



GEM AROMATICS
LIMITED

GEM Aromatics GHG Report

GEM Aromatics Limited

October 2025



GEM Aromatics Overview

Establishing GEM Aromatics' First Organizational Carbon Baseline



GEM Aromatics Limited is a leading Indian manufacturer of essential oils, aroma chemicals, and specialty ingredients serving the global flavor, fragrance, cosmetics, and wellness industries. The company combines product innovation with responsible manufacturing practices, supported by a strong foundation of ISO 9001, ISO 14001, and ISO 45001 certifications.



This Greenhouse Gas (GHG) Report marks GEM Aromatics' first structured and consolidated assessment of its greenhouse gas emissions for FY 2024-25. The report establishes an organizational carbon baseline, covering operational emissions and an initial assessment of key value-chain categories, and provides a foundation for transparent disclosure, data-driven decision-making, and continuous improvement.



Through this baseline, GEM strengthens its readiness for evolving sustainability expectations and sets the groundwork for a phased transition toward lower-carbon, resource-efficient operations.



Table of Contents

	TOPIC	PAGE NO
	Organizational Boundary and Methodology	04
	Understanding GEM's Emission Scopes	05
	Overview of Total Emission of GEM	06
	Consolidated Scope 1& 2 emissions	07
	Scope 3 Emissions - Value Chain Hotspots	08
	Overview of GHG Emissions - Budaun Unit	09
	Overview of GHG Emissions - Silvassa Unit	10
	The Decarbonization Journey Ahead	11



Organizational Boundary and Methodology



A. Organizational Boundary

Covers 2 Operational units under GEM Aromatics operational control in FY 2024-25



Note: The Krystal facility is excluded from this baseline as it is under formation / early-stage development and will be incorporated into future GHG reporting as operations and activity data stabilise.



B. Methodology

I. Reporting Framework & Period

Greenhouse Gas (GHG) Protocol - *Corporate Accounting & Reporting Standard*
Reporting period: FY 2024-25 (April 2024 - March 2025)

II. Emission Scopes Covered

Scope 1 | Direct emissions

Fuel combustion, process-related emissions, and refrigerant losses from GEM-controlled operations

