundary must be confirmed against KP's legal entities, operational control and actual sites. The source mapping in this report is a manufacturing-sector checklist to be validated at each included site.

4. Reporting Boundary

4.1 Organizational boundary

Recommended consolidation approach: operational control. Under this approach, KP accounts for 100% of GHG emissions from operations over which it has authority to introduce and implement operating policies.

Management must confirm this approach and document treatment of leased facilities, joint ventures, subsidiaries, contract manufacturing and outsourced processes. The supplied summary does not identify the consolidation approach actually used.

4.2 Operational boundary

The operational boundary should include direct emissions (Scope 1), indirect emissions from purchased electricity, steam, heat or cooling (Scope 2), and other relevant value-chain emissions (Scope 3). Scope 3 categories should be screened for relevance, data availability and significance, with inclusions and exclusions documented.

5. Reporting Period

Item	Report detail
Start date	1 April 2025
End date	31 March 2026
Reporting frequency	Annual inventory recommended
Reporting year	FY 2025–26
Base year	Not yet established; see Section 12

6. GHG Accounting Methodology

6.1 Standards and guidance

- ISO 14064-1:2018 – Greenhouse gases: specification with guidance at the organization level for quantification and reporting of GHG emissions and removals.
- GHG Protocol Corporate Accounting and Reporting Standard – organizational-level accounting and reporting principles.
- GHG Protocol Scope 2 Guidance – for purchased electricity, steam, heat and cooling, where applicable.
- GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard – for relevant upstream and downstream value-chain categories.

The standards are used as methodological references. This report does not claim conformance has been demonstrated in full because the underlying source data and calculation records have not been supplied for review.

6.2 Calculation approach

The general calculation method is: GHG emissions (kg CO_2e) = activity data × applicable emission factor. Convert kg CO_2e to tCO_2e by dividing by 1,000. Where a factor is expressed in another unit, ensure that activity data and factor units are consistent. For multi-gas sources, calculate each relevant gas separately and convert to CO_2e using the applicable global warming potential (GWP) values from the selected assessment basis. Document the GWP assessment report/version and ensure consistent use across the inventory.

6.3 Tools and software

The supplied summary does not identify any software or calculation tool. KP should retain a controlled spreadsheet or approved GHG accounting system with source data, factors, formulae, references, version control, reviewer checks and change history. The tool used for this reporting period must be recorded before finalization.

7. Emission Sources Identification

Potential source	Typical KP process or activity	Scope / category	Validation evidence
Diesel or other fuel in DG sets, boilers, thermic-fluid heaters or furnaces, if operated	Backup power and process/facility heat	Scope 1 – stationary combustion	Fuel invoices, tank records, meter/logbook, equipment list
Fuel in owned/controlled cars, vans, forklifts or other vehicles	Internal movement and company transport	Scope 1 – mobile combustion	Fuel cards, bills, vehicle logs, kilometre records
Refrigerant leakage from AC, chillers, mould cooling or refrigeration systems	Facility and process cooling	Scope 1 – fugitive emissions	Refrigerant type, charge, top-up and maintenance records
Purchased electricity	CNC/VMC machines, lathes, milling, grinding, EDM, compressors, injection moulding, lighting and utilities	Scope 2	Electricity bills, meter readings, captive/renewable energy records
Purchased materials	Steel, tool steel, aluminium, copper, polymers/resins, additives and packaging materials	Scope 3 Category 1 – purchased goods and services	Purchase ledger, material weights, supplier-specific factors/EPDs
Capital goods	CNC machines, moulding machines, compressors, tooling and major equipment	Scope 3 Category 2 – capital goods	Capital asset register and supplier data
Fuel- and energy-related activities not included in Scope 1 or 2	Upstream fuel/electricity lifecycle and transmission losses	Scope 3 Category 3	Energy data and applicable upstream factors

