Confederation of Indian Industry

GreenCo: An Enabler of Net Zero

Experiences from GreenCo Rated Companies

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The selection and description of the content in the document are to illustrate CII GreenCo's initiatives, with the objective of demonstrating the thematic variety, capabilities and scope of CII-Sohrabji Godrej Green Business Centre's activities.

If you have any comments or have noticed any error, kindly write to us at greenco.gbc@cii.in

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Jamshyd N Godrej
Chairman
CII - Godrej GBC

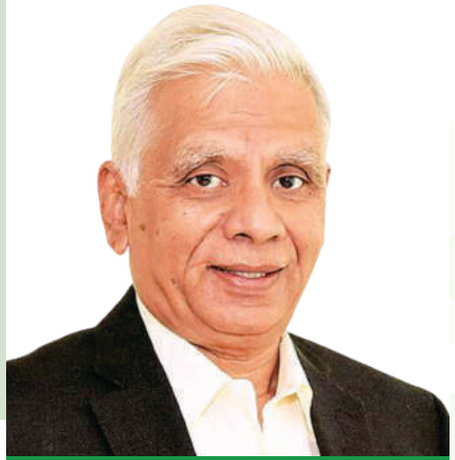
Global climate change has a significant impact on humans and other life across continents. The earth witnessed its hottest day since recorded history in July 2023, this month. Rising temperatures are resulting in greater loss of sea ice, rising sea levels, loss of biodiversity, unpredictable and extreme weather events, and many other tangible and intangible negative impacts. To combat these effects, society must address the root cause of global warming by reducing anthropogenic emissions and increasing natural and artificial mechanisms to capture carbon. Increasing resource consumption is causing a number of other issues beyond climate change, including scarcity of water, increasing quantities of unmanaged waste, land degradation, etc.

To minimize our impact on the planet, more efficient use of resources is necessary. To address these challenges, countries have declared individual targets for achieving Net Zero emissions which can be met when every industry works on sustainable solutions that minimize their value chain's impact on the environment across their carbon emissions, water footprint and resource efficiency.

For more than a decade, GreenCo has been supporting the industry towards their voluntary sustainable actions. GreenCo companies are reaching new heights with Platinum and Platinum Plus ratings with synergistic improvements in performance and profitability. I am happy to see this publication on the Net Zero Journey of GreenCo companies that have taken up the challenge to achieve Net Zero in terms of carbon emissions, water usage, and waste to landfill. Some of the best examples are showcased here for industry to emulate.

A large number of industries are on track to achieve improved energy efficiency and Net Zero carbon emissions. The next big revolution in sustainable business is for the numerous SMEs across the country achieve similar targets by replicating these best practices and innovating towards sustainability. I encourage industries across various sectors and sizes to adopt these green examples.

Messages



Pradeep Bhargava
Chairman
CII - GreenCo Council

Global climate leadership to limit global warming to 1.5°C is driven by committing to a net-zero carbon economy. The Government of India has announced its net-zero target of 2070 while many companies are committing to achieve carbon neutral operations much earlier. In line with these reduction goals, India aims to reduce her carbon intensity by 45%, as soon as 2030. Indian organizations are demonstrating their efforts towards environmental sustainability through implementation of nationally accepted and internationally recognized GreenCo system. It is a holistic approach that helps inculcate the culture of sustainability at the heart of their operations and transformational journey. Through this GreenCo assessment system, companies are setting their net-zero targets for Carbon, Water and Waste to Landfill.

I take great pleasure to introduce this publication titled "GreenCo: An Enabler of Net Zero" that will serve as an important resource for organizations embarking on setting green goals and reaffirm their commitment to environmental sustainability.

Greenco has helped the organizations to create new benchmarks through developing green culture by establishing systems which catalyse people, partnerships to realize high impact results. Some of the major milestones achieved by GreenCo rated companies are achieving net-zero carbon enabled through energy efficiency initiatives and renewable energy alternatives. Further, companies have achieved water neutrality and water positive status by efficient use of water, increased re-use and recycle, and rain-water harvesting based augmentation. Lastly, zero-waste to landfill is a major accomplishment for many GreenCo rated companies, successfully implementing circular economy practices like reduction, recycling, and energy recovery.

Selected achievements and case-studies from green rated companies are collated to highlight their initiatives, methodologies and, projects that have a potential to be re-deployed horizontally across different sectors, ranging from mining, cement, oil & gas, steel, heavy industries, manufacturing, automotive, FMCG, service industries. Implementation of these best practices has the potential to improve the green coefficient of aspiring large, medium and MSMEs to unlock the potential savings while embarking on transformational journey towards net-zero.

I would like to express my appreciation to all the companies who have shared their details and best practices, making this publication possible. Let us continue to work together for a sustainable future.

I warmly invite you to share your feedback on this publication with us at greencogbc@cii.in

Introduction to Net Zero

It is now more crucial than ever to reach net zero targets as the world struggles to deal with the problems caused by climate change and environmental deterioration. Net Zero emissions, Net Zero water, and Net Zero waste are all critical components of the global sustainability agenda. Each of these concepts represents a pathway towards minimizing our impact on the planet and creating a sustainable future for generations to come.

Net Zero Emissions: Net Zero Emissions refers to achieving a balance between greenhouse gas emissions and their removal or offset. It entails reducing emissions through measures such as transitioning to renewable energy sources, improving energy efficiency, and employing carbon capture and storage technologies. The Intergovernmental Panel on Climate Change (IPCC) has emphasized the need to limit global warming to well below 2°C and strive for 1.5°C to prevent severe impacts. The World Meteorological Organization states that the concentration of carbon dioxide (CO_2) in the atmosphere reached a record high in 2020, despite the temporary reduction in emissions due to the COVID-19 pandemic.

Net Zero Water: Net Zero Water aims to encompasses the concept of creating water-neutral systems where the total water consumption is balanced by the amount of alternative water used and the water returned to the original water source. Water scarcity is a pressing issue globally, with an estimated 2 billion people living in areas experiencing high water stress. The United Nations projects that by 2030, global water demand will exceed supply by 40%.

Net Zero Waste: Net Zero Waste aims to eliminate waste sent to landfills and incinerators by implementing strategies such as waste reduction, recycling, composting, and resource recovery. It emphasizes the principles of a circular economy, where materials are reused and recycled to minimize waste generation. According to the World Bank, global waste generation is expected to increase by 70% by 2050 if no action is taken.

Achieving Net Zero emissions, Net Zero water, and Net Zero waste in India is of paramount importance due to the pressing challenges the country faces, including population growth, urbanization, environmental pollution, water scarcity, climate change impacts, the pursuit of Sustainable Development Goals (SDGs), and public health concerns. By addressing these challenges through Net Zero strategies, India can alleviate the strain on resources, mitigate pollution, conserve water, reduce greenhouse gas emissions, enhance public health, and contribute to a more resilient and sustainable future for the country and its citizens.

GreenCo's Outlook to Net Zero

GREENCO RATING

GreenCo Rating is a voluntary assessment system that evaluates companies based on a life cycle approach, encompassing resource efficiency, climate impact, green supply chain practices, and product stewardship. It examines how efficiently resources are used, including energy and water, and assesses efforts to minimize waste generation. The rating system also analyses greenhouse gas emissions and strategies to mitigate climate change, while considering sustainable practices in the supply chain. Additionally, it evaluates responsible product design, use, and end-of-life management. The GreenCo Rating encourages companies to adopt sustainable practices across their value chain, aiming to drive positive environmental change.

a) GreenCo supports organizations in transitioning to cleaner and more sustainable energy sources. It promotes energy efficiency measures, renewable energy adoption, and the reduction of greenhouse gas emissions. GreenCo encourages companies to track and measure their carbon emissions, develop emission reduction strategies, and engage in carbon offsetting initiatives. By addressing their emissions under GreenCo's guidelines, organizations contribute to India's climate commitments and facilitate net zero transition.

b) GreenCo emphasizes the importance of efficient water management and conservation. It encourages companies to adopt water-efficient technologies, implement water recycling and reuse systems, rainwater harvesting and protect water sources. By incorporating GreenCo's water management criteria, organizations can work towards achieving a balance between water consumption and alternative water use, reducing their water footprint, and contributing to water positive status.

c) GreenCo provides guidelines and benchmarks for waste management practices. It encourages companies to implement waste reduction strategies, promote recycling and reuse, and adopt circular economy principles. Through GreenCo certification, organizations are incentivized to optimize their waste management processes, minimize landfilling, and strive towards Zero waste to landfill.

Cumulative savings by GreenCo rated companies (till July 2023)

3.4 Million MT CO_2 eq.
GHG Emission Mitigation

190 Million kL
Water Conservation

24 Million MT
Waste Diverted from Landfill

GreenCo Rating Parameters	Parameter wise Contribution		
	Net Zero Waste	Net Zero Water	Net Zero Emissions
1. Energy Efficiency	-	-	✓
2. Renewable Energy	-	-	✓
3. Water Conservation	-	✓	-
4. GHG Mitigation	-	-	✓
5. Waste Management	✓	-	-
6. Material Conservation	✓	-	-
7. Green Supply Chain	✓	✓	✓
8. Product Stewardship	✓	✓	✓
9. Innovation for Environment	✓	✓	✓
10. Green Infrastructure and Ecology	✓	✓	✓

GreenCo's Outlook to Net Zero

GREENCO CERTIFICATION - WATER NEUTRALITY

GreenCo's Water Neutrality certification plays a crucial role in helping organizations progress towards achieving Net Zero Water. The certification program focuses on promoting efficient water management, reducing water consumption, and encouraging sustainable practices. Here's how GreenCo's Water Neutrality certification supports the goal of Net Zero Water:

- **Water Conservation:** GreenCo's encourages companies to implement technologies and practices that optimize water use, minimize water wastage, and reduce overall water consumption. By adopting water-efficient processes, organizations can significantly contribute to Net Zero Water goals.
- **Water Recycling and Reuse:** GreenCo recognizes the significance of water recycling and reuse in achieving Net Zero Water. The certification program encourages organizations to implement systems for treating and reusing water within their operations. This helps reduce dependency on freshwater sources and minimizes the overall demand for water.
- **Rainwater Harvesting:** GreenCo promotes the adoption of rainwater harvesting techniques as part of its Water Neutrality certification. Organizations are encouraged to implement rainwater harvesting systems to capture and utilize rainwater for various purposes, such as irrigation or non-potable uses. This helps augment water supply, reduce the strain on freshwater sources, and contribute to Net Zero Water objectives.
- **Water Stewardship:** GreenCo's Water Neutrality certification emphasizes the need for organizations to be responsible stewards of water resources. It encourages companies to engage in activities that contribute to water conservation, protection of water bodies, and sustainable water management practices. This includes initiatives like watershed management, community water initiatives, and water resource monitoring.
- **Water Footprint Assessment:** As part of the Water Neutrality certification, GreenCo encourages organizations to assess their water footprint. This involves evaluating the water usage throughout the value chain, identifying hotspots, and implementing strategies to reduce water consumption and mitigate impacts. Water footprint assessment helps organizations understand and manage their water use more efficiently, contributing to Net Zero Water efforts.