Scope 2 | Energy indirect emissions

Emissions associated with purchased electricity consumption

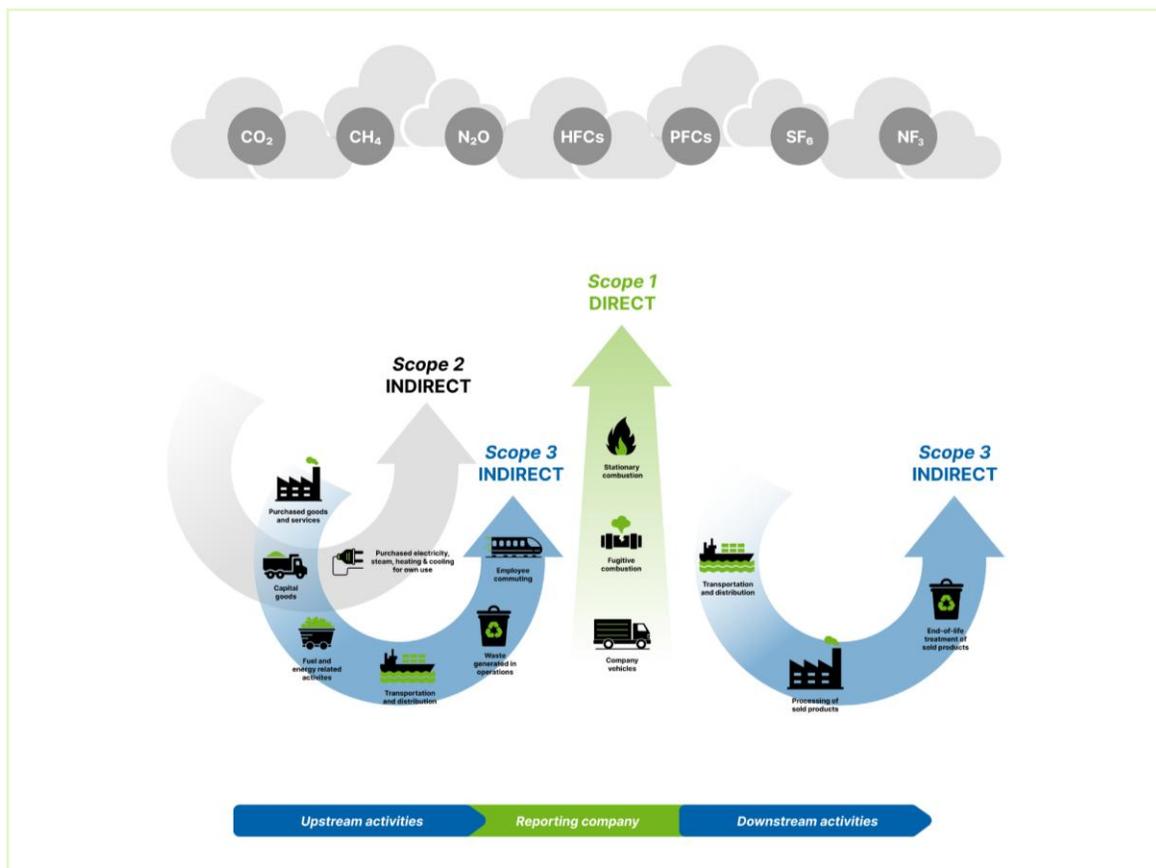
Scope 3 | Other indirect emissions

Emissions associated with relevant upstream and downstream value-chain categories

Understanding GEM's Emission Scopes



Emission Source Categories



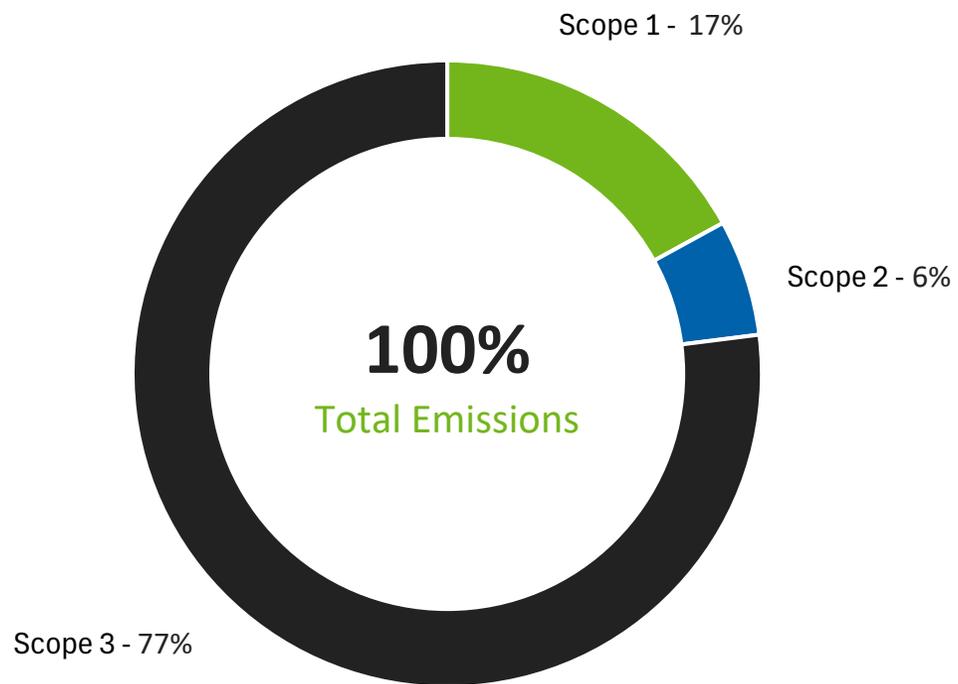
How Emissions Arise in GEM's Operations and Value Chain

Stationary combustion	Fuel-based boilers and generators at GEM's manufacturing sites result in direct combustion emissions
Mobile combustion	Company-owned vehicles and in-plant logistics equipment consume diesel/petrol, generating direct transport-related emissions
Fugitive emissions	Refrigeration and air-conditioning systems at plants and laboratories leak refrigerants, contributing to fugitive GHG emissions
Purchased electricity	Electricity drawn from the grid for GEM's facilities results in indirect emissions from energy consumption
Purchased goods and services	Procurement of raw materials (mint, clove derivatives, chemicals, solvents, packaging) contributes significant upstream embedded emissions
Capital goods	Machinery, reactors, distillation columns, and infrastructure investments carry embodied emissions
Fuel and energy-related emissions (not in Scope 1 or 2)	Emissions occur from extraction, refining, and transportation of fuels and electricity consumed by GEM
Upstream transportation and distribution	Inbound logistics of raw materials to GEM facilities generate upstream transport-related emissions
Waste generated in operations	Manufacturing waste streams (chemical waste, sludge, packaging waste) generate emissions during treatment and disposal
Employee commuting	Daily travel of employees to and from GEM facilities contributes to Scope 3 transport emissions
Downstream transportation and distribution	Distribution of finished goods to domestic and international customers generates downstream logistics emissions
Processing of sold products	Use of GEM's intermediary products by customers for further processing involves energy consumption, leading to downstream processing emissions
End-of-life of products	Packaging materials and residuals from GEM's products enter waste streams, contributing to end-of-life emissions