Inbound freight	Raw materials and components delivered to KP	Scope 3 Category 4 – upstream transportation	Supplier/transport records, mode, distance, mass
Operational waste	Metal scrap, rejected plastic, packaging, oils, sludge and other waste	Scope 3 Category 5 – waste generated in operations	Waste manifests, weights, recycler/disposal records
Business travel	Employee air, rail, taxi or hotel travel	Scope 3 Category 6	Travel claims, tickets, agency reports
Employee commuting	Employee travel between home and work	Scope 3 Category 7	Commuting survey, transport mode, distance, workdays
Upstream leased assets	Leased facilities/equipment not included in Scope 1 or 2	Scope 3 Category 8	Lease agreements and energy/activity data
Downstream transportation and distribution	Delivery of finished moulds, components and plastic products	Scope 3 Category 9	Dispatch data, freight invoices, mode, distance, mass
Processing of sold products	Further processing of intermediate products by customers, if relevant	Scope 3 Category 10	Product use/process information from customers
Use of sold products	Energy or fuel consumed during product use, if applicable	Scope 3 Category 11	Product use profile and lifetime assumptions
End-of-life treatment of sold products	Disposal/recycling of sold moulds, metal components and plastic products	Scope 3 Category 12	Material composition, product mass, end-of-life scenario
Downstream leased assets, franchises and investments	Only where applicable to KP's business model	Scope 3 Categories 13–15	Contracts and financial/investment records

8. GHG Scope Classification

8.1 Scope 1 – Direct emissions

Reported Scope 1 emissions: 2.13 tCO_2e. The supplied file does not provide a gas-wise or source-wise split. The figure is therefore reported as an aggregate and cannot yet be independently attributed to stationary combustion, mobile combustion, fugitive emissions or process emissions.

- Stationary combustion: assess diesel generators, boilers, furnaces, thermic-fluid heaters and other stationary fuel-burning equipment, if present.
- Mobile combustion: assess fuel used in vehicles and mobile equipment owned or controlled by KP.
- Fugitive emissions: assess refrigerant losses from air-conditioning, chillers and process cooling equipment; include gas type and quantity replenished.
- Process emissions: assess only if chemical or physical manufacturing reactions release GHGs. Conventional machining and plastic injection moulding should not automatically be assigned process emissions without evidence.

8.2 Scope 2 – Indirect energy emissions

Reported Scope 2 emissions: 149.67 tCO_2e. Purchased electricity is the likely principal source for a manufacturing facility of this type, but the supplied sheet does not specify consumption in kWh, grid factor, renewable electricity claims, or whether a location-based or market-based result was used. Purchased steam, heat or cooling should be included if KP purchases these utilities from an external provider. If none are purchased, document the category as not applicable. Where relevant, report location-based and market-based Scope 2 results separately and explain the instruments and contractual attributes used.

8.3 Scope 3 – Other indirect emissions

Reported Scope 3 emissions: 1,022.97 tCO_2e, representing approximately 87.08% of the reported total. Upstream emissions are reported as 563.60 tCO_2e and downstream emissions as 459.37 tCO_2e. The category-level calculation details are not included in the supplied file. Potential material categories for KP include purchased metals and polymers, capital goods, inbound and outbound freight, waste treatment, business travel, employee commuting and end-of-life treatment of sold products. Product-use emissions should be assessed based on actual product function and customer use; they should not be assumed material merely because products are sold.

9. GHG Data Collection and Quality

9.1 Data sources and collection method

Data owner (recommended)	Data required	Primary records
Finance / Accounts	Electricity, fuel, freight, travel and procurement expenditure/quantities	Invoices, ledgers, purchase orders, expense claims
Maintenance / Utilities	DG fuel, boiler fuel, refrigerants, equipment capacities and leakage/top-up	Logbooks, service reports, maintenance records, meter readings
Production / Stores	Material inputs, product output, scrap and rework quantities	ERP, material issue records, production reports, weighment slips

EHS / Administration	Waste, commuting survey, water and environmental records	Waste manifests, vendor certificates, surveys and registers
Logistics / Dispatch	Inbound and outbound shipment mass, mode and distance	Lorry receipts, transporter invoices, dispatch records
GHG coordinator	Consolidation, factor selection, calculations and documentation	Controlled calculation workbook and evidence index

9.2 Data reliability and controls

- Use measured or supplier-reported quantities wherever available; identify estimates and their estimation method.
- Retain original invoices, meter readings, weighment slips, service reports and transport documents.
- Use consistent units and conversion factors; record all unit conversions.
- Reconcile electricity data with utility bills and meter totals; reconcile fuel with purchase and stock records.
- Check that reporting dates align with the reporting period and avoid double counting between scopes or categories.
- Require preparer and independent reviewer sign-off for each material data set.
- Maintain a source register showing data owner, collection date, evidence reference, calculation version and any corrections.