By awarding the Water Neutrality certification, GreenCo recognizes and promotes organizations that have demonstrated significant progress in reducing water consumption, adopting sustainable water management practices, and contributing to water conservation efforts. The certification serves as a catalyst for organizations to strive towards Net Zero Water by implementing innovative solutions, optimizing water use, and fostering a responsible approach to water stewardship.

GreenCo's Outlook to Net Zero

GREENCO CERTIFICATION - ZERO WASTE TO LANDFILL

GreenCo's Zero waste to landfill certification plays a significant role in helping organizations move towards achieving Net Zero waste. The certification focuses on reducing waste generation, promoting waste segregation, and encouraging sustainable waste management practices. Here's how GreenCo's Zero waste to landfill certification contributes to Net Zero Waste:

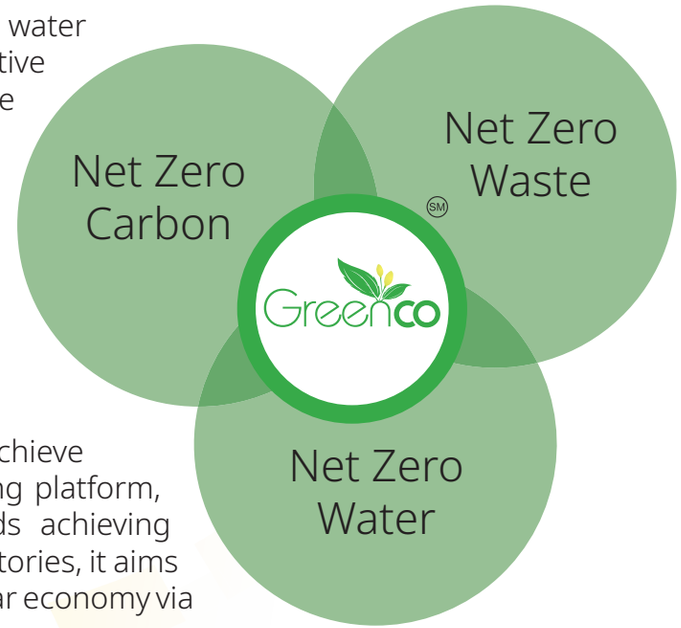
- **Waste Reduction:** This includes minimizing waste generation at the source, optimizing production processes, and promoting resource efficiency.
- **Waste Segregation:** GreenCo emphasizes the importance of waste segregation practices, ensuring that different types of waste are separated at the point of generation. This enables efficient recycling, composting, and treatment of waste streams, diverting them from landfills.
- **Recycling and Reuse:** GreenCo's certification program promotes the adoption of recycling and reuse practices. Organizations are encouraged to implement recycling initiatives for various waste streams, such as paper, plastic, glass, and metal. By recycling and reusing materials, waste is diverted from landfills, conserving resources, and reducing environmental impacts.
- **Waste-to-Energy:** GreenCo recognizes the importance of waste-to-energy technologies in waste management. Organizations are encouraged to explore viable options for converting waste into energy, such as through anaerobic digestion, incineration, or gasification.
- **Circular Economy:** GreenCo's Zero waste to landfill certification aligns with the principles of the circular economy. The certification program encourages organizations to adopt circular economy practices, such as product redesign, remanufacturing, and extended producer responsibility. These approaches help maximize resource utilization, minimize waste generation, and create a closed-loop system.

By awarding the Zero waste to landfill certification, GreenCo recognizes organizations that have made substantial progress in diverting waste from landfills and implementing sustainable waste management practices. The certification acts as a driving force for organizations to adopt innovative waste management strategies, reduce waste to landfill, and work towards achieving Net Zero Waste.

Experiences from GreenCo Rated Companies

This publication is a collection of case studies featuring GreenCo Rated Companies and their progress towards achieving net-zero. The case studies showcase the strategies, and best practices adopted by these leading companies in their journey towards Net-Zero waste, water and carbon emissions. It provides valuable insights into the innovative solutions implemented, and the overall transition towards sustainable practices.

Many company's operations have become net zero in terms of water consumption and water recharge to the ground and surface water bodies. This changes the priorly competitive relationship between industries and local stakeholders with respect to water to a more symbiotic relationship. With scientific infrastructure and better planning, industries are helping maintain water availability across towns and villages.



Shift towards circular economy and resource reuse and recycle has helped reduce the need for landfills. Planned value chain development and incentive mechanisms for value creation from un-used material has helped formalize waste collection mechanisms and optimized the resource consumption for the country's natural resources and expensive imports.

Many companies are working towards the goal of Net Zero carbon and targeted to achieve it by the end of this decade. This "Net Zero" publication serves as a knowledge-sharing platform, inspiring other companies to follow suit and accelerate their own efforts towards achieving net-zero emissions, water, and waste. By highlighting real-world examples and success stories, it aims to foster collaboration and drive collective action in addressing climate change and circular economy via net-zero carbon, water and waste and creating a more sustainable future.

Cummins India

Cummins is committed to making people's lives better by powering a more prosperous world. Through ground-breaking innovations, pursuit of excellence, and transformative initiatives, they strive to make a positive impact on people's lives and create a sustainable future for our communities and the planet.

- Circular Lifecycle
- 100% Elimination of Plastic Packaging
- Positive Impact On Community
- Carbon Neutral

The company has set nine 2030 goals to manage its parts, products, company-managed facilities and operations in the most sustainable way.

Goals addressing climate change and air emissions	Goals addressing the use of natural resources
Reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50% (SBTi)	Create a circular lifecycle plan for every part to use less, use better, use again
Reduce scope 3 absolute lifetime GHG emissions from newly sold products by 25% (SBTi)	Generate 25% less waste in facilities and operations as a percent of revenue
Partner with customers to reduce Scope 3 greenhouse gas (GHG) emissions from products in the field by 55 million metric tons	Reuse or responsibly recycle 100% of packaging plastics and eliminate single-use plastics in dining facilities, at employee events and as amenities
Reduce emissions of Volatile Organic Compounds from paint and coating operations by 50%	Reduce absolute water consumption in facilities and operations by 30%. Produce net water benefits that exceed Cummins' annual water use in all Cummins regions

The company's 2050 aspirational targets are organized around the same categories as the 2030 goals.

- Carbon neutrality and near zero pollution in Cummins' facilities and operations
- Design out waste in products and processes
- Use materials again for next life
- Reuse water and return clean to the community
- Net positive impact in every community where Cummins operates
- Near zero environmental footprint
- Customer success is powered by carbon neutral technologies that address air quality

Cummins India

ZERO WASTE TO LANDFILL APPROACH

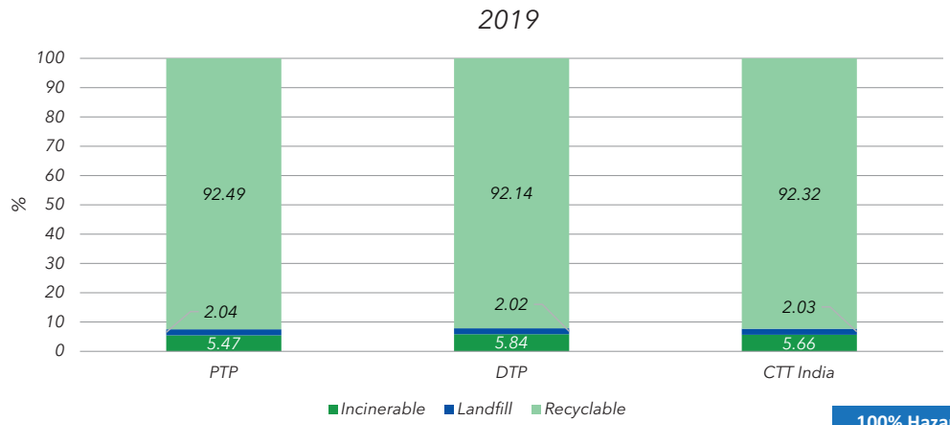
- Waste inventory
- Gap Assessment
- Undertake projects to increase recycling rate
- Identify co-processers/recyclers
- Buy-in from regulatory authorities
- Due diligence audits and action plan
- Vendor registration
- Implementation
- Review and validation

Four quarters of 100% recycling, monthly global team reviews, regular supplier reviews for Zero Disposal strategy, diligence audits, on-site waste minimization initiatives

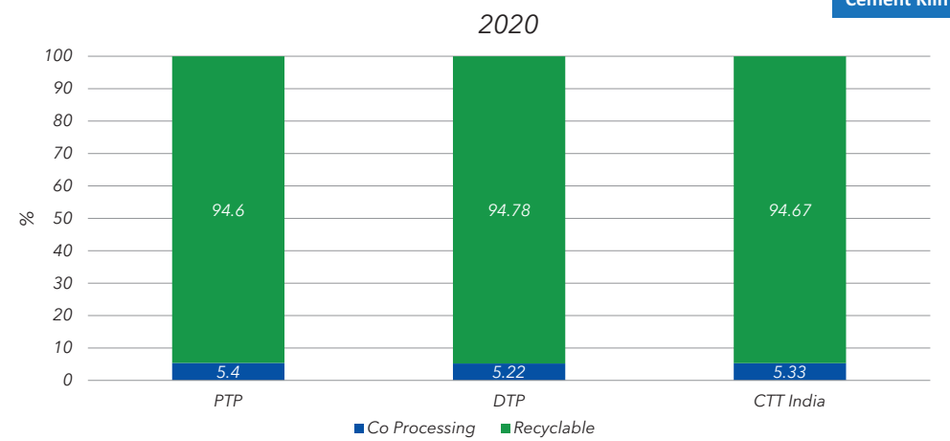
2020 Zero Waste Disposal

303.38 MT of Hazardous waste has been sent for Co Processing in 2020

Cummins Dewas Plant (DTP) and Cummins Pithampur Plant (PTP) sites in Indore and Cummins Turbo Technologies (CTT) India recycling rate increased from 94.35% in 2019 to 100% in 2020



100% Hazardous Waste is sent to Cement Kiln as fuel



Cummins India

Sustainable Packaging

Background

With the aim of greener and sustainable end to end supply chain operations aligned to our PLANET 2050 goals and 2030 targets, Cummins reviewed their processes across three sites in Indore viz – Cummins Pithampur SEZ, ReCon Pithampur SEZ and Cummins Dewas through "Unconstrained Green Lens".

