JUBILANT INGREVIA

CLIMATE ACTION REPORT

FY 2024-2025

CONTENT

MESSAGE FROM CHAIRMAN AND CO-CHAIRMAN

Dear Stakeholders,
FY 2025 marks a significant milestone for Jubilant Ingrevia with the release of our inaugural Task Force on Climate-related Financial Disclosures (TCFD) Report. This is not merely a compliance achievement, but a clear demonstration of our commitment to integrating climate risk oversight at the core of our corporate governance. We recognize that climate change is fundamentally reshaping the business landscape, and as a Board, our responsibility is to ensure that Jubilant Ingrevia is positioned not only to respond to these challenges, but to lead with resilience and foresight.

Delivering on Climate Ambitions
At Jubilant Ingrevia, we remain committed to bold emission reduction targets. We have set an intensity-based target to reduce Scope 1 emissions by 21% by FY 2029 (vs. FY 2023) through energy efficiency initiatives, including mechanical vapor recompression (MVR), waste heat recovery, and boiler efficiency improvements. For Scope 2 emissions, we target an 18% reduction by FY 2029 (vs. FY 2023), supported by an increasing share of renewable energy in direct operations. On Scope 3, our focus is fleet decarbonization, with a plan to transition from diesel to CNG vehicles by FY 2029.

Transparency and Performance
Our commitment to transparency and performance has been independently recognized. Jubilant Ingrevia achieved a score significantly above the industry average in the Dow Jones Sustainability Index, reaffirming our leadership in ESG performance. Additionally, our CDP score of B reflects measurable progress in climate disclosure, responsible practices, and sustainability performance. These benchmarks will continue to guide us as we raise our ambition year after year.

Oversight of Climate Risks and Opportunities
The Board actively reviews scenario analyses and climate risk assessments, acknowledging the need to navigate both physical and transition risks. We are equally focused on leveraging opportunities that arise from the global transition towards a low-carbon economy, positioning Jubilant Ingrevia as a trusted partner to customers and stakeholders.

Looking Ahead
We remain committed to enhancing our climate disclosures, maintaining robust metrics, and aligning closely with the TCFD framework to provide stakeholders with transparent insights into our journey. We view climate resilience not as a regulatory requirement, but as a strategic driver of long-term value creation, competitiveness, and stakeholder trust.

As stewards of your confidence, we will continue to uphold the highest standards of governance and accountability, while inviting our stakeholders to partner with us in accelerating the transition to a sustainable, low-carbon future

Warm regards,
Shyam S. Bhartia
Chairman
Hari S. Bhartia
Co-Chairman & Whole-Time Director

MESSAGE FROM CHIEF EXECUTIVE OFFICER

Dear Shareholders,

It is my privilege to present Jubilant Ingrevia's first Task Force on Climate-related Financial Disclosures (TCFD) Report, a milestone that underscores our commitment to transparency, accountability, and sustainable value creation. As a trusted partner in the life sciences chemicals industry, we recognize that climate change is one of the greatest challenges of our time. The increasing frequency of extreme weather events, and the accelerating global energy transition are reshaping the environment in which we operate. These realities demand that we embed climate resilience at the very core of our strategy.

Integrating Climate Action Into Strategy

At Jubilant Ingrevia, we believe that long-term business success depends on how effectively we anticipate and respond to climate risks while seizing opportunities for low-carbon growth. Over the past year, we have strengthened our climate agenda by integrating sustainability into product design, manufacturing, and decision-making processes. From Specialty Chemicals to Nutrition products, we are ensuring that every investment, innovation, and operational improvement contributes to a more sustainable and resilient future.

Driving Operational Excellence and Efficiency

Extreme climate events are not only disrupting communities but also affecting industrial supply chains, energy systems, and raw material availability. To address this, we have advanced efficiency programs that optimize power, fuel, and water use while embedding digital and 4IR technologies across our operations. These efforts have not only reduced costs and improved margins but also enhanced resilience against physical climate risks.

Sustainable Supply Chain and Partnerships

We continue to reinforce the resilience of our supply chain through transparent procurement practices, collaborative partnerships, and a strong focus on clean energy and circular economy principles. By working closely with suppliers including MSMEs that share our sustainability vision we are building a value chain that is agile, reliable, and aligned with global climate goals.

Our Commitment

We have set clear renewable energy and emissions reduction targets, supported by a roadmap anchored in innovation, operational discipline, and a customer-first approach. This TCFD Report reflects not just our actions but also our determination to remain resilient to both physical risks such as floods, heatwaves, and water scarcity—and transition risks emerging from evolving policies, regulations, and stakeholder expectations.

We are hopeful that this report will accelerate further action towards climate change mitigation, encourage dialogue, and enhance opportunities for collaboration with our stakeholders and communities. To our colleagues, customers, partners, and shareholders thank you for your trust and collaboration. Together, we will continue to deliver value while making a meaningful contribution to a sustainable future.

Warm Regards,
Deepak Jain
Chief Executive Officer

MESSAGE FROM HEAD-OHS & SUSTAINABILITY

Dear Stakeholders,

FY 2025 marked a defining moment in Jubilant Ingrevia's sustainability journey as we release our inaugural Task Force on Climate-related Financial Disclosures (TCFD) Report. This milestone underscores our commitment to embedding climate resilience, environmental stewardship, and transparency into every part of our operations.

Delivering Measurable Climate Action

Over the past year, we made tangible progress on our decarbonisation pathway. Between FY 2023 and FY 2024, we achieved a 5% reduction in Scope 1 and 2 GHG emissions, representing an absolute reduction of nearly 31,000 tCO_2e. We are targeting a 21% Scope 1 and 18% Scope 2 emission intensity reduction by FY 2029 (vs. FY 2023) through energy efficiency initiatives including MVR, waste heat recovery, and boiler upgrades along with greater renewable energy adoption. On Scope 3, we have begun fleet decarbonisation with a roadmap to replace all diesel vehicles with CNG by FY 2029.

Performance Highlights

Our sustainability initiatives have delivered meaningful results across operations. In FY 2025, we recycled 45% of process water across our manufacturing sites and sourced 35% of our electricity from renewable energy under long-term contracts. We also planted more than 5.5 lakh trees as part of our afforestation efforts and achieved an 11% reduction in power and fuel costs through efficiency improvements. These actions have been complemented by strong external recognition: Jubilant Ingrevia was ranked in the 92nd percentile of the S&P DJSI Global Chemical Sector, received an EcoVadis Silver Rating (94th percentile), and earned CDP scores of B (Water, Supplier Engagement) and B– (Climate)—all of which reinforce our leadership in ESG performance.