Overview of Total Emission of GEM



Overview of GEM's Total GHG Emissions by scope (% tCO₂e)



Breakdown of Total GHG Emissions by Scope (tCO₂e)

Scope Category	Emission in tCO ₂ e	Indicative reduction potential by scope
Scope 1	3,911	
Scope 2	1,288	
Scope 3	17,695	
Total Emission	22,894	



GEM's total GHG emissions (~22.9 ktCO₂e) are broadly equivalent to:



~13,000 long-haul economy flights (one-way)
(e.g. India-Europe routes)



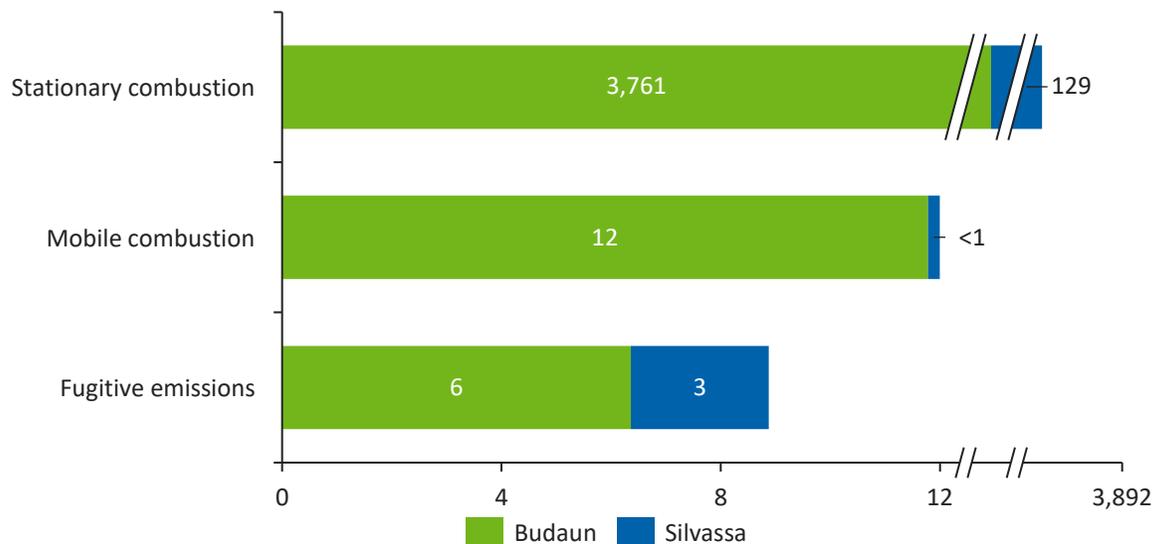
The annual carbon footprint of ~5,000 average Indian households