Opportunities identified under Packaging Logistics and Warehousing areas through ReUse, Reduce and Recycling of Materials, End of life extension, Reduce Consumption, LEAN practices implementation by making innovative changes in existing practices, process and design thinking approach.

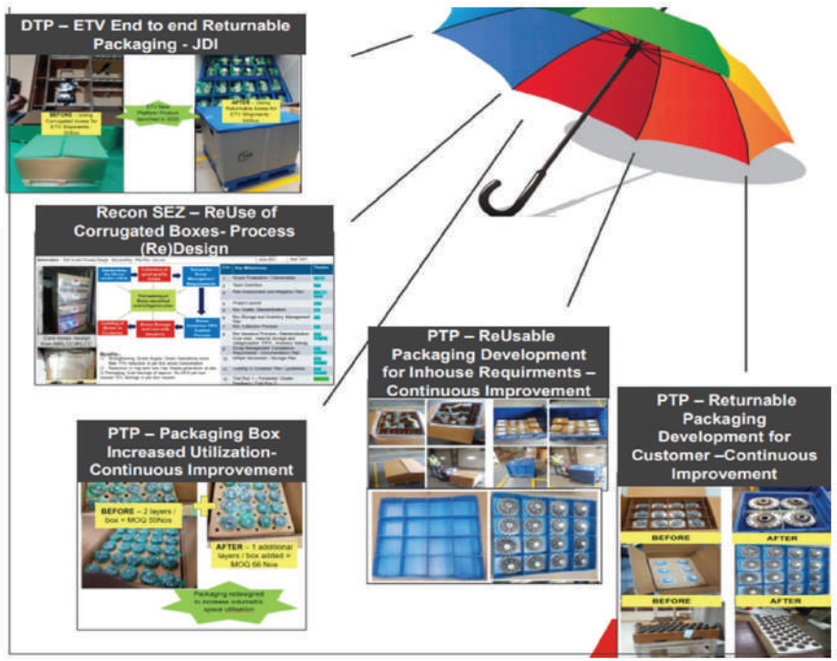
Tangible & Intangible Benefits:

More than 80% Reduction in Corrugated Paper/ Wood Consumption (Annualized)

Savings and Monetary Savings -

1) Approx 81 MT of GHG Saved

2) Approx ₹ 67.89 L of Cost Savings



Define & Measure:

Internal development for High Horse Power impeller

- Multiple time Corrugated internals damage due to handling issue
- Existing corrugated box having 18 qty capacity only
- Volumetric efficiency not utilized due to small boxes

Opportunity:

- Plastic internals developed instead of Corrugation boxes for keeping HIHP internals
- Cost saving
- Reduction of Corrugation from plant

Cummins India

CARBON NEUTRAL APPROACH

- 32% energy and GHG intensity reduction (2010-2020)
- $60M energy efficiency capital (2016-2020)
- $10M onsite renewable energy capital (2017-2020)
- Offsite renewable energy commitment (75MW)

NET ZERO ENERGY: RE ENERGY AT PHALTAN, RECON

- 625 KW Solar project completed on ReCon and HHP RC Roof top
- Solar water heater in place of electrical geyser
- Average 50,000 to 75,000 KWh unit generation per month for both ReCon and HHP RC / IPDC

HHP RC - High Horsepower Rebuilt Center; IPDC – India Parts Distribution Centre;

	Q1 2019
RE kWh generation	76,507
Non-RE Energy Consumption kWh	0
Energy Consumption kWh	49,380
Energy offsetting %	155%

Site is offsetting 1.5 time of its energy consumption through onsite Solar power generation

Cummins India is actively pursuing our 2050 aspirations, aiming for water positivity, zero waste to landfill, and carbon neutral products and operations. With well-defined targets and a concrete action plan, the company is positioning itself as a sustainability leader in the industry.

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Godrej & Boyce Mfg. Co. Ltd.

Godrej & Boyce Mfg. Co. Ltd. (G&B), the flagship company of the Godrej group, has driven excellence in design and manufacturing and has been delivering sustainable value for its stakeholders and communities. Strong sustainable practices that help protect the environment are enshrined in Godrej 'Good & Green' policy that remains at the core of G&B's business operations. G&B's sustainability highlights over the years include:

- Water positive and has returned 8.4 billion litres of water back to the planet
- 96% improvement in energy productivity
- 46% less carbon emissions intensity through energy efficiency & renewable energy solutions
- Recycling of industrial waste has translated to near zero waste being sent to landfill
- Conservation of over 1500 species biodiversity for the past 80 years

G&B, Appliance division (GAD), caters to India's fast-growing home appliances market. GAD's manufacturing facilities in Shirwal, Maharashtra and Mohali, Punjab are India's first GreenCo Platinum+ rated facilities and anchor several green and environmental sustainability efforts at their premises. Through innovative initiatives, Godrej Lawkim Motors ensures the preservation of the environment while manufacturing exceptional motors. GAD's green initiatives are driven by the corporate Good & Green goals.

Green Goals

- Water positivity
- Zero waste to landfill
- Reduce specific energy consumption
- Carbon neutrality
- Increase renewable energy

Good & Green Goals : 2021-22 to 2031-32 have clear targets for all G&B Business units, focusing on improving Energy productivity, decarbonisation and achieving net zero in water use and waste disposal

Indicator	Targets
Energy productivity (EP100 aligned)	+60% (mva/kWh)
Specific water (all sources)	-25% (kL/mva)
Water positivity	2X
Specific manufacturing waste generation (HW & NHW)	-25% (mt/mva)
Zero waste to landfill (HW & NHW)	Zero

Indicator	Targets
Carbon intensity	+60% (mva/tCO_2e)
Renewable energy in total energy	40%
Net zero buildings (non-manufacturing – new or retrofit)	100%
Green supply chain – GreenCo / SBTi (by buy-value)	80% value (domestic)

Godrej & Boyce Mfg. Co. Ltd.

APPLIANCE DIVISION

CARBON NEUTRAL APPROACH:

GAD approaches net zero carbon as reduction in CO_2 emissions, offset CO_2 emissions, and sequester carbon emissions.

Reduction in CO_2 emissions

Energy efficient machinery, BS VI fleet, dispatch by rail, vendor park, local purchase, switch to EVs

Offset CO_2 emissions

Solar energy, 3rd party purchase, carbon credits

Sequester carbon emissions

Large scale plantation, carbon capture & storage

WATER NEUTRAL APPROACH:

With a scientifically-designed rainwater harvesting system channeled to recharge pits and water bodies / collection ponds, with piezometers to monitor ground water level, and with several beyond the fence initiatives, GAD Shirwal and Mohali units have achieved water positive status.

ZERO WASTE TO LANDFILL APPROACH:

GAD has clear waste mapping across its facility enabling it in identification, segregation, and collection of waste in each section. GAD has taken initiatives to eliminate waste generating processes by substituting them with efficient ones, and responsibly reuse / recycle the remaining waste generated. It has eliminated ETP waste from being incinerated through a technique called plasma gasification. With such initiatives, GAD Shirwal and Mohali units are zero waste to landfill facilities.

Introduction of Honeycomb Packaging

Expanded Polystyrene (EPS) has been widely used by the appliance industry for safe transportation of their products. In its green journey, GAD has worked to eliminate EPS packaging by introducing honeycomb packaging which has better packaging properties, reduced environmental and health impact. To facilitate the changeover to honeycomb packaging, GAD installed hydraulic press machines and developed tools to cut intricate shapes, reduced the number of child parts in tooling design, and installed conveyor to produce base in bulk.

Benefits achieved

- Average weight reduction across various appliances: 0.25 – 0.8kg / appliance
- GHG emission reduction: 13,736 CO_2e / annum
- EPS eliminated: 3400 MT

In their journey towards net zero, GAD Shirwal and Mohali units have achieved water positivity and zero waste to landfill status. The facilities have strict targets and defined action plan to achieve net zero carbon status also addressing their value chain emissions.

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Godrej & Boyce Mfg. Co. Ltd.

LAWKIM MOTORS

CARBON NEUTRAL APPROACH

Godrej Lawkim Motors (GLM) is continuously striving towards its carbon neutrality targets through various initiatives. To reduce scope 1 and 2 emissions, GLM is upgrading to more energy-efficient machinery, such as boilers, furnaces, and vehicles. Additionally, to reduce scope 3 emissions, the company has undertaken various initiatives, including vendor relocation and virtual meetings. GLM has set a target to plant 200,000 trees in collaboration with the Maharashtra Forest Department to raise the groundwater level in the native region.

WATER POSITIVE APPROACH

Godrej Lawkim Motors has achieved water positive status and sustaining the same with a scientifically built rainwater harvesting system that channels water to refuel pits and water bodies / collection ponds including rainwater harvesting ponds of 10000 KL capacity, as well as other initiatives outside the fence.

ZERO WASTE TO LANDFIL APPROACH

Godrej Lawkim motors is a zero waste to landfill facility with diversion rate of 99.99 %. It has taken several steps to reduce waste-generating processes, replace them with effective ones, and properly reuse and recycle garbage.

AUTOMATED GUIDED VEHICLE (AGV)

Godrej Lawkim Motors has developed an advanced Automated Guided Vehicle (AGV) to optimize material transfer processes. The AGV operates independently, relying on sensors and software for navigation. Its capability to detect paint color ensures accurate and precise delivery. By eliminating Scope 1 emissions, the AGV contributes to environmental sustainability. Furthermore, it leads to significant fuel cost savings of 50,000 per year while enhancing overall productivity.

PRODUCT STEWARDSHIP

Godrej Lawkim Motors through continuous improvement in products & processes has increased the efficiency of its Hermetic motors from 72% to 85%. This has helped save over 100 MWh of electricity.

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Godrej Industries, Chemicals Division

Godrej Industries Limited (Chemicals Division) is one of the oldest businesses of the Godrej Group with a rich legacy and a pioneering presence in the Chemical Industry. They proactively collaborate with all their stakeholders to create sustainable solutions in Oleochemicals, Derivatives & Surfactants market.

The Valia unit of Godrej Industries ltd is the flagship manufacturing facility, operating since 1990. Spread across 140 acres, the integrated manufacturing plant produces Fatty alcohols, Fatty acids, Glycerin, Surfactants and Fatty alcohol derivatives; having overall production capacity more than 2 lakh metric tons per annum. Godrej Industries Ltd, Valia Unit had also achieved the distinction of becoming the **"First Chemical Manufacturing Company in the Country to achieve the prestigious CII GreenCo Platinum Rating"** in 2022.