Sustainability Innovation in Operations

Our Bharuch facility's recognition as the only chemical manufacturing plant globally to be named a World Economic Forum Lighthouse Factory in 2024 is a testament to our integration of over 30 Fourth Industrial Revolution (4IR) use cases. From AI-driven energy optimisation to predictive maintenance, these technologies are enabling step-changes in energy efficiency, emissions control, and process safety.

Looking Ahead, the next phase of our climate strategy will see expanded renewable energy projects across all sites, deeper supplier engagement to reduce Scope 3 emissions, and continued investment in low-carbon product development within our Specialty Chemicals and Nutrition businesses. We will also enhance our scenario analysis capabilities to anticipate and mitigate climate-related risks, ensuring that our business remains agile in a rapidly changing environment.

Sustainability is not an isolated function it is embedded in the way we innovate, operate, and grow. I extend my gratitude to our colleagues, partners, and stakeholders for their collaboration and support as we continue to turn our climate commitments into measurable action.

Warm Regards,
Sharad Kalghatgi
Head-OHS & Sustainability

KEY HIGHLIGHTS FOR FY 2025

4% Reduction in Scope 1 & 2 greenhouse-gas emissions (from 775.06 kt CO2e to 736. 51 ktCO2e).

45% Process water recycled across our manufacturing sites

35% Total electricity consumption sourced from renewables under our O2 contract.

76% of value-chain partners assessed for environmental performance

11% Reduction in power and fuel costs

ABOUT THE REPORT

Reporting Boundary
This report presents Jubilant's climate-related disclosures in line with TCFD, IFRS S2 (ISSB), and relevant ISO standards, consolidating data from five manufacturing plants- Ambernath, Gajraula, Savli, Nira and Bharuch and the corporate office based in Noida. It highlights key climate risks, opportunities, and actions, while broader ESG information is provided in the FY 2025 Annual and Sustainability Reports.

ABOUT US

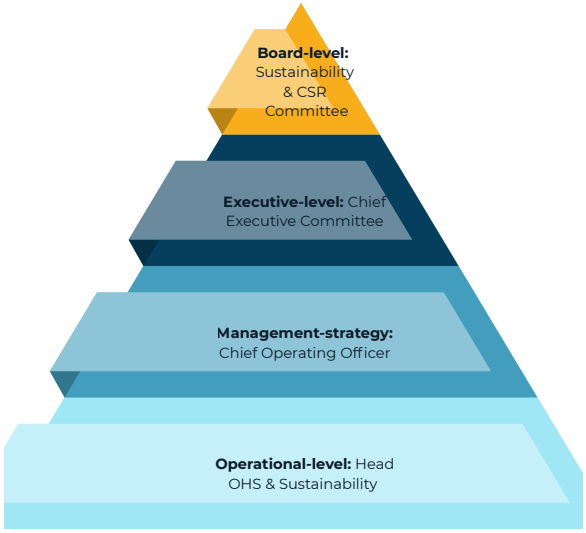
Jubilant Ingrevia Limited, (referred as Jubilant) is a global, integrated Life Science products and innovative solutions provider, serving the Pharmaceutical, Nutrition, Agrochemical, Consumer, and Industrial sectors. With over 40 years of experience, the company offers a portfolio of 130+ products and solutions, built on 35+ chemistry and technology platforms across its three core business segments: Specialty Chemicals, Nutrition & Health Solutions, and Chemical Intermediates. Jubilant's high-quality ingredients find applications across diverse industries, supported by a strong commitment to innovation, cost-effectiveness, and quality. As a market leader in key product segments, we are proud to be the partner of choice for our global customers, driven by our mission to enrich lives through technology and sustainable solutions.

CLIMATE GOVERNANCE

The Board of Jubilant Ingrevia holds ultimate responsibility for overseeing climate-related matters and ensuring that our climate commitments are fully integrated into the company's strategic and operational priorities. Oversight is exercised through two dedicated Board-level committees - the Sustainability & CSR Committee and the Risk Management Committee (RMC).

The **Sustainability & CSR Committee**, comprising Executive, Non-Executive, and Independent Directors, provides oversight of the company's environmental, social, and economic performance, with climate change positioned as a strategic priority. Meeting on a semi-annual basis, the Committee guides the company's climate scenario analysis, evaluates progress against established climate targets, and ensures continued alignment with our long-term sustainability and decarbonization objectives.

The **Risk Management Committee (RMC)** complements this oversight by providing strategic insights into emerging regulatory developments and climate-related risks across our operating geographies. This enables proactive scenario planning and risk mitigation, thereby strengthening the company's long-term climate resilience.



At the **management level, the CEO** is responsible for executing our climate agenda, including monitoring progress on GHG emissions reduction and mobilizing resources to meet sustainability targets. The CEO works closely with cross-functional teams to embed climate considerations into core business strategy. Climate-related matters are reported to the Board twice a year through Sustainability & CSR Committee.

INCENTIVES LINKED TO CLIMATE CHANGE MANAGEMENT

POSITION ENTITLED TO INCENTIVE	• Sustainability Specialist (Other sustainability specialist)
TYPE OF INCENTIVE	• Short-term bonus includes annual bonus • Long-term bonus
PERFORMANCE METRICS	• Implementation of emissions reduction initiatives • Reduction in emissions intensity • Increase in renewable energy share - Reduction in absolute emissions
INCENTIVE DETAILS	• Climate targets are embedded in KRAs of senior leadership, including the CEO. Incentives are based on achievement of annual sustainability goals related to GHG emission reduction, energy efficiency, and renewable energy integration.
CONTRIBUTION TO ENVIRONMENTAL GOALS	• Incentives are linked to the performance of reporting teams implementing emission reduction projects, contributing indirectly to achieving organizational climate targets.

CLIMATE RISK ASSESSMENT

At Jubilant Ingrevia, we recognize climate change as both a material risk and a strategic opportunity. Our Enterprise Risk Management (ERM) framework incorporates climate-related risks alongside financial, operational, sectoral, and ESG risks. The framework integrates both quantitative and qualitative data to assess risks and supports decision-making across project conceptualization, implementation, and post-commissioning stages.

In FY 2025, we assessed physical risks using IPCC pathways SSP1-2.6 (low), SSP2-4.5 (moderate), and SSP5-8.5 (high), and transition risks under the IEA's Stated Policies Scenario (STEPS) and Net Zero Emissions by 2050 (NZE 2050), across short, medium, and long-term horizons.

Risk prioritization was guided by climate models, IPCC datasets, and tools such as the WRI Aqueduct for evaluating water-related risks. The results of these assessments were integrated into financial planning, capital allocation, and operational strategies, ensuring a forward-looking and resilient approach to climate risk management.