9.3 Current data limitations

The uploaded summary does not contain source-level activity data or supporting records. Consequently, completeness, accuracy and reliability cannot be fully assessed from the summary alone. The aggregate values should be treated as management-provided figures pending traceability checks.

10. Emission Factors

The data sheet does not identify the emission factors used. The following sources are appropriate references for factor selection, subject to the reporting year, geography, technology, gas coverage and unit matching:

- India Central Electricity Authority (CEA) CO_2 Baseline Database for the Indian power sector: use the applicable published grid emission factor for the relevant reporting year and methodology.
- IPCC Guidelines for National Greenhouse Gas Inventories and relevant IPCC default factors: use where suitable local or supplier-specific factors are unavailable.
- UK Government DESNZ/DEFRA greenhouse gas conversion factors: use selectively for relevant transport, waste, travel or other activities where geographic and methodological fit is justified.
- GHG Protocol calculation guidance and recognized life-cycle databases or supplier-specific product carbon-footprint data: use for purchased goods, capital goods and value-chain categories.
- Supplier-specific verified product carbon footprints or environmental product declarations (EPDs): prefer where the scope, product, allocation and verification basis are transparent and appropriate.

For each factor, KP should record source title, publication year/version, access date, geography, technology, gas coverage, unit, GWP basis and whether the factor represents CO_2 or CO_2e. Do not combine factors with incompatible GWP bases or system boundaries without adjustment.

11. Calculation Results

11.1 Total GHG emissions

Scope	Emissions (tCO_2e)	Share of total
Scope 1	2.13	0.18%
Scope 2	149.67	12.74%
Scope 3	1,022.97	87.08%
Total	1,174.77	100.00%

11.2 Emission breakdown by source

A source-wise breakdown cannot be prepared from the aggregate-only data sheet. The following table is the required completion format:

Source/category	Scope	Activity data and unit	Emissions (tCO_2e)	Evidence reference
Purchased electricity	2	kWh – pending	Included in reported Scope 2; source split pending	Electricity bills/meter data
Fuel combustion	1	Litres or kg – pending	Included in reported Scope 1; source split pending	Fuel invoices/logbooks
Refrigerants	1	kg by refrigerant – pending	Included in reported Scope 1 if applicable	Service/top-up records
Purchased materials	3 upstream	kg/tonnes by material – pending	Included in reported Scope 3 if applicable	Procurement records
Waste treatment	3 upstream	kg by waste type – pending	Included in reported Scope 3 if applicable	Waste manifests
Inbound/outbound freight	3 upstream/downstream	tonne-km or shipment data – pending	Included in reported Scope 3 if applicable	Transport records
Employee commuting/business travel	3 upstream	Distance, mode or trip data – pending	Included in reported Scope 3 if applicable	Survey/travel claims
Product end-of-life / use	3 downstream	Product mass/use assumptions – pending	Included in reported Scope 3 if applicable	Product/customer data

11.3 Emission intensity indicators

Employee count 23 Intensity indicators cannot be calculated because, production quantity, product mass and facility area were not supplied. KP should select denominators that reflect its business and maintain consistent definitions year to year.

Indicator	Calculation	Required denominator
Emissions per employee	Total tCO_2e ÷ average number of employees	Average employees during FY 2025–26
Emissions per unit produced	Total tCO_2e ÷ total units produced	Production quantity by product family
Emissions per tonne of product	Total tCO_2e ÷ tonnes of finished output	Finished product mass in tonnes
Emissions per revenue	Total tCO_2e ÷ revenue (e.g. ₹ crore)	Revenue for the reporting period

12. Base Year and Trend Analysis

FY 2025–26 is proposed as the initial inventory year and may be adopted as the base year after management validates the boundary, data quality and calculation methodology. The supplied file contains no prior-year emissions data, so historical comparison and trend analysis are not currently possible. KP should recalculate the base year when significant structural changes occur, such as acquisitions, divestments, outsourcing or insourcing of major activities, material boundary changes, or significant methodology/factor corrections, in accordance with its documented recalculation policy. Routine organic growth or decline should not automatically trigger recalculation.