Green goals and performance of Godrej Industries, Chemicals Division (Target 2025)

Reduce specific energy consumption by 50% compared to FY 12	To become water positive	To become carbon neutral	Zero waste to landfill	Source 30% energy from renewables
Progress (March 2022)	Progress (March 2022)	Progress (March 2022)	Progress (March 2022)	Progress (March 2022)
Reduced specific energy by 22%	Reduced specific water consumption by 43%	50% reduction in specific greenhouse gas emissions	Reduced specific waste to landfill by 86%	Increased renewable energy portfolio to 54%

Godrej Industries, Chemicals Division

CARBON NEUTRALITY APPROACH

GIL Valia aims to achieve "Carbon Neutral" status by 2026 (scope 1+2), while actively participating in voluntary initiatives like EP 100 and SBTi. Key measures include energy conservation projects, greening the energy portfolio, shifting material transportation to rail, and a long-term vision for green hydrogen generation.

ZERO WASTE TO LANDFILL APPROACH:

GIL Valia has aimed to achieve " Zero Waste to Landfill" status by 2026 but have achieved it way before the target timeline in 2022. As the maximum landfill is contributed by ETP sludge and MEE plant sodium sulphate powder, the plant is in the process of handing over these materials to buyers / secondary users.

WATER NEUTRAL APPROACH:

GIL, Valia has target to reduce "Specific Water Consumption" up to 50% (baseline FY'11) by 2026; which is supported by the below approach:

Digital water meter are installed to monitor the water consumption on daily basis, which further being analyzed at SoFi System for Data Monitoring / Analysis

In addition to various water conservation measures as well as capturing rainwater on-site, more 12,000 Hectare Land is being developed in partnership with NABARD in drought prone regions of Maharashtra, Telangana and Karnataka. This has helped restore over 10 million kL of water.

- Water Audit
- Identification of projects
- Study of feasibility of Projects
- Implementation of already identified Projects
- Enhancing Condensate Recovery System

Godrej Industries, Chemicals Division

Polyhouse to enhance drying process of sludge

Godrej has implemented a poly house in their effluent treatment plant to enhance the drying process of sludge. The poly house operates on the greenhouse gas principle, where the wet sludge is placed inside to capture and retain heat, resulting in faster drying compared to conventional sun drying methods. As a result, the drying time of sludge after mechanical drying has been reduced from 15-20 days to an average of 5-7 days, with a significant decrease in moisture content approximately from 75% to 25%. This innovation has improved the efficiency of sludge management and contributed to the overall sustainability efforts of Godrej.

Heat recovery unit in sulphonation plant

Godrej implemented a heat recovery unit in their sulphonation plant, utilizing a novel heat exchanger to capture energy that would otherwise be wasted and redirect it to heat demineralized water for the boiler. This advanced gas to water heat exchanger offers a high heat transfer coefficient and occupies significantly less volume compared to conventional units. The system is equipped with IoT technology for continuous monitoring and reporting, enabling the study of system performance and health.

Through this initiative, Godrej successfully mitigates approximately 1,300 MT of CO_2 emissions annually, contributing to their sustainability efforts.

Godrej Valia has successfully accomplished zero waste to landfill and is making significant progress towards becoming water positive and carbon neutral. Their commitment to design for the environment and innovation for environmental sustainability serves as an inspiration for others in the industry, encouraging them to follow their lead.

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Hero Centre for Innovation & Technology

Hero Centre for Innovation & Technology (CIT), Jaipur houses the best global technologies in product design & development, testing, validation and is supported by over 500 regional and international automotive experts. In line with their commitment to create a sustainable future, CIT has imbibed advanced green technologies into its design, ensuring eco-friendly operations. CIT maintains highest ecological standards and is rated CII-GreenCo Platinum. CIT's in-house R&D capabilities are scaled up to develop consumer-oriented and market-relevant products along with supporting motorsport development. Hero's sustainability highlights include:

- 25.96 lakh kWh energy savings
- Achieved 4 times Water Positive Status
  - 79,015 KL water saved
- 99K Ton CO_2 reduction
  - 2.2K Ton solid waste reduction
  - 54 ML liquid waste reduction
- Green Vendor Development Program -
  - 10% Energy, Water, Waste Reduction targets
- 24 lac trees planted.
  - 100 lac trees carbon sink planned by 2030

Hero CIT has been at the forefront of green vendor development and water management in a water scarce location like Jaipur. Their initiatives with sustainable infrastructure and operating practices have yielded monetary savings along with sustainability benefits to the company and stakeholders.

Hero CIT has set focused targets w.r.t 2019, to achieve net zero goals by 2025.

Indicator	Targets
Total fresh-water consumption	-45% (kL)
Water positivity	5X
Green supply chain – Green vendor Development Program	-10% (Energy, Water, Waste, Packaging)

Indicator	Targets
Specific Energy Consumption	-14% (kWh/m^2/yr)
Carbon Reduction (For Scope 1+2+3)	-44% (Ton CO_2)
Renewable energy in total energy	45%
Zero waste to landfill (HW & NHW)	Zero

Hero Centre for Innovation & Technology

CARBON NEUTRAL APPROACH:

Hero aims to reach Zero CO_2 by 2030 with the "Greenovation" or "Green + Innovation" philosophy.

Reduction in CO_2 emissions

First BS VI compliant Scooter developed, Local procurement, Switch to EVs

Offset CO_2 emissions

Solar PV energy, 3rd party purchase, carbon credits

Sequester carbon emissions

Large scale plantation, carbon capture & storage

WATER NEUTRAL APPROACH

Hero CIT has attained water positive status by 4 times, exceeding Rajasthan state water board requirement. Targeted to reach water positive by 5 times by year 2025. Additionally, excellent rainwater harvesting systems help to capture 100% of the potential, with further enhancement of the capacity of water bodies.

ZERO WASTE TO LANDFILL APPROACH

Hero CIT is on track to minimize hazardous waste generation in the plant and achieve Zero hazardous waste to landfill by 2023. There is a focused effort on every resource like steel, aluminum, consumables, paper, etc.

INTEGRATED WATER CONSERVATION AND HARVESTING

Hero CIT has undertaken a planned and systematic water conservation initiative at it R&D and testing facility. All surface water from the facility is collected into 27 water harvesting ponds and used again or help recharge the ground water via 181 recharge shafts. A third-party AMC helps maintain the performance of the system and improve ground water quality. The use of underground pits to collect water helps minimize evaporation loss.

Savings achieved

- More than 2 lac liters of water is harvested back into the ground – monitored via piezometers.
- 40,000 KL holding capacity
- 4 times water positive plant.

Striving towards a future of sustainable mobility, Hero CIT is focused on working across the entire electric mobility ecosystem, comprising of battery technologies, chemistries, BMS, powertrain, telematics, analytics, diagnostics and charging infrastructure. Collaboration and innovations will help the long-term sustainability of transportation. This goal is further being supported by ensuring carbon neutral operations by 2030 and reduces emissions across the supply chain.

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Hindware Limited (Pipes division), Hyderabad

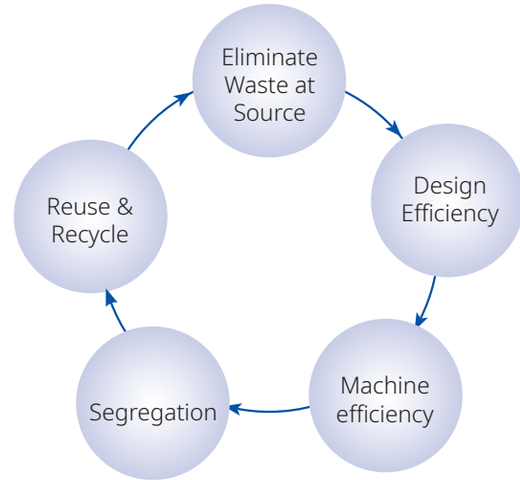
Hindware Pipes, based in Hyderabad, has emerged as a leader in the pipes industry by taking early steps towards achieving net-zero emissions. Through a range of sustainability initiatives, they have prioritized environmental stewardship. By implementing energy-efficient practices, reducing greenhouse gas emissions, and promoting responsible waste management, Hindware Pipes has demonstrated its commitment to sustainability and positioned itself as a frontrunner in the industry. Their major initiatives include:

Use of > 90% energy efficient motors (IE4 & IE3)	Installed advanced equipment's which resulted in material conservation and minimize weakest links in the production process	Closed loop water circulation for process

Hindware Pipes, with a strong focus on quality and innovation, the company offers a comprehensive range of Plastic piping solutions for diverse applications. Hindware Pipes is known for its commitment to sustainability and environmental responsibility, leveraging advanced technologies and practices to minimize their carbon footprint. **They are India's 1st GreenCO Platinum Rated and India's 1st IGBC Platinum rated Green Factory in the Pipes Industry and having GreenPro Ecolabel certification for their CPVC finished Product category.**

Hindware Pipes strategies to achieve net zero in carbon emissions, water consumption, and waste generation

- RE
- Increase Plantation
- Increase energy efficiency
- Technology upgradation
- Depot Model

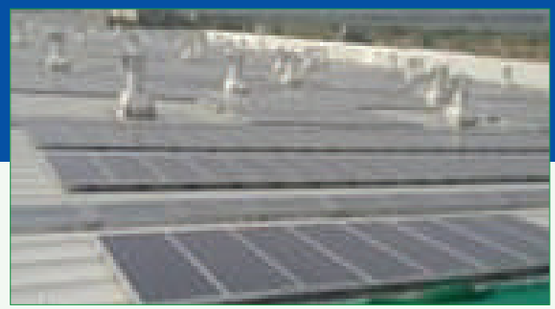


- Ensure 'ZERO' Discharge
- Clear Water Balance Chart
- Work regularly on EMS data to measure, analyze, and optimize the use of any designated resource, especially energy & water
- Monitoring the daily water consumption area wise
- Water Balance at every process to understand the saving potential Mixing | Extrusion | Injection

Hindware Pipes, Hyderabad

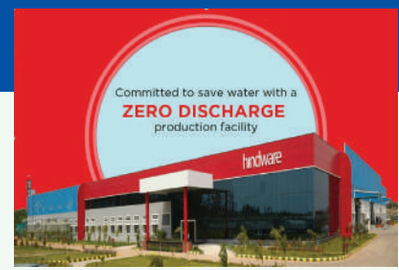
CARBON NEUTRAL APPROACH:

By adding additional 1 MW Solar panel by 2025 with the approval of State Govt, coming up with more factory units across India to reduce the vehicle emissions, carbon sequestration and various other energy efficient measures, Hindware is ready to move towards Carbon Neutrality in near future.