PHYSICAL RISK ASSESSMENT

Jubilant Ingrevia assessed physical climate risks across its 5 sites under three emissions scenarios: SSP1-2.6 (low), SSP2-4.5 (moderate), and SSP5-8.5 (high) across three-time horizons:

- **Short-term: 2030**
- **Medium-term: 2050**
- **Long-term: 2100**

We also used the WRI aqueduct for baseline as well as scenario assessment of water stress, floods; World bank database for heatwaves, urban flooding, cyclone, sea level rise to evaluate hazard intensity and corresponding risk

CLIMATE HAZARD MATERIALITY ASSESSMENT

As a diversified life sciences and chemical manufacturing company, Jubilant Ingrevia operates in an industry highly exposed to physical climate risks due to its reliance on stable processes, hazardous material handling, and significant water usage. A robust materiality assessment is therefore a critical first step before undertaking site-specific risk evaluations. Key physical climate risks relevant to our operations include:

- **Extreme heat, urban flooding, and water stress** – affecting process safety, cooling systems, and operations.
- **Coastal and riverine flooding, cyclones, and sea level rise** – posing risks of infrastructure damage and chemical spills.

Conditionally material hazards like temperature variability, cold waves, landslides, and soil erosion have localized impacts. Drought and ocean acidification are not considered directly material.
This underscores the need for location-specific risk assessments and resilience planning in the chemical sector.

LOCATION SPECIFIC ASSESSMENT

Based on the materiality assessment of chemical sector on climatic hazard, we have conducted a comprehensive assessment on extreme heat, extreme precipitation, water stress, cyclone, coastal flood, riverine flood and sea level rise across our five sites namely- Gajraula, Bharuch, Nira, Savli and Ambernath spread across different Indian states, using both current baseline data and climate projections under three emissions scenarios- SSP1-2.6 (low), SSP2-4.5 (moderate), and SSP5-8.5 (high) across three-time horizons.

Across all plant locations, water stress is identified as the most critical hazard, persisting under SSP1-2.6, SSP2-4.5, and SSP5-8.5 across short, medium, and long-term horizons.

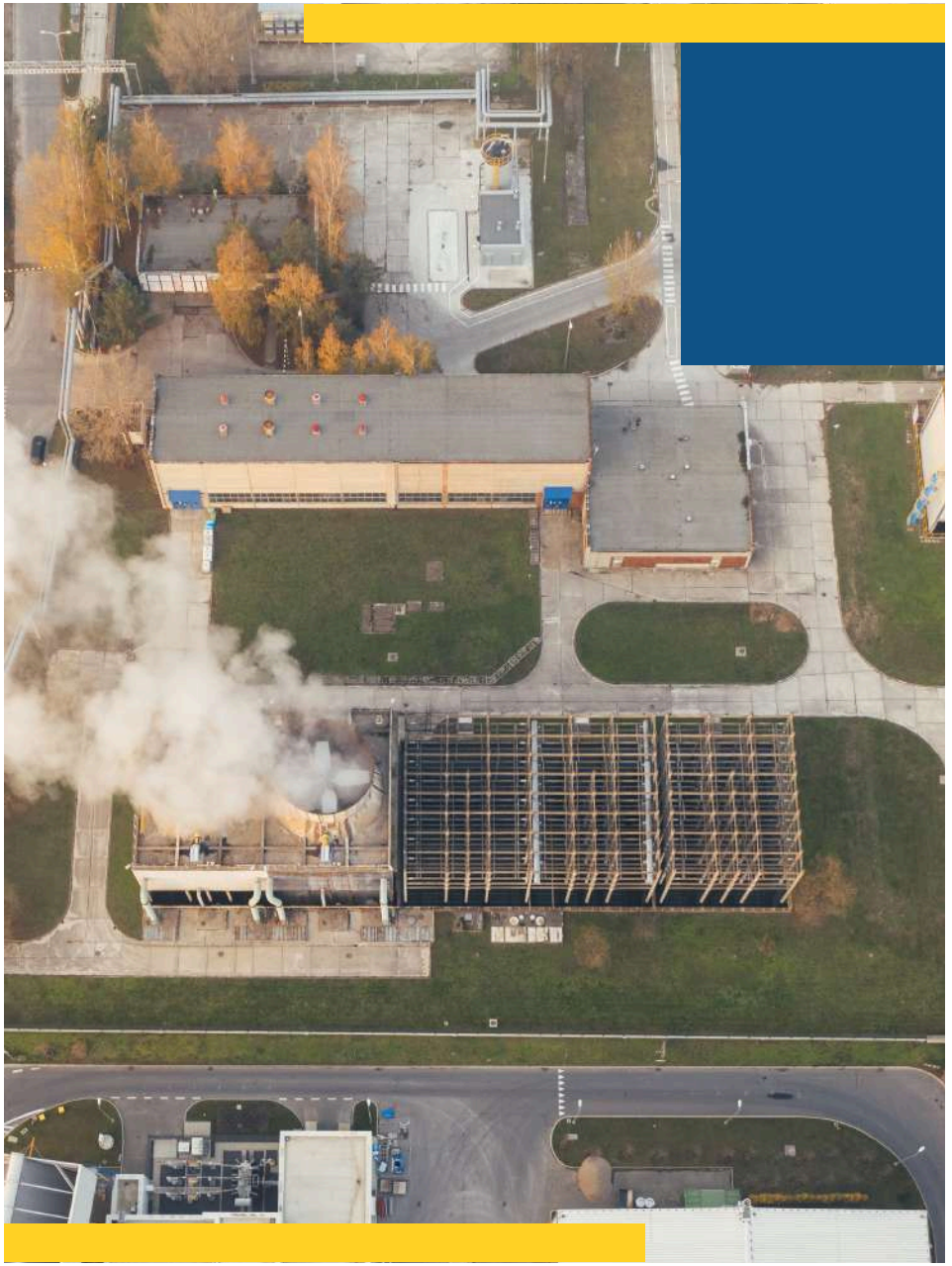
- 2030: Moderate to high water stress at Gajraula and Bharuch; early signs of extreme heat risk.
- 2050: Water stress intensifies to high/very high across most sites, with rising extreme heat and precipitation hazards.
- 2100: Under SSP5-8.5, water stress reaches critical levels at all sites, alongside severe extreme heat. Coastal and riverine flood risks emerge for vulnerable locations; sea level rise becomes material for coastal sites.

Classification of Hazard Impacts

Very high: Hazard intensity results in catastrophic disruption, long-term port closure, or structural failure of critical infrastructure.
High: Hazard results in major disruption, necessitating repairs, causing operational delays, or leading to moderate infrastructure damage.
Moderate: Hazard causes occasional delays, affects secondary infrastructure, or necessitates adaptive responses.
Low: Hazard has limited operational impact, causing short-term disruption with minimal structural damage.
Very low: Hazard intensity is negligible, with no significant impact on port operations or infrastructure.