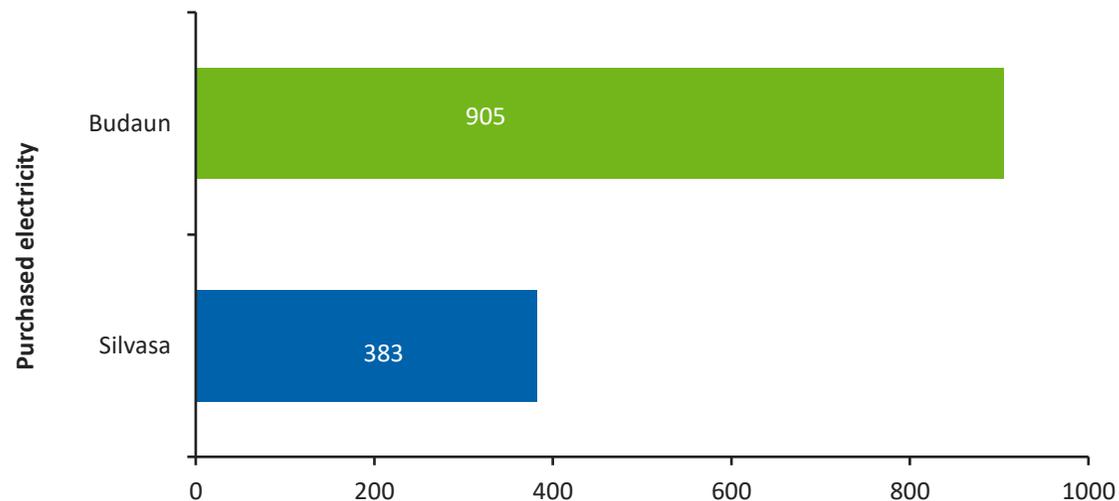
The CO₂ sequestered annually by ~1,800 hectares of growing forests

1. Consolidated Scope 1 and 2 emissions

Scope 1 Emissions by Source and Manufacturing Unit (tCO₂e)



Scope 2 Emissions by Manufacturing Unit (tCO₂e)



Commentary

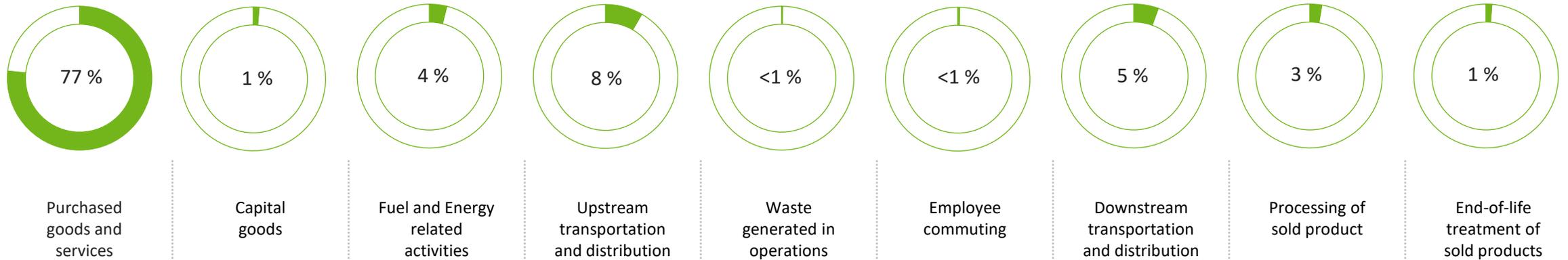
- ~96% of Scope 1 emissions arise from stationary fuel combustion at the Budaun unit, making thermal energy use the single most material direct-emissions driver
- Transport (Mobile combustion) and refrigerant-related emissions are immaterial, together contributing <1% of Scope 1 emissions
- Budaun accounts for most Scope 2 emissions, indicating that electricity efficiency and cleaner power sourcing at this site will deliver the greatest reduction impact

Scope 3 Emissions - Value Chain Hotspots



Scope 3 Emissions by Category (% of Scope 3 Total)

The Proportional Impact



Commentary

- ~77% of Scope 3 emissions arise from purchased goods and services, making supplier and material sourcing the most critical levers for reduction
- Logistics-related emissions (~14%) reflect GEM's global supply and distribution network, presenting opportunities through transport optimization and modal shifts
- Other Scope 3 categories are individually small, indicating that focused action on a few priority areas will deliver the majority of impact

Overview of GHG Emissions - Budaun Unit



GHG Emissions Breakdown by Scope and Category

(tCO₂e and % of Total)

Scope	Categories	Carbon footprint (Ton Co2e)	Percentage Contribution of overall	
1 Scope 1	Scope 1.1 Company vehicles	12	<1%	
	Scope 1.2 Fuel Consumption on site	3,761	23%	23%
	Scope 1.3 Fugitive emissions	6	<1%	
2 Scope 2	Scope 2 Electricity	905	5%	5%
	Scope 3.1 Purchased goods and services	9,183	55%	
	Scope 3.2 Capital goods	200	1%	
	Scope 3.3 Fuel and Energy related activities	575	3%	
3 Scope 3	Scope 3.4 Upstream transportation and distribution	843	5%	
	Scope 3.5 Waste generated in operations	25	72%	<1%
	Scope 3.7 Employee commuting	68	<1%	
	Scope 3.9 Downstream transportation and distribution	499	3%	
	Scope 3.10 Processing of sold	350	2%	
	Scope 3.12 End-of-life treatment of sold products	197	1%	
Total		16,624	100%	100%