WATER NEUTRAL APPROACH:

Hindware Pipes prioritizes water conservation by employing advanced irrigation techniques to minimize water usage. A loop network is established for future process water requirements, minimizing water wastage. The company will collect 100% of roof and non-roof rainwater. All the waste water will be treated through an advanced SBT type STP Continuous education and awareness of water consumption is one of their prime focus.



ZERO WASTE TO LANDFILL APPROACH

To achieve zero waste to landfill, Hindware Pipes focuses on several key approaches. Hindware strives to reduce rejection rates during the production process, ensuring optimal material utilization. By minimizing the waiting time for brass insertion, they optimize production flow and minimize waste. Additionally, efforts are made to reduce the number of size changeovers and mold changes, streamlining operations. Hindware Pipes always adopting sustainable practices across their operations for a greener and more environmentally friendly approach.

In their journey towards sustainability, Hindware Pipes Hyderabad are competing and striving to achieve net zero, taking design for environment as a key factor.

Watershed

Hindware Limited has supported for implementing a watershed. This watershed, acts as a drainage basin or catchment area, where all the water, such as rainfall and runoff, drains into. It is a natural hydrological unit that is defined by the topography of the land. It increases the aquifer level and mitigates drought &flood.

Watershed dimensions:

Area: 5,45,331.55 m^2

Avg depth: 2 m

Total volume capacity = 10,90,663 m^3

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Honda Motorcycles and Scooters India Pvt. Ltd.

Honda Motorcycles and Scooters India Ltd. (HMSI) is a leading two-wheeler manufacturer in India, committed to delivering high-quality, reliable, and innovative motorcycles and scooters. HMSI believes in creating a sustainable future for generations to come. They have committed to minimize environmental impact while maximizing the efficiency and performance of the products. With this vision, they have embarked on a comprehensive sustainability journey, focusing on various areas like Green manufacturing, electric mobility, fuel efficiency, community engagement etc. Through these sustainable practices and initiatives, HMSI strives to lead the way in responsible manufacturing, mobility solutions, and environmental stewardship, contributing to a greener and sustainable future.

- CO_2 emissions, net zero by 2050
- 100% use of sustainable materials by 2050
- 100% utilization of carbon-free energy by 2050
- Environmentally innovative technologies and diversifying energy sources
- Use of renewable energy & Total Energy Management

Honda Motorcycles and Scooters India Ltd. (HMSI) operates four units strategically located across India. These GreenCo Platinum+ rated companies exemplify HMSI's commitment to sustainability, and has implemented 'Triple Action to Zero,' focusing on three key areas: zero emissions, zero waste, and use of sustainable materials. The mission – Blue Skies for children drives Honda to go beyond mere compliance and take proactive measures to reduce our environmental impact

Honda has set a target to electrify 15% of motorcycles, 30% of automobiles and 36% of power products in their respective global sales in 2030. To achieve this goal, the Company is seizing all new business opportunities by enhancing and upgrading its product lineup

Targeted ratios of electrified 2-Wheeler

Under the mission of 'Blue Skies for our Children,' Honda Motorcycles and Scooters India Ltd. (HMSI) is dedicated to preserving and protecting the environment for future generations

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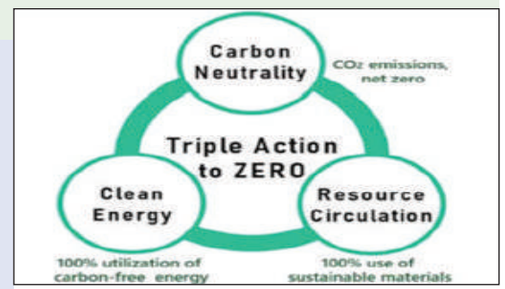


Honda Motorcycles and Scooters India Pvt. Ltd.

MANESAR

ZERO WASTE TO LANDFILL APPROACH

Honda has set a visionary goal to achieve Zeroing resource and disposal risk by 2050. In order to meet the pressing need for efficient resource utilization, Honda is dedicated to eliminating risks throughout the entire life cycle of its products. This commitment reflects Honda's proactive approach towards sustainability and underscores its efforts to create a more environmentally responsible and sustainable future.

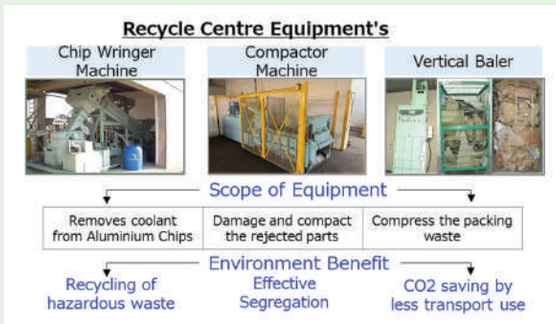
Zero waste to landfill

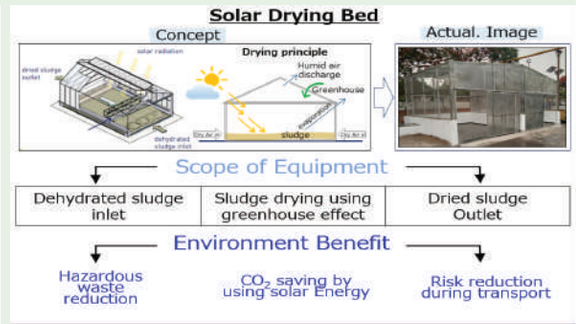
RECYCLING CENTRES & ZERO WASTE TO LANDFILL

HMSI (Manesar) is dedicated to achieving Zero waste to landfill through the establishment of recycling centers and the implementation of the 3R (Reduce, Reuse, Recycle) principle. They ensure proper disposal of hazardous waste by maintaining meticulous documentation. The installation of a Coolant treatment plant enables effective coolant filtering and reuse, reducing waste generation. HMSI utilizes a solar drying bed to dry ETP & paint sludge, minimizing hazardous waste and promoting environmentally responsible practices. They have also implemented a Digital Approval System to reduce paper wastage and streamline workflows. These initiatives showcase HMSI's commitment to responsible waste management and environmental sustainability.

Achievements

- 42% In-house recycling,46 % Co-processing & 12% Recycling Outside





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Honda Motorcycles and Scooters India Pvt. Ltd.

TAPUKARA

WATER NEUTRAL APPROACH

HMSI (Tapukara) is proactively adopting water conservation measures, including rainwater harvesting techniques, both within its plant facilities and beyond its premises. The company has implemented water-saving initiatives to minimize water consumption during production processes. Additionally, Honda has established rainwater harvesting systems to collect and reuse rainwater, reducing the strain on local water resources. These efforts are aimed at achieving a water-positive status, where the amount of water consumed is offset by the amount replenished or conserved. Honda's commitment to water conservation extends beyond its facilities, showcasing its dedication to sustainable water management practices at nearby areas.

Water positivity

Rainwater Harvesting system –Within & beyond the Fence


Run Off through roof top


Run Off through drain


De- silting Chamber


Filtration Assembly


Soaking Bore well


Complete Site


RWH Taupkara


RWH Kamalpur


RWH Budi Bawal


RWH Salarpur

HMSI is actively engaged in water conservation efforts by promoting the optimum usage of water and embracing the 3R (Reduce, Reuse, Recycle) principle. The company closely monitors and controls water-related activities to ensure efficient water management. Moreover, HMSI adopts various water reduction activities and technologies to minimize water consumption. HMSI has implemented a system to address rainwater overflow. When the pond overflows, the excess water is directed into a Rainwater Harvesting (RWH) chamber. After filtration, the water flows into the pipeline and eventually replenishes the aquifer, contributing to the replenishment of groundwater resources.

Savings achieved

External

Location	Capacity (m^3 / Year)
Salarpur	2,78,640
Kamalpur	2,74,410
Budi Bawal	2,28,452
Tapukara	1,88,696
Total	9,70,198

Internal

Location	Capacity (m^3 / Year)
Sheet Roof Area	50,266
RCC Roof Area	6218
Road/Paved area	20,217
RCC Ramp Area & Gravel Area	1319
Total	78,021

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Honda Motorcycles and Scooters India Pvt. Ltd.

NARSAPURA

CARBON NEUTRAL APPROACH

Honda is actively embracing renewable energy sources as a crucial component of its Net Zero strategies. The company is investing in renewable energy projects, such as solar and wind power, to reduce its reliance on fossil fuels. By incorporating renewable energy into its operations and facilities, Honda aims to minimize greenhouse gas emissions and transition to cleaner energy alternatives. This commitment to renewable energy aligns with Honda's long-term sustainability goals and demonstrates its dedication to combating climate change.

Carbon neutrality

RE

Renewable Energy (Solar and Wind) Implementation

HMSI (Narsapura) is making significant strides towards embracing renewable energy sources. The company has signed a power purchase agreement (PPA) for solar power of 30MW and has taken concrete steps by installing site-specific solar power plants with capacities of 7 MW and 2.5 MW. Further, HMSI Narsapura has installed an offsite 2.7MW Wind Turbine in 2022 to increase the renewable energy utilization to 95%. In 2023-24, HMSI Narsapura has further endeavored in installation of 5.4 MW Wind Turbines (2 X 2.7 MW) on offsite capex basis making it one of the largest users of Renewable Energy in Asia and Oceania region.

Additionally, HMSI has installed 300 no.s of solar dishes (one of the largest installation in India) to generate hot water, utilizing solar energy for Paint Shop. By integrating renewable energy sources such as solar power and waste heat recovery from compressors, HMSI is actively working towards a more sustainable future, reducing their environmental footprint and promoting eco-friendly practices within their operations.

Savings achieved

- Energy: 63.24 Mil units/year
- GHG Emissions: 48,981 tons of CO_2 eq./year
- 96 % Contribution of Renewable
- Monetary Saving INR: 298.3 Million

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Honda Motorcycles and Scooters India Pvt. Ltd.

VITHALAPUR

CARBON NEUTRAL APPROACH

Honda is adopting energy efficiency measures as a key component of its Net Zero strategies. By optimizing production processes, implementing energy-efficient equipment, and utilizing renewable energy sources, Honda aims to reduce its carbon footprint and achieve its sustainability goals. Through continuous research and development, & prioritizing energy efficiency as a core strategy, Honda is taking significant steps towards a more sustainable and environmentally responsible future.