Classification of Climate Hazard Likelihood

Very likely: Event or hazard is expected to occur frequently or annually under current or projected climate conditions
Likely: The event or hazard is expected to occur regularly, with a high probability in the short to medium term.
Possible: The event or hazard may occur occasionally over the coming decades, based on observed or modelled trends.
Unlikely: The event or hazard is not expected to occur frequently but cannot be entirely ruled out.
Very unlikely: The event or hazard is rare, with a very low probability of occurrence in the foreseeable future.



Assumptions for our physical risk assessment:

Hazard Data Resolution : Global CMPI6 hazard layers (50 km resolution) were used for large-scale climatic events (heat, rainfall), while coastal and riverine floods were assessed at a finer 1 km resolution.
Operational Loss Assessment: Plant-level operational losses from water stress were calculated using groundwater, surface water, municipal supply, and recycled water costs as per Central Ground Water Authority guidelines.
Asset Value at Risk: Asset value at risk was estimated based on the maximum water stress hazard for each plant.

Site Specific Climate Hazard Severity Assessment:

Very High Impact with Very high likelihood | High Impact with Likelihood | Moderate Impact with Possible Likelihood | Low Impact with Very Unlikely Likelihood | Very Low Impact with Very Unlikely Likelihood

Emission Scenario : SSP1-2.6 (low)

	Extreme heat hazard			Extreme precipitation hazard			Water stress hazard			Cyclone hazard			Coastal flood hazard			Riverine flood hazard			Sea level rise hazard		
	SSP1-2.6/RCP2.6 (Below 2°C Scenario)																				
Plant Locations	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100
Gajraula																					
Bharuch																					
Nira																					
Savli																					
Ambernath																					

Emission Scenario : SSP1-2.6 (low)

Plant Locations	Extreme heat hazard			Extreme precipitation hazard			Water stress hazard			Cyclone hazard			Coastal flood hazard			Riverine flood hazard			Sea level rise hazard		
	SSP2-4.5/RCP4.5 (Above 2°C Scenario - ~2.0–2.7°C)																				
	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100
Gajraula																					
Bharuch																					
Nira																					
Savli																					
Ambernath																					

Emission Scenario : SSP5-8.5 (high)

Plant Locations	Extreme heat hazard			Extreme precipitation hazard			Water stress hazard			Cyclone hazard			Coastal flood hazard			Riverine flood hazard			Sea level rise hazard		
	SSP5-8.5/RCP8.5 (Far Above 2°C Scenario - > 4°C)																				
	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100	2030	2050	2100
Gajraula																					
Bharuch																					
Nira																					
Savli																					
Ambernath																					

MITIGATION STRATEGY- **PLANT SPECIFIC**

Jubilant's physical risk assessment indicates rising exposure to extreme heat, water stress, precipitation, and flooding across its five sites, with risks intensifying under moderate and high emissions scenarios by 2050 and 2100. To address these challenges, our mitigation strategy focuses on strengthening plant-level resilience through proactive monitoring, water and energy stewardship, climate-resilient infrastructure, and robust emergency preparedness. This integrated approach ensures business continuity, protects critical infrastructure, and enhances long-term climate resilience across operations.

Location	Mitigation and Adaptation Plan			
	Physical Risk	**Short term**	**Medium term**	**Long term**
Gajraula	**Water Stress**	· Conduct water audits to identify major consumption and loss points, especially for high-water-demand processes like pyridine and acetate synthesis. · Deploy flow meters and real-time monitoring systems to track water use efficiency (WUE) per unit of production. · Introduce process optimization (e.g., batch sequencing, dry cleaning cycles, solvent recovery integration) to reduce wash water use.	· Develop water stress contingency plans for seasonal variability and municipal cutbacks.	· Redesign production processes for integrated water-energy optimization, ensuring minimal dependency on external freshwater sources. · Shift towards bio-based or catalytic pathways that inherently consume less water (e.g., green chemistry route for formaldehyde). · Conduct regular life cycle assessments (LCAs) to ensure water reduction across supply chain.
	Extreme Heat	· Modify production schedules to cooler times (early morning/night shifts) · Increase frequency of equipment inspection for overheating risks (especially reactors, distillation columns) · Enforce shorter work-rest cycles under ISO 7243:2017 WBGT guidelines	· Process Resilience- Redesign ventilation systems to cope with increased ambient temperatures · Retrofit cooling jackets and chiller capacity for key reactors (esp. in Acetic Anhydride, Ethanol units) · Expand condition monitoring (thermal imaging, sensor-based alerts) · Workforce Adaptation- Train plant staff on heat illness response and chemical safety during heat waves · Rotate crews to climate-controlled control rooms more frequently	· Infrastructure Overhaul- Redesign layout for thermal zoning (hot vs. cool zones) · Invest in green roofs and evaporative cooling ponds · Shift to semi-automated/remote-controlled process units to minimize human exposure · Community Engagement- Collaborate with local heat response systems and conduct joint drills · Establish early warning systems for heatwaves integrated with plant operations

Bharuch	**Water Stress**	Mitigation measures have been implemented	• Collaborate with local stakeholders to monitor and share aquifer data.	• Redesign plant layout and infrastructure for water neutrality or circularity. • Explore alternative feedstocks with lower embedded water intensity. • Develop in-house desalination or groundwater recharge systems. • Integrate IoT-based smart water grids for real-time monitoring and predictive control.
	Extreme Heat	Mitigation measures have been implemented	Mitigation measures have been implemented	• Redesign future plant expansions with climate-resilient architecture (e.g. green roofs, natural ventilation corridors)
	Riverine Flood	Mitigation measures have been implemented	Mitigation measures have been implemented	• Invest in permanent flood levees or embankments • Consider climate-resilient infrastructure upgrades
	Sea Level Rise	• Install water-tight barriers and sealants at ground-level entry points. • Elevate critical electrical systems, pumps, and storage tanks above expected flood levels. • Create a secure containment system for hazardous chemical storage to prevent leaks during flooding.	• Construct permanent flood defense systems (e.g., sea walls, levees, and raised berms). • Upgrade drainage infrastructure to manage intense rainfall and prevent waterlogging. • Introduce water-absorbing green buffers (bioswales, green berms) around the site. • Shift sensitive production processes to less vulnerable zones within the site. • Establish redundancy in utilities (e.g., backup power, water systems) to maintain operations during flooding. • Partner with local municipalities for integrated coastal risk reduction.	• Install water-tight barriers and sealants at ground-level entry points. • Elevate critical electrical systems, pumps, and storage tanks above expected flood levels. • Create a secure containment system for hazardous chemical storage to prevent leaks during flooding.