Total emissions ~16,624 TCO₂e, FY 2024-25



Commentary

Unit context

The **Budaun unit** is a core processing facility for mint and other botanical inputs within Gem's manufacturing network. Its emissions profile reflects a combination of **energy-intensive on-site processing** and **significant upstream emissions embedded in raw-material sourcing**.

Key Insights

- **Total emissions:** ~16,624 tCO₂e
- **Scope 3 dominates (~72%),** driven primarily by **purchased goods and services (~55%)**
- **On-site fuel use is the largest operational driver (~23%),** making thermal energy the key Scope 1 lever
- **Electricity contributes ~5%,** while **logistics contributes ~8%,** indicating secondary optimisation opportunities
- **Waste, commuting, and fugitive emissions are immaterial (<1%)**

Overview of GHG Emissions - Silvassa Unit



GHG Emissions Breakdown by Scope and Category

(tCO₂e and % of Total)

Scope	Categories	Carbon footprint (Ton Co2e)	Percentage Contribution of overall	
1 Scope 1	Scope 1.1 Company vehicles	<1	<1%	<1%
	Scope 1.2 Fuel Consumption on site	129	2%	2%
	Scope 1.3 Fugitive emissions	3	<1%	<1%
2 Scope 2	Scope 2 Electricity	383	6%	6%
	Scope 3.1 Purchased goods and services	4,364	70%	70%
	Scope 3.2 Capital goods	23	<1%	<1%
	Scope 3.3 Fuel and Energy related activities	108	2%	2%
3 Scope 3	Scope 3.4 Upstream transportation and distribution	634	10%	10%
	Scope 3.5 Waste generated in operations	8	92%	<1%
	Scope 3.7 Employee commuting	5	<1%	<1%
	Scope 3.9 Downstream transportation and distribution	471	8%	8%
	Scope 3.10 Processing of sold	113	2%	2%
	Scope 3.12 End-of-life treatment of sold products	29	<1%	<1%
Total		6,270	100%	100%

Total emissions ~6,270 TCO₂e, FY 2024-25



Commentary

Unit context

The Silvassa unit exhibits a **value-chain-heavy emissions profile**, with limited on-site fuel use and a strong dependence on purchased materials and logistics. As a result, the majority of emissions arise from **Scope 3 activities** rather than direct operations.

Key Insights

- **Total emissions:** ~6,270 tCO₂e
- **Scope 3 dominates (~92%),** driven mainly by **purchased goods and services (~70%)**
- **Electricity (~6%)** is the largest operational emissions source
- **Logistics contributes ~18%,** reflecting inbound and outbound transport
- **On-site fuel, waste, commuting, and fugitives are immaterial (~2%)**

The Decarbonization Journey Ahead



“Establishing GEM Aromatics’ first organisational GHG baseline is a critical step in strengthening governance, transparency, and accountability across our sustainability agenda. This assessment gives us the clarity needed to align environmental performance with financial decision-making and long-term risk management. As reflected in our ESG roadmap, we are focused on building robust systems, strengthening supplier practices, and embedding sustainability into core business processes to support responsible and resilient growth.”

Kaksha Vipul Parekh

Chairperson & Chief Financial Officer



“This GHG baseline provides a clear, data-driven understanding of where emissions arise across our operations and value chain. It enables us to prioritise actions pragmatically - from energy efficiency and renewable adoption to supplier engagement and process optimisation. Guided by our ESG roadmap, we are committed to progressing along a structured decarbonisation pathway that supports operational excellence, customer expectations, and long-term value creation.”

Yash Vipul Parekh

Managing Director & Chief Executive Officer

Decarbonisation is not a destination. It is a journey enabled by strong governance, informed decisions, and continuous improvement

Disclaimer:

This document presents an overview of greenhouse gas (GHG) emissions prepared using the best available data, assumptions, and methodologies at the time of analysis. While care has been taken to ensure the information is accurate and representative, results may be subject to change as data quality improves or methodologies evolve. The information is intended for general transparency and awareness purposes and should be interpreted in that context.