Reduce specific energy consumption

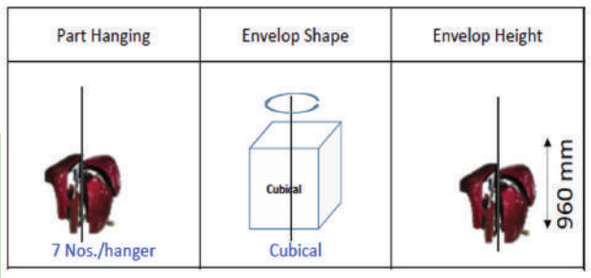
Shop Capacity Enhancement by SPC hanger modification

HMSI (Vithalapur) successfully executed an energy efficiency project by modifying a hanger design line, effectively doubling its capacity from 7 to 14 parts. This improvement led to remarkable savings in energy consumption and water usage, while simultaneously alleviating the load on the Effluent Treatment Plant (ETP). The project's positive impact extended to the painting process, resulting in increased yield and supporting the plant's journey towards achieving its Net Zero targets. By prioritizing efficiency and sustainability, HMSI demonstrated its commitment to reducing environmental impact and optimizing resource utilization. This energy efficiency initiative showcased the company's proactive approach to embracing innovative solutions for a greener future. The project's success exemplifies HMSI's dedication to continuous improvement and responsible manufacturing practices, contributing to their overall environmental goals.

Savings achieved:

- Energy: 200 MWh/year
- GHG Emissions: 149 tons of CO_2 eq./year
- Water: 2920 KL/year
- VOC: 3 gm/m^2
- INR: 23 Million/year

BEFORE



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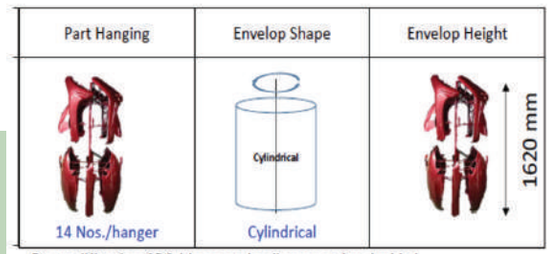

▪By modification SPC Line part loading capacity doubled

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Hindustan Petroleum Corporation Ltd - Marketing Division

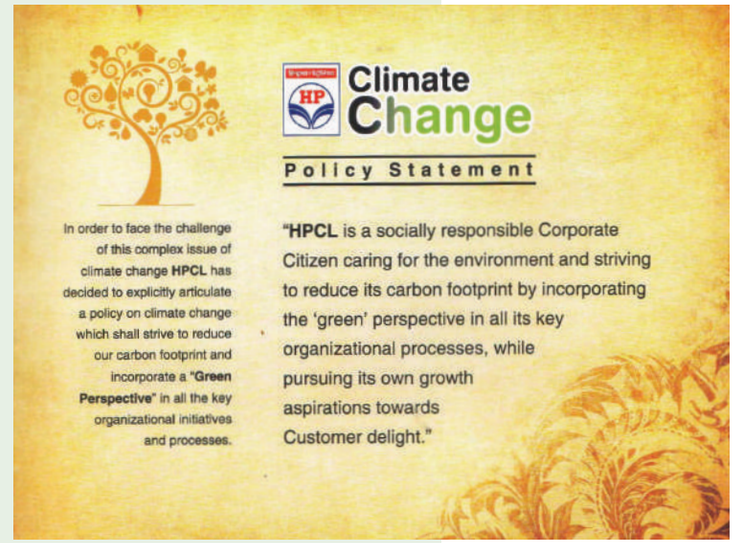
HPCL has been able to reap the benefits of the triple bottom line approach by aligning R&D, manufacturing and marketing with safe and environmentally responsible practices. The company is constantly reviewing and embracing environment-friendly processes, striving to reduce carbon footprint and making operations more resource-efficient. The early adoption of sustainable business practices helped HPCL to stay resilient and achieve a credible performance consistently in the challenging business environment.

HPCL is a leading energy company in India, offering mobility fuels, LPG services, and lubricants. With refineries in Mumbai and Visakhapatnam, it produces a range of value-added products. Supported by a nationwide network of regional offices and a robust distribution infrastructure, HPCL plays a crucial role in meeting India's energy demands.

- Net Zero Scope 1 and 2 emissions by the year 2040
- Biofuel and renewables SBU for focused attention on the clean fuel segments.
- 926 MT Lube Blending Interface (Oil) Recycled/ Reused Materials in Marketing Locations.
- Green cover of over 1300 acre as on March 31, 2022.

With the implementation of GreenCo rating system, HPCL Marketing locations have achieved various environmental benefits

- Average reduction in Specific Energy Consumption in 3 years – 21.98%
- Electrical Energy saved per year after implementation of initiatives – 9.7 M kWh
- Monetary Savings – Rs. 9.70 Cr; CO_2 emission offset – 7,649 tCO_2
- Average reduction in Specific Water consumption in 3 years – 27.82%
- Rain Water Harvested per year – 3,81,238 KL
- Total Renewal Solar Capacity – 4,230 kWp
- Total solar units generated – 4.4 M kWh; CO_2 emission offset – 3,459 tCO_2



Hindustan Petroleum Corporation Ltd - Marketing Division

NET-ZERO APPROACH

HPCL approaches net zero carbon as reduction in CO_2 emissions, offset CO_2 emissions, and sequester carbon emissions.

Reduction in CO_2 emissions

Energy efficient machinery, BS VI fleet, CNG, Bio-Ethanol

Offset CO2 emissions

Wind power plants generated 18.84 Cr kWh, while solar PV plants generated 1.66 Cr kWh during 2021-22

Sequester carbon emissions

Increased our green cover over the years by implementing comprehensive guidelines on green belt development

NET-ZERO WATER APPROACH

HPCL focuses on water conservation through various methods such as recycling water via ETP and STPs, reusing treated water, install water-efficient fixtures and capturing rainwater through over 350 rainwater harvesting structures. One location achieved a commendable groundwater recharge ratio of 3.54:1, showcasing their commitment to sustainable water management

NET-ZERO WASTE APPROACH

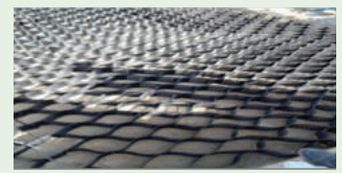
HPCL has clear waste mapping across its facility enabling it in identification, segregation, and collection of waste in each section. HPCL has taken initiatives to eliminate waste generating processes by substituting them with efficient ones, and responsibly reuse / recycle the remaining waste generated. With such initiatives, HPCL units are targeting to approach zero waste to landfill status.

Decarbonization of Supply Chain Tank Wagon Automation System

The manual loading process at HPCL Mangalore LPG Import Facility leads to challenges such as overfilling, resulting energy wastage for decanting and overall process inefficiency. To avoid this, bloated safety factor is adopted while filling leading to under-utilization of carrying capacity thereby increasing the scope 3 emissions. To tackle this, the facility has implemented an innovative solution by automating the entire operation. The automation software interfaces with various components such as the in-motion weigh bridge, wagon database, mass flow meters, batch controller unit, digital control valves and shutdown valves. By accurately determining the quantity to be loaded based on the carrying capacity and the continuous feedback from the mass flow meters, the automated system enables to effectively utilize the carrying capacity of the wagons, resulting in a savings of 1 trip for every 25 rakes loaded thus reducing scope 3 emissions. Moreover, it optimizes the loading process, leading to energy conservation by avoiding rework, preventing wasteful decanting operations, faster loading and ensuring efficient utilization of carrying capacity. This has resulted in a savings of around 2 lakh liters of diesel and further savings in Scope 3 front.

Carbon emissions saved	345.44 tons of CO_2

Development of Truck parking Area with Geo cell and Geo textile sheet with paver block



HPCL, Hoshiarpur LPG Plant has implemented a Geo Cell and Geo Textile sheet with paver block construction method for their Truck Parking Area, spanning approximately 8000 SqM. Geo textiles, also referred to as geosynthetics, are synthetic permeable textiles used in geotechnical engineering applications. Geocells, typically made of high-density polyethylene (HDPE), polypropylene, or polyester, provide various benefits such as erosion reduction, soil stabilization, channel protection, and structural reinforcement for load support and earth retention. Additionally, geotextiles serve as filters, promoting water drainage and infiltration, reducing runoff, and improving groundwater recharge rates. By utilizing these sustainable materials, HPCL promotes efficient water usage and contributes to environmental conservation.

In their journey towards net zero, HPCL are planning to implement Green initiatives in various units to achieve Water positivity and zero waste to landfill status. The facilities have strict targets and defined action plan to achieve net zero carbon status also addressing their value chain emissions.

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Indian Railways

Indian Railways (IR) is a statutory body under the ownership of the Ministry of Railways, Government of India that operates India's national railway system. It manages the fourth largest national railway system in the world by size, with a total route length of 68,043 km (42,280 mi), running track length of 102,831 km (63,896 mi) and track length of 128,305 km (79,725 mi) as of 31 March 2022. 58,812 km (36,544 mi) of all the gauge routes are electrified with 25 kV 50 Hz AC electric traction as of 1 April 2023.

50+ GreenCo Rated Units | Net Zero by 2030

The Central Workshops located in Goldenrock, is one of the three Railway Workshops serving the Indian Railway in southern zone. It has been certified for Welding, Health and Safety, Environment, Quality and Energy management systems and got NABL accreditation for its Laboratory Testing. It is adjudged as a 'National Energy Leader' by CII and it is the second Indian Railway workshop to bag the prestigious GreenCo Platinum rating and declared as the nodal agency for other workshops in Indian Railways for its' best practices. Raebareli, on the other hand, holds many international certifications for Quality, Environment, Health and Safety, Energy Management, and Laboratory Testing. They have also achieved the prominent IRIS certification from UNIFE for manufacturing of Rolling Stocks. In 2019, it became the first Indian Railways factory to receive the GreenCo Platinum rating from CII.

Indian Railways with focused targets on achieving net zero in carbon emissions, water consumption, and waste generation as od 2022 is as follows

External	Achieved
BEE star rating	building
Water restoration	21 restored
Water audit	503 numbers
RWH	>200 Sqm

External	Achieved
Carbon intensity (2030)	30% reduction
Greenco Gold	12
Greenco Silver	17

Indian Railways

CARBON NEUTRAL APPROACH

Carbon Neutral Approach: Indian Railways aims for net-zero carbon through energy efficiency with 3-phase locomotives and GSM-based pump automation. Carbon sequestration is pursued through dense forestation, and MCF RaebarelIi had installed and operates Indian Railway's largest 3MW for renewable energy generation.