Nira	**Water Stress**	· Switch to air-cooled over water-cooled condensers where feasible.	· Shift production cycles to less water-intensive periods (e.g., off-peak summer demand).	· Relocate water-intensive production units to water-abundant zones or create regional hubs with shared water infrastructure. · Use AI-driven predictive analytics to manage long-term water risk and adjust production planning accordingly. · Participate in watershed restoration or industrial symbiosis for shared water use.
	Extreme Heat	· Mitigation measures have been implemented	· Mitigation measures have been implemented	· Redesign plant layout to include green belts and reflective roofs · Integrate real-time AI-based temperature risk alert systems
	Sea Level Rise	· Conduct detailed sea-level rise risk and flood mapping studies for the plant location. · Install water-tight barriers and sealants at ground-level entry points. · Raise awareness and train staff on flood preparedness.	· Introduce water-absorbing green buffers (bioswales, green berms) around the site. · Shift sensitive production processes to less vulnerable zones within the site.	· Relocate high-value or high-risk units of the plant to higher ground or safer inland locations. · Invest in modular or mobile production facilities to allow phased relocation or expansion. · Integrate climate-resilient building codes and zoning practices in future infrastructure planning. - Invest in real-time sea level and climate monitoring systems for proactive decision-making.

Savli	**Water Stress**	· Conduct detailed water risk assessment (source reliability, seasonal availability)	· Develop alternate raw material sourcing options less dependent on water-intensive agriculture	· Secure alternative water sources (e.g. wastewater reuse from industry clusters) · Relocate or diversify part of operations to less water-stressed regions · Develop climate-resilient feed additives/formulations (lower water-footprint ingredients)- Invest in regional water infrastructure resilience programs
	Extreme Heat	· Install heat-reflective roofing and insulation to maintain indoor temperature	Mitigating actions were put in place	· Consider partial relocation of highly heat-sensitive operations

Ambernath	**Extreme Heat**	· Install high-temperature alert systems and heat-resilient safety protocols.	· Retrofit plant with heat-reflective roofing and radiant barriers. · Develop water-efficient cooling systems (closed-loop or hybrid).	· Implement AI-based predictive maintenance for heat stress on machinery.
	Extreme Precipitation	· Install temporary flood barriers (e.g., sandbags, mobile flood walls)	Upgrade stormwater management system (e.g., retention ponds, permeable pavements) Retrofit roofs, pipe systems, and foundations to withstand heavier rain and wind	· Relocate critical infrastructure or build elevated structures to ensure long-term operational continuity · Partner with local authorities for regional climate-resilient infrastructure (e.g., regional drainage planning) · Integrate climate change projections into future design of facility expansions
	Sea Level Rise	· Install water-tight barriers and sealants at ground-level entry points. · Create a secure containment system for hazardous chemical storage to prevent leaks during flooding.	· Construct permanent flood defense systems (e.g., sea walls, levees, and raised berms). · Introduce water-absorbing green buffers (bioswales, green berms) around the site. · Shift sensitive production processes to less vulnerable zones within the site. · Establish redundancy in utilities (e.g., backup power, water systems) to maintain operations during flooding.	· Relocate high-value or high-risk units of the plant to higher ground or safer inland locations. · Invest in modular or mobile production facilities to allow phased relocation or expansion. · Permanently shift operations to a new site if risk becomes economically or operationally unmanageable.

Our Existing Adaption Measures:
We have adopted several adaptation measures to enhance resilience against climate risks. Effluent-heavy units such as acetic anhydride and ethanol production have been equipped with zero-liquid discharge (ZLD) systems, while multi-effect evaporators (MEE) and reverse osmosis systems recycle treated wastewater for reuse in utilities, reducing freshwater dependence. Energy-efficient technologies and process optimizations lower emissions and improve efficiency. Critical infrastructure is being strengthened to withstand heat stress and flooding, supported by daily monitoring through NABL-accredited labs and third-party assurance. Regular risk assessments and emergency preparedness drills further ensure operational continuity and climate readiness

TRANSITION RISK ASSESSMENT

As part of our climate strategy, we conducted a scenario-based transition risk analysis using the International Energy Agency's (IEA) Stated Policies Scenario (STEPS) and Net Zero Emissions by 2050 (NZE) scenario to evaluate business impacts across varying decarbonization pathways. The assessment spans three-time horizons:

- **Short-term (2025–2030):** Evaluates early policy impacts, market trends, and operational preparedness.
- **Medium-term (2031–2040):** Focuses on evolving regulations, technology scalability, and stakeholder expectations.
- **Long-term (2041–2050):** Assesses deep decarbonization impacts and structural shifts in chemical sector

Given the evolving transition landscape, the transition risk assessment considered key indicators impacting JVL's operations, such as misalignment with NDCs, fossil fuel dependence, adoption challenges for low-emission technologies, renewable energy trends, shifting consumer preferences, and stakeholder expectations.

Index

	High Risk		High Opportunity
	Moderate Risk		Moderate Opportunity
	Low Risk		Low Opportunity

MITIGATION STRATEGY

Category		Adaptation & Mitigation Plan		
		Short-term	**Medium-term**	**Long-term**
Current and Emerging Regulation	**Impact** **Transition Risk:** Carbon Tax **Financial Drivers:** Increase in OPEX	• Establish an internal carbon price, baseline Scope 1 and 2 emissions, and participate early in India's Carbon Credit Trading Scheme (CCTS). • Efficiency upgrades, process optimization, and supplier engagement can reduce compliance costs, while a CBAM readiness assessment will safeguard EU export markets.	• Scale up renewables, initiate fuel substitution (PNG, biomass), and invest in energy-efficient technologies. • Set SBTi targets, publish product carbon footprints, and build a strong carbon credit management system for compliance and market positioning.	• Invest in green chemistry, recycling, and green hydrogen pilots to cut emissions and avoid high CO_2 costs. • Shift to a low-carbon portfolio, integrate carbon-adjusted ROI in planning, digitize emissions management, and engage in global carbon markets for long-term competitiveness and ESG capital access.
Legal	**Impact** **Transition Risk:** Misalignment with National/Global Decarbonization **Financial Drivers:** Decreased revenue	• Conduct a full GHG inventory (Scope 1, 2, and key Scope 3). • Benchmark carbon intensity against Indian and global peers. • Align early with the Science-Based Targets initiative (SBTi). • Prepare for regulatory disclosures (CBAM, EU due diligence laws). • Send strong signals to investors and green supply chain partners	• Set and disclose validated science-based targets; integrate into operations and supply chain. • Accelerate renewable energy adoption, fuel transition, and supplier engagement. • Launch low-carbon products with third-party verified LCAs for EU and export markets.	• Aim for net-zero across operations and value chains. • Integrate circular economy and green chemistry. • Join global low-carbon initiatives. • Embed carbon alignment into risk, capital, and product planning. • Ensure market access, competitiveness, and ESG capital readiness.