13. Uncertainty Assessment

A quantitative uncertainty assessment cannot be calculated from the supplied summary because activity-data uncertainties, emission-factor uncertainties and source-level calculations are unavailable. The aggregate values should therefore not be assigned a numerical confidence interval without supporting information. For the next inventory, KP should assess uncertainty for material sources using data-specific ranges or uncertainty values supplied by meters, invoices, suppliers, published factors or recognized guidance. Where quantitative uncertainty is not practicable, use a documented qualitative rating (high, medium or low) based on measurement method, data completeness, representativeness and factor quality.

14. Data Quality Assessment

Data element	Current assessment	Reason / action
Scope 1 aggregate	Limited	Only total supplied; no fuel, refrigerant or gas-wise evidence
Scope 2 aggregate	Limited	No kWh, electricity bills, grid factor or renewable attributes supplied

Scope 3 aggregate	Limited	No category-level activity data, supplier factors or calculation workbook supplied
Reporting period	Good at summary level	Dates explicitly stated in the supplied sheet
Scope 3 upstream/downstream split	Limited	0.01 tCO_2e difference against reported Scope 3 total; reconcile
Organizational boundary	Not assessed	Entities, locations and consolidation approach not supplied

15. GHG Reduction Initiatives

The following are recommended initiatives for KP's manufacturing context. They are proposed actions, not claims that the measures have already been implemented or that quantified savings have been achieved.

15.1 Energy and process efficiency

- Track electricity use by major load centres such as CNC/VMC machines, injection moulding machines, compressors, chillers and utilities.
- Implement preventive maintenance and optimize machine idle time, compressed-air pressure, leakage control and compressor sequencing.
- Assess high-efficiency motors, variable-speed drives, LED lighting and efficient cooling systems where technically and economically suitable.
- Review injection moulding process settings, heating/cooling cycles, machine utilization and rejection rates to reduce energy per accepted part.
- Evaluate rooftop solar or renewable electricity procurement where feasible and maintain evidence for any renewable electricity claims.

15.2 Materials, waste and logistics

- Improve steel, aluminium and polymer yield through nesting, process optimization, rework prevention and scrap segregation.
- Record metal scrap and plastic rejects by material type and confirm recycling destinations with authorized vendors.
- Engage key material suppliers for product-specific carbon footprint or environmental product information.
- Optimize inbound and outbound transport through shipment consolidation, route planning and improved vehicle utilization.
- Reduce packaging material and increase reusable or recyclable packaging where customer and product-protection requirements allow.

15.3 Goals and performance management

After establishing a validated baseline, KP should set management-approved targets with a defined base year, target year, boundary and metric.

Suggested initial goals are to improve source-data completeness to 100% for material sources, complete a site-level energy review, establish product-family energy intensity, and evaluate feasible energy and material-efficiency projects. Numerical reduction commitments should be set only after baseline validation.

16. Responsibilities, Review and Reporting Governance

Function / role (recommended)	Responsibility
Top management	Approve boundary, base year, targets, resources and final report
GHG inventory coordinator / EHS	Coordinate data collection, factor register, calculations and report preparation
Finance / Procurement	Provide invoices, purchased-material quantities, fuel and service expenditure/records
Production / Engineering	Provide production volumes, machine data, process information and material consumption
Maintenance / Utilities	Provide fuel, electricity meter, refrigerant and equipment maintenance records
Logistics / Administration / HR	Provide freight, travel, commuting and employee information
Independent reviewer	Check calculations, source evidence, exclusions, assumptions and consistency

17. Conclusions

KP's supplied FY 2025–26 GHG summary reports 1,174.77 tCO_2e, comprising 2.13 tCO_2e Scope 1, 149.67 tCO_2e Scope 2 and 1,022.97 tCO_2e Scope 3. Scope 3 is the dominant reported category and should receive priority for category-level data validation and reduction planning. The report provides a manufacturing-specific framework for identifying direct, purchased-energy and value-chain sources. However, the underlying activity data, source-level calculations, facility boundary, emission-factor references, intensity denominators, uncertainty analysis and historical data were not included in the supplied file. The current report should therefore be treated as a draft inventory summary rather than a fully substantiated ISO 14064-1 GHG statement.