WATER SAVING APPROACH:

The MCF RaebarelIi has taken considerable efforts to save the environment by installing rainwater harvesting systems on 21 building with an annual recharge capacity of 364ML. They also have developed six artificial waterbodies with an approximate capacity of 60,000 KL

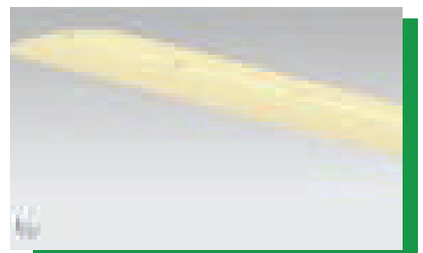
ZERO WASTE TO LANDFIL APPROACH

Indian Railways initiated a pilot project for eco-friendly disposal of municipal solid waste at railway terminals, including waste-to-energy conversion. Bio-methanation plants for bio-degradable waste-to-energy have been established at various locations, such as Mumbai Central, Puri, Bhubaneswar, Liluah Workshop, Mysore Workshop, NWR HQ Jaipur, and RWF Bangalore.

The initials IGBT represent "Insulated Gate Bipolar Transistors". They're high-speed switching appliances used in all Weldless welders which make voltage regulation easy. Several inverter welding machines utilize older MOSFET technology or transistors. IGBT technology provides considerable benefits over MOSFETs

A parabolic dish concentrator (capacity-5,000 lit/day) with fixed focus and sun tracking system is utilizing the concentrated solar energy absorbed in the receiver to heat a thermicfluid to a set temperature of ~95°C. This heat energy absorbed fluid is heating the water then used for hot water application which will replace electrical heaters. These are stand-alone type of systems.

GOC workshops has switched over to Compressed Bio Gas on a model scale from BMCG and completely stopped acetylene for metal cutting. CBG is carbon neutral fuel and has very lean carbon foot print for the same quantity of BMCG as well as CNG usage. This will finally reduce the direct scope II emissions and virtual scope I emissions.



A new approach is taken under which a single piece CRF is used to minimize welding design optimization.

In their journey towards net zero, and Goldenrock Railway Workshops and the Raebarelli has done considerable efforts in material reduction and followed best Industrial Practices in Energy and Environmental fronts .

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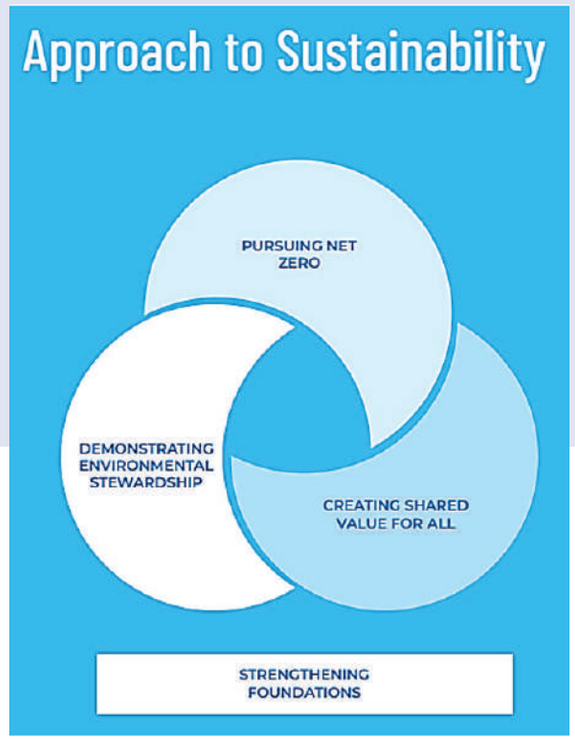
Indian Oil Corporation Limited - Marketing Division

Indian Oil is India's flagship oil & gas public sector undertaking. Incorporated in 1964, Indian Oil operates under the aegis of the Ministry of Petroleum and Natural Gas (MoP&NG), Government of India. The Corporation is playing a pivotal role to help the country become energy secure and increasing the green energy basket. Indian Oil was ranked 142nd in the Fortune Global 500 listing for 2022. Indian Oil is one of the most widely recognised brands in the country with 58,000+ customer touch-points.

GreenCo Implementation in IOCL

- Net Zero (Operational) carbon by 2046.
- 100+ GreenCo rated units including Oil Terminals/Depots/LPG/AFS.
- Targeting 100% GreenCo certification for all the locations.

IndianOil embraces sustainable growth as an opportunity to enhance its business practices and positively impact its operations. The company believes responsible businesses can be profitable and invests in technologies, products, and new energy infrastructure to shape a low carbon future. It prioritizes energy efficiency, renewable energy, and clean technologies while optimizing resource management, reducing emissions, and conserving water. Indian Oil's commitment to sustainability, coupled with innovation, drives the development of greener products and services. By integrating sustainability as a core principle, the company positions itself as a responsible and forward-thinking energy player, contributing to a sustainable future and keeping Nation-First in all its endeavors.



Indian Oil Corporation Limited - Marketing Division

3.36 $MMTCO_2e$

Operational emission avoidance of offset in 2021-22

32%

Water requirement met through use of treated wastewater

₹ 708.5 Cr.

Investment in renewable energy

90%

Waste diverted away from landfills

Highlights

21.54
$MMTCO_2e$ (+3%)
GHG Emissions in 2021-22

73.9
MBN (-3%)
Specific Energy Consumption

258
$MMTCO_2e$ (+7%)
Scope-3 Emission

3.36
$MMTCO_2e$ (+6%)
Operational emissions avoided

0.255
$MTCO_2e$/MT Crude Throughput(-7%)
GHG Emissions in 2021-22

708.5
₹Cr. (+106%)
Investment in Renewable Energy

354
$MTCO_2e$/₹Cr. Turnover(-25%)
Scope-3 Emission Intensity

2046
Net Zero target year

- IndianOil is focusing on greener avenues such as renewable energy, green hydrogen, City Gas distribution, Compressed Biogas (CBG), and Electric Vehicles (EVs).
- IndianOil has ventured into the field of plastic recyclates with its brand, Cycloplast, offering high-quality plastic recyclates and promoting plastic neutrality.
- IndianOil is implementing path breaking initiatives to reduce the water footprint in their operations. We have set up a pioneering Sewage Treatment Plant (STP) at city areas that supplies treated sewage water to our refineries, reducing the freshwater intake from rivers.
- IndianOil is committed to preserving precious biodiversity. They have undertaken measures such as the reintroduction of cheetah, protection of endangered species like the single-horned rhino and Olive Ridley turtles, preservation of coastal ecosystems, and tiger habitats in the Sundarbans.

Wastewater recycled (in billion litres)

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ITC Limited, Paperboards and Specialty Papers Division

ITC's Paperboards and Specialty Papers Division (ITC-PSPD) is amongst the leading names in the business worldwide with innovative solutions to meet a diverse cross-section of packaging and communication needs. It is also the largest manufacturer of Packaging and Graphic Boards in South Asia. ITC PSPD has four state of the art manufacturing plants located in Bhadrachalam, Kovai, Tribeni, and Bollaram.

ITC's Net Zero Results

Carbon Positive – 18 Years	Water Positive – 21 Years	Solid Waste Recycling Positive -16 Years

Data as of May 2023

ITC PSPD, units - Bhadrachalam and Kovai are one of the early movers in GreenCo implementation. The wood-based paper plant at Bhadrachalam and wastepaper-based paper plant at Kovai are benchmark units by themselves and are rated in the highest order of GreenCo – the GreenCo Platinum+ rating. It also has the distinction of being the first pulp and paper company to be GreenCo rated.

ITC has been a pioneer in net zero initiatives. It is the only company of comparable size in the world to have achieved the outstanding results as illustrated above. To maintain this status and to ensure sustained performance, ITC has several sustainability initiatives in place; some of them include - Forest Stewardship Council (FSC) certification for forest management & chain of custody, Well-being Out of Waste (WOW) for waste segregation and recycling, Alliance for Water Stewardship (AWS) for sustainable water management.

Carbon Positive Approach: Reducing carbon emissions is a key action area in ITC's low-carbon growth plan which in turn, is part of its multi-pronged strategy to combat climate change including its focus on renewable energy, energy efficiency, and carbon sequestration.

RE snapshot - ITC PSPD Bhadrachalam plant operates on 47% renewable energy and 53% conventional fuel and the Kovai plant operates on 26% renewable energy and 74% conventional fuel. The facility has focused targets and improvements in utilization of black liquor solids, in biomass and in green energy systems.

Renewable Energy Snapshot

Source	ITC PSPD BCM	ITC PSPD Kovai
Wind	46 MW	7.5MW
Solar	78.5 kWp	3 MWp
Biofuels & Biomass	Biogas from food waste & ETP secondary sludge	Saw dust, paddy husk, woodchips, charcoal dust, DOB, charcoal chips, juliflora, turmeric waste, food waste, refused derived fuel
	Green boiler with wood bark & plantation waste	
	Black liquor solids	

ITC Limited, Paperboards and Specialty Papers Division

Water Security

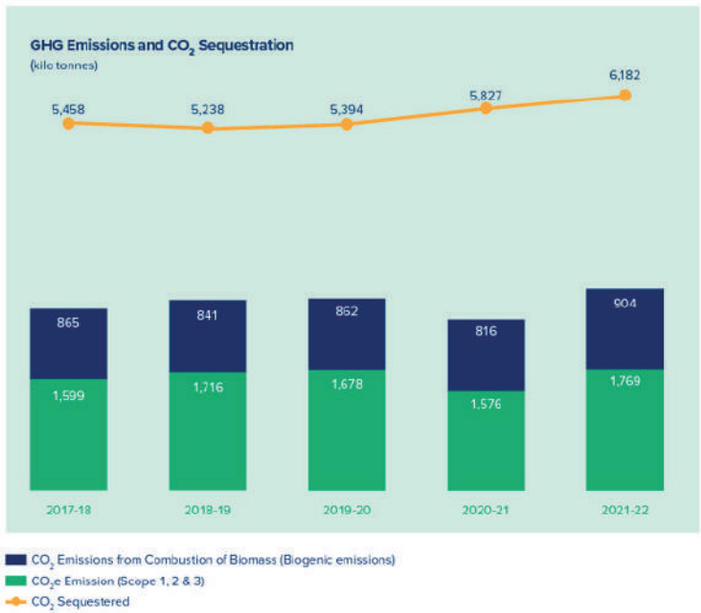
ITC has an integrated and multi-faceted action plan to conserve and replenish water within and beyond the fence. BCM and Kovai work to constantly improve water efficiency performance through reduce, reuse, recycle, and recharge approach. Beyond the fence, ITC works extensively with farmers through its 'Watershed Development Programmes'.