Category		Short-term	Medium-term	Long-term
Technology	**Impact** **Transition Risk:** Failure to Reduce Dependency or Substitute of Fossil Fuels **Financial Drivers:** Increase Carbon Cost	• Conduct energy & feedstock audit to map fossil fuel reliance. • Pilot fuel switching (coal/oil → PNG/biomass) at Savli, Bharuch, Nira. • Integrate carbon cost exposure into budgets & investments. • Engage suppliers on low-carbon feedstocks; prepare for CCTS.	• Expand fuel substitution (biomass, waste fuels, electrification). • Invest in renewables (e.g., solar PPAs) and low-temp electrified heating. • Strengthen supplier engagement for bio-based/recycled feedstocks. • Join green procurement programs with key clients. • Use transition to boost ESG ratings & tap sustainability-linked finance.	• Explore green hydrogen for high-temperature needs. • Invest in closed-loop systems, green chemistry & carbon capture-ready infrastructure. • Align operations with net-zero; decouple growth from fossil inputs. • Position as preferred supplier in low-carbon value chains. • Embed fossil fuel phase-out into strategy & product innovation.
	Impact **Transition Risk:** Cost to Transition to Lower Emission Technology **Financial Drivers:** Decreased Revenue	• Conduct feasibility & prioritization: Map emission hotspots, assess low-emission options (e.g., electrified boilers, renewable steam, low-GWP solvents). • Develop phased Capex strategy: Stagger investments, align with maintenance cycles to cut downtime. • Access green finance: Explore ESG-linked loans, transition bonds, and concessional funds (e.g., GCF, SIDBI, ADB).	• Implement priority tech shifts: Transition key lines to renewable power, low-carbon heating, and process intensification. • Create demonstration projects: Pilot scalable clean tech to de-risk adoption and build stakeholder trust. • Establish partnerships: Work with cleantech vendors, EPC firms, and industry consortia to share risks and costs.	• Integrate low-carbon technologies: Achieve site-wide shift to electrified/renewable thermal systems, non-fossil solvents, and energy-optimized automation. • Futureproof infrastructure: Retrofit plants with modular, green-hydrogen and CCU-ready systems. • Optimize ROI & competitiveness: Use carbon credits, ESG procurement incentives, and CBAM compliance to recover costs and expand market share.
	Impact **Transition Risk:** Deployment of Renewable Technology **Financial Impact:** Decrease OPEX	• Install rooftop solar & biomass boilers to cut Scope 2 emissions. • Use government incentives (net metering, depreciation, RECs). • Conduct energy audits; adopt quick fixes (LEDs, VFDs).	• Secure long-term PPAs (solar, wind) for cost stability. • Pilot green hydrogen for feedstock & high-temp heat. • Build renewable partnerships; integrate hybrid systems.	• Transition to net-zero plants: 100% RE, electrified heat, CCUS. • Phase out fossil utilities; use green ammonia/hydrogen. • Invest in R&D & biorefineries for green chemistry leadership.

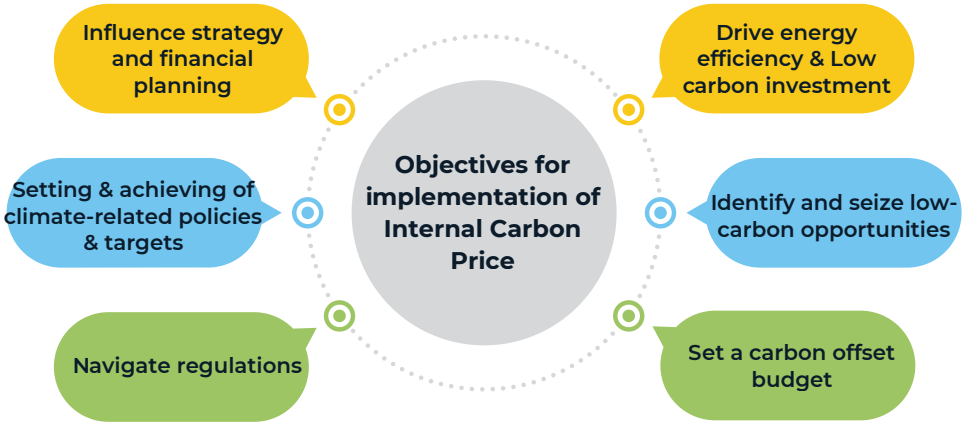
Category		Short-term	Medium-term	Long-term
Technology	**Impact** **Transition Risk:** Energy Efficiency **Financial Impact:** Decrease OPEX	• Lighting upgrades: LED or smart lighting systems. • HVAC optimization • Energy monitoring: Install sub-metering and energy dashboards to track consumption by area or equipment. • Behavioral measures: Encourage employees to switch off unused equipment, optimize operational schedules, and adopt energy-conscious practices. • Equipment fixes: Seal leaks in compressed air, steam, and pumping systems; install variable frequency drives (VFDs) where possible.	• Equipment modernization: Replace old motors, boilers, chillers, and other machinery with energy-efficient alternatives. • Process optimization: Implement heat recovery, waste heat utilization, and streamline production processes. • Advanced controls & automation: Adopt smart building management systems, predictive maintenance, and automated energy optimization for equipment.	• Industrial process re-engineering: Transition to low-energy or circular production methods; integrate energy efficiency into plant design. • Electrification • Smart grid & energy storage: Implement energy storage systems, demand response, and integration with smart grids for peak load management. • Digitalization for sustainability: Use AI, IoT, and predictive analytics for continuous energy optimization across operations.
Market	**Impact** **Transition Risk:** Economic Growth **Financial Drivers:** Increased Revenues	• Enhance ESG performance → attract investors & customers. • Leverage subsidies/tax incentives to improve margins. • Tap into sustainable sourcing demand (pharma, agro sectors). • Support local jobs through renewable system installation & maintenance.	• Build resilience against carbon border taxes (e.g., EU). • Upskill workforce in green chemistry, renewables, digital energy. • Drive sustainable, inclusive economic growth via innovation & jobs.	• Access new markets & revenue streams through green manufacturing. • Build rural biomass value chains and solar partnerships for regional growth.
Reputation	**Impact** **Transition Risk:** Stakeholder Concern **Financial Drivers:** Increased OPEX	• Announce short-term carbon reduction targets • Share emissions data and ongoing initiatives publicly • Engage stakeholders and start pilot renewable/efficiency projects	• Full net-zero roadmap: Develop and implement a comprehensive long-term net-zero plan across all operations and supply chains. • Innovation in low-carbon products: Invest in R&D for sustainable and low-carbon product offerings.	• Continuous improvement: Monitor progress, report publicly, and update strategies as needed to meet evolving global net-zero expectations.

CLIMATE CHANGE STRATEGY

'Jubilant is a proud member of the UN Global Compact (UNGC) since 2010, committing to the 10 principles across human rights, labour, environment, and anti-corruption.'

INTERNAL CARBON PRICE

As part of our strategic approach to decarbonization, we have implemented an Internal Carbon Price of USD 12 per ton of CO_2 emitted, applied uniformly across our operations and covering Scope 1 and Scope 2 emissions. This static and implicit pricing model was established through peer benchmarking and an assessment of the cost of measures needed to achieve our climate targets.



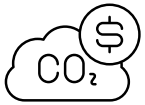
The carbon price is embedded in key decision-making processes such as capital expenditure, operations, and risk management. The pricing framework is regularly monitored and evaluated to ensure it effectively guides resource allocation and contributes to our net-zero journey.

RESEARCH AND DEVELOPMENT

At the core of our climate strategy is a strong emphasis on Research and Development (R&D), particularly in green chemistry and the development of low-carbon products. Recognizing the critical role of innovation in climate risk mitigation, we have conducted Product Carbon Footprint (PCF) assessments for 28 major products to advance product stewardship. Our dedicated R&D team, comprising highly qualified scientists, operates from a state-of-the-art facility in India, focusing on process design, technological innovation, and resource efficiency. Over the past three years, we have made **INR 12.97 million** investments in R&D, with a focus on reducing energy and water use through process re-engineering, waste heat recovery, rainwater harvesting, and advanced process controls. Both our R&D and Business Excellence teams integrate climate and water risk considerations into all projects, ensuring that sustainability is embedded from design to execution.

FINANCIAL IMPACT

Carbon Tax: Transitional Risk



Under India's emerging carbon pricing mechanisms, each ton of CO_2e emitted by Jubilant may attract costs through carbon taxes or emission allowances. Energy-intensive operations such as boilers, furnaces, and transportation are expected to face higher operating expenses. Compliance will require accurate monitoring, reporting, and verification of emissions, driving additional administrative and audit costs. These obligations, combined with potential penalties for non-compliance, pose a material risk to our profitability, margins, and competitiveness, while also increasing reputational risks in an increasingly sustainability-conscious market.

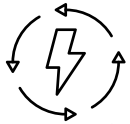
- **Financial Impact**

In FY 2025, Jubilant's CO_2 emissions intensity stood at 1.76E-08 $KtCO_2e$/INR, projected to decline to 1.30E-08 $KtCO_2e$/INR by FY 2029-30. With projected FY 2030 revenues of INR 43,930 million, of which 47% (INR 20,647 million) is export-driven, associated export-related emissions are estimated at ~2,68,000 tCO_2e. At the anticipated carbon price of INR 3,500/tCO_2e in India by FY 2030, the potential carbon cost could amount to ~INR 940 million, directly impacting profitability and export competitiveness.

- **Mitigation Cost**

The planned CAPEX for energy conservation programs amounts to INR 642.2 million, representing the cost of response to this risk and expected to deliver significant reductions in product-related emissions.

Use of Renewable Energy: Opportunity



We operate in an energy-intensive sector with high demand for steam, electricity, and process heat. Transitioning to renewable energy reduces emissions, lowers exposure to fossil fuel volatility, and enhances cost predictability. It also improves resilience to grid disruptions and aligns with growing customer demand for low-carbon supply chains. Renewable energy is therefore critical to the company's sustainability roadmap and long-term competitiveness.

- **Financial Benefit**

We target sourcing of 47.5 MW from renewables by FY 2029 with a 20% plant load factor, generating ~83.22 GWh annually. This is expected to deliver annual savings of INR 416 million to INR 666 million, based on unit savings of INR 5–8 per kWh.

- **Cost to Realize Opportunity**

The installation cost of renewable capacity is INR 40 million per MW, bringing the total investment for 47.5 MW to INR 1,900 million.

Water Stress: Physical Risk

Jubilant operates in a water-intensive sector, relying on water for cooling, processing, and pollution control. All facilities are located in regions facing moderate to high water stress, with projections indicating further decline in availability due to climate change and over-extraction. Reduced and unreliable supply poses a direct threat to operations, potentially leading to reduced capacity, shutdowns, production delays, and contractual penalties. To sustain operations, we may also face higher costs from alternative sourcing and water treatment upgrades.

- **Financial Impact**

Under RCP 4.5, water stress at Bharuch and Savli is projected to rise by 5% and 23%, respectively, by 2030. This results in an additional 52,610 m^3/year of water withdrawal from alternative sources. At an estimated cost of INR 15/m^3, the increased OPEX amounts to ~INR 0.79 million annually, or ~INR 3.95 million over five years.

- **Mitigation Cost**

To mitigate this risk, we are investing in ZLD systems: INR 96 million at Ambernath, INR 914.2 million at Nira, and INR 620 million at Gajraula. The total CAPEX of INR 1,543.8 million represents the cost of response to this risk.

Water Recovery from Sewage Treatment

By enhancing water recycling efficiency and adopting freshwater conservation measures, Jubilant will reduce dependency on groundwater and lower freshwater withdrawals. This opportunity will be implemented across all five manufacturing sites.

- **Financial Benefit**

In FY 2025, we have achieved water savings of approximately 61,000 KL through efficiency and conservation measures. Based on the true cost of water, estimated between INR 3 and 10 per litre, the financial benefit of this saving ranges from a minimum of INR 183 million to a maximum of INR 610 million, demonstrating both the economic and environmental value of water efficiency initiatives.

- **Cost to Realize Opportunity**

To strengthen water management and reduce discharge-related risks, JVL is investing in ZLD systems across key sites. The planned CAPEX is INR 620 million at Gajraula, INR 914.2 million at Nira, and INR 96 million at Ambernath, bringing the total investment to approximately INR 1,543.8 million. This represents the cost of response to the identified opportunity.

TARGET AND METRICS

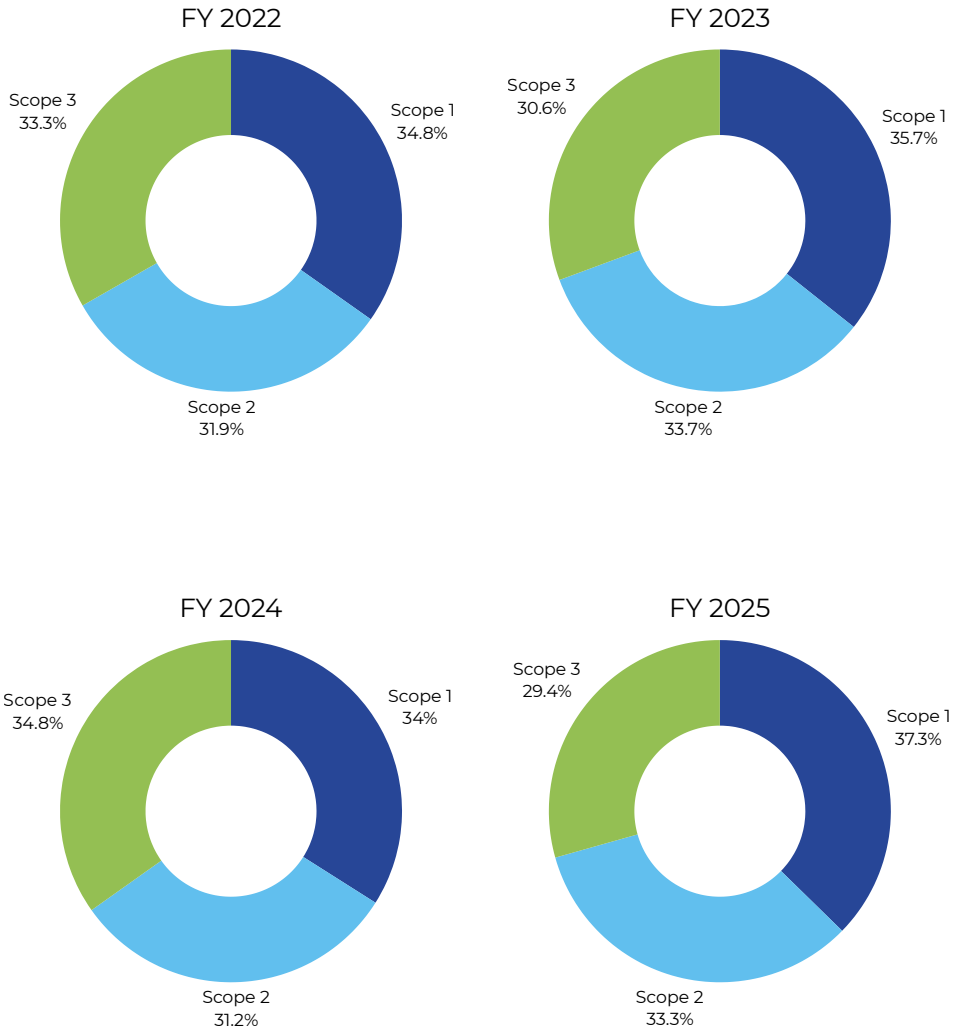
METRICS

GHG EMISSIONS:
Scope 1 and 2 emissions reduced from 1.67 tCO_2e/MT in FY 2023 to 1.54 tCO_2e/MT in FY 2024, while specific energy consumption decreased from 19.28 GJ/MT to 17.36 GJ/MT over the same period, reflecting our progress toward a low-carbon and energy-efficient future.

GHG Emissions	Units	FY 2022	FY 2023	FY 2024	FY 2025
Scope 1	MT CO_2e	901.69	948.44	767.73	736.52
Scope 2	MT CO_2e	828.11	895.12	704.82	657.404
Scope 3	MT CO_2e	862.440	814.528	786.554	579.78

Scope 3 Emissions by Category	FY 2025 (MT CO_2e)
Category 1: Purchased goods and services	285,447
Category 2: Capital goods	8,087
Category 3: Fuel- and energy-related activities (not included in scope 1 or scope 2)	176,619
Category 4: Upstream transportation and distribution	48,359
Category 5: Waste generated in operations	37,968
Category 6: Business travel	975
Category 7: Employee commuting	430
Category 9: Downstream transportation and distribution	21,897
Total	**5,79,782**

Assumptions
**Emissions in our "Waste generated in operations" category do not include transportation emissions*
** DEFRA's well-to-tank fuel conversion factors have been considered*

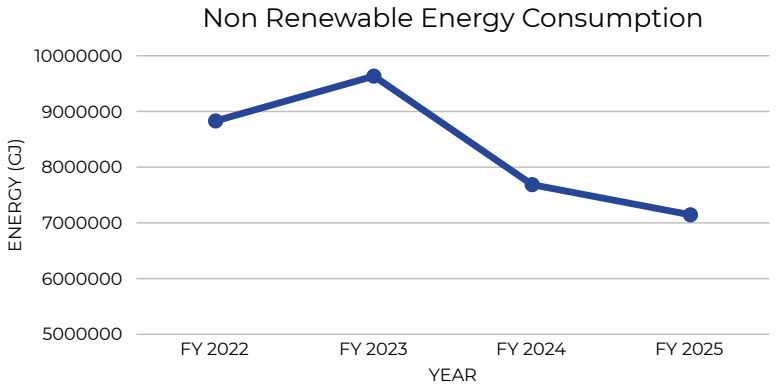


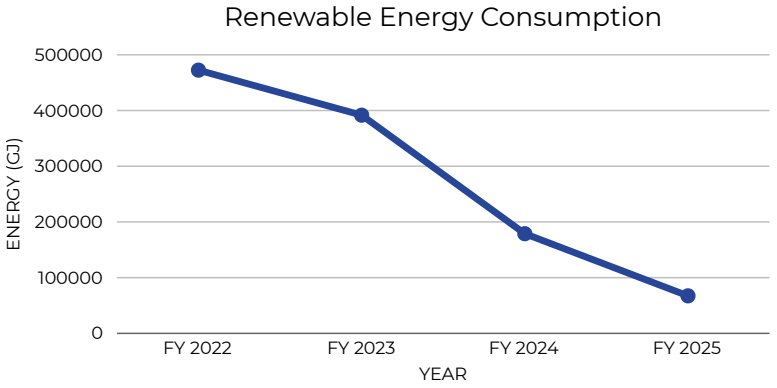
ENERGY CONSUMPTION

We are committed to reducing fossil fuel emissions and increasing the share of renewable energy in our operations

In March 2025, Jubilant partnered with O2 Power to deploy a hybrid renewable energy solution at its Bharuch facility, building on prior clean energy initiatives at Gajraula and Savli.

Energy Types	Units	FY 2022	FY 2023	FY 2024	FY 2025
Total Energy Consumption	**GJ**	**10,17,35,87**	**10,94,59,68**	**86,60,457**	**82,30,865**
Non-renewable energy sources					
Coal	GJ	8,296,876.8	8,688,902.8	6,561,364	6,223,838
HSD	GJ	69,088.1	86,526.0	35,634	21,675
FO/LSHS	GJ	163,928.9	574,921.5	681,566	503,694
Natural gas	GJ	298,494.2	283,803.1	406,313	394,616
Gasoline/Petrol	GJ	26.9	15.5	13	8
Liquid Petroleum Gas (LPG)	GJ	1,097.4	954.8	960	821
Total consumption from Non-renewable energy sources	**GJ**	**8829511.3**	**9633961.2**	**76,85,851**	**71,44,653**
Renewable energy sources					
Biogas	GJ	472,406.3	325,844.4	100,275	0
Solar Energy	GJ	31.1	65,975.6	78,628	67,366
Total consumption from Renewable energy sources	**GJ**	**472,437.4**	**391,620**	**178,903.27**	**67,366**





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