Waste Recycling

ITC's waste management plan for its operations is to minimize waste generation through improvement in resource utilization and to maximize recycling to cut down the waste going to landfill. ITC PSPD Kovai and Bollaram units use post-consumer wastepaper instead of virgin fibre. ITC is also developing sustainable packaging solutions to minimize impact of post-consumer packaging waste.

Sustaining and Enhancing ITC's Carbon Sequestration

The social and farm forestry programme by ITC PSPD was started for promoting sustainable forests management with practices in the value chain and securing the supply of pulpwood for its paper mills. The programme has resulted in **greening over 10,43,000 acres** of land. The programme also helps in de-risking poor rural households by diversifying farm portfolios through the promotion of tree-based farming. In addition to other environmental benefits, the plantations also sequester significant amount of CO_2. As a result, ITC has been carbon positive for 18 consecutive years.



Building an Effective Waste Management Chain through Multi-Stakeholder Partnerships

ITC's well-being out of waste (WOW) programme, works in partnership with municipalities, citizens, and waste collectors to promote source segregation and recycling. WOW covers over 55 lakh household country-wide.

With a clear Company level commitment to sustainability 2.0 goals, the individual units have clear targets and defined actions toward various Sustainable Development Goals (SDG's)

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JK Cement, Muddapur

JK Cement Limited is one of India's leading manufacturers of Grey Cement and one of the leading manufacturer of White Cement in the world. with an installed Grey Cement production capacity of 20 MTPA and a total White Cement Capacity of 1.20 MTPA and wall putty capacity of 1.2 MTPA. JK Cement Works, Muddapur is situated near Muddapur Village of Taluka- Mudhol, (Karnataka) has the latest state of the art technology to manufacture Cement. JK Cement has built up well their capabilities to help India in building a Sustainable world and a greener tomorrow & This is the only plant running without CF Silo. Their initiatives to protect and preserve the natural environment by collecting every drop, utilizing AFR solid waste to usable energy, minimizing emissions, optimizing energy use and practicing green energy, and has been rated as GreenCo Platinum rated company under the CII Green Co Rating system. JK Cement's sustainability highlights include:

- Green Belt Cover 42.1 %, implemented Miyawaki Plantation method to create safe and secure habitat for local flora and fauna to improve ecological footprint.
- Developed sustainable water system- 100% water sourcing from rainwater harvesting in their premises and improved the water use efficiency by 11% reduction in SWC of Cement.
- Clean Energy transition strategies resulted in 11 % substitution from biomass and 6% onsite substitution through Solar Power Plant.
- Emits 30.7 % less carbon in overall GHG emission through energy saving projects, replacing fossil fuels by AFR, etc.
- Achieved zero disposal by 100% recycling of Hazardous waste and replaced 18% fossil fuel consumption for transition to Net Zero.

JK Cement Limited sets an ambition for Net Zero Cement & Concrete by 2050

- Increasing the green power share - 75% by 2030
- Water positivity – 5X by 2030
- Resources (TSR rate) – > 35%
- Specific Net Direct CO_2 emissions (Scope 1+2 excluding CPP & AFR) – 465 kgCO_2/tonne cementitious by 2030
- Biodiversity(diversified native plantation) park development - 50,000 saplings in phases till FY 2025

JK Cement, Muddapur

CARBON NEUTRAL APPROACH

In order to achieve net zero carbon emissions, JK Cement has developed an action plan that includes reducing CO_2 emissions, offsetting CO_2 emissions, and sequestering carbon emissions.

Reduction in CO_2 emissions

Reduction in Specific Electrical Consumption and increase use of alternate fuel.

Offset CO_2 emissions

Switching to Green Electricity by using power from renewable sources.

Sequester carbon emissions

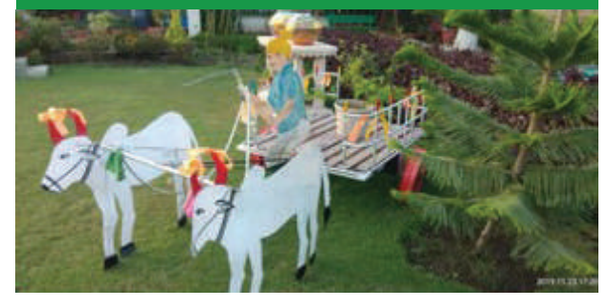
Biodiversity Park Development

WATER NEUTRAL APPROACH

JK Cement Limited follows zero liquid discharge (ZLD) approach and also treat and reuse all domestic and industrial wastewater generated on site. JK Cement Limited has taken various initiatives, such as linking all mining pits by building pipes, installing drip irrigation systems, and 100% substitution of fresh water with rainwater.

ZERO WASTE TO LANDFILL APPROACH

JK Cement Limited is utilizing maximum solid waste generated in its operations, thereby achieving resource optimization and reducing waste generation. Other Waste such as fly ash, gypsum, oil, metal scrap are disposed efficiently and responsibly with zero hazardous waste being sent to landfills. Also, agro waste, carbon waste, RDF/municipal waste are used in Kilns to partially replace fossil fuels.



Introduction of Paddy Husk Decking Technique in Blasting

By Introduction of Paddy Husk Decking Technique in Blasting & also use of single use plastic (SUP) bottles in blasting, they are using conventional method of blasting in Mines Pit No. 1 due to which the column charge was increased thereby increase in explosives consumption. Reused discarded single use water bottles made of PET & rice husk to provide air decking in between explosive column. Nearly 1.0m of deck was introduced between the column charge which reduced the 2.5 Kg of ANFO. Thereby resulting in reduced ammonium Nitrate consumption by 8% to 10%.

Savings achieved

- Energy Savings: 64,240 kWh/year
- Cost Savings: Rs. 26.75 lakhs/year
- Savings: 4 kg of NH_4NO_3 blast/hole

In their journey towards net zero, JK Cement is aligned with the global goal and India's vision of decarbonization. The company is investing in the latest and advance technology to minimize its carbon footprint and is undertaking and exploring the various steps which needs to be implemented to reduce overall GHG emissions. They are also working on carbon cost estimation and adaptation.

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J K Tyre & Industries Limited

JK Tyre is among India's leading tyre manufacturers and among the top 25 tyre manufacturers in the world. The Company is respected for being one of the world's 'greenest' tyre companies, especially given its low carbon footprint, declining water consumption per unit of production and energy consumption. As part of our founding principle, we take measures to empower communities and achieve inclusive development of the surrounding communities through adult literacy programs, vocational trainings, income generation activities, agriculture improvement, livestock development, etc.

Being cognizant of the need of sustainable growth and the dwindling stock of natural capital, JK Tyre, is committed to the attainment of 10 Natural Capital Commandments within a set target. They have already made substantial progress along this route

Reduce specific consumption of energy and water by 2-5% every year over the next 10 years.

Reduce specific generation of waste and reduce the quantum of waste going to landfills by 2-5% every year over next 10 years.

Increase the use of renewables, including renewable energy by 2-5% every year in place of non-renewables over the next 10 years.

Increase the share of harvested rainwater in overall annual use of water by 2-5% every year over the next 10 years.

Strive to adopt green purchase policy and incorporate the latest clean technologies.

Incorporate life cycle assessment criteria for evaluating new and alternative technologies and products.

Reduce specific greenhouse gas emissions and other process emissions by 2-5% every year over the next 10 years and explore opportunities through Clean Development Mechanism (CDM) and other Carbon Exchange programmes.

Increase the use of recyclables and enhance recyclability of resources used in the product by 2-5% every year over the next 10 years.

Take the lead in promoting and managing product stewardship programme by forging partnerships with businesses and communities.

Reduce depletion of natural capital, which is directly attributable to JK Tyre's activities, products and services by 2-5% every year over the next 10 years.

Environmental Stewardship

At JK Tyre, a culture of Environment- Social-Governance (ESG) represents the essence of our business. The environment component of our ESG culture ensures that we consume natural resources responsibly, utilise an optimal quantum of finite fossil fuels, recycle waste, moderate our carbon footprint and build resistance to climate change.

Retreading is Recycling

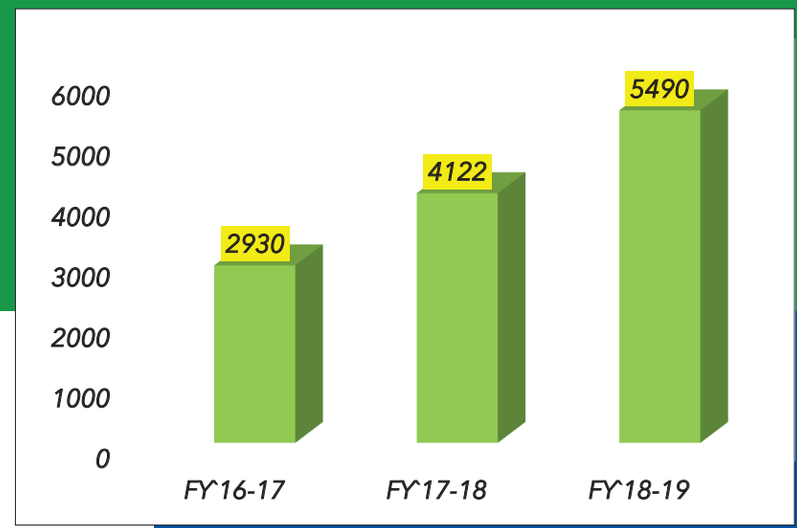
When you retread a truck tyre you save 20 ltrs. of crude oil

- Major Focus developed for continuous growth in the re-tread segment, which utilise the tyre casing repeatedly.
- Continuous growth in no of tyres re-treaded with the continuous improved performance

The Environmental Benefits of Tire Retreading:

- 18 Kg of Raw Material saved in every retreaded tire, Including rubber ,steel and carbon
- Retreading process helps to reduce 17% carbon emission
- Retreading proves Reliable, Durable, Safe and Cost effective

WHAT WE OBTAIN ON RECYCLING TYRE



5 Lakhs Re-treads per Year in Kankroli Unit

WATER POSITIVE APPROACH

JK Tyre has emerged as a global benchmark for the lowest raw water use per kg of tyre manufactured.

The Chennai Unit set a new benchmark in water consumption by achieving the milestone of 1.87 litre/kg of finished product, an outcome of systematic initiatives over the last five years.

Goal	Improve water efficiency (water use per tonne of finished product) by 5% YoY
Action plan	➤ Ensuring rainwater harvesting and its integration into the consumption side of the water cycle at each of our manufacturing locations ➤ Monitor, measure, manage and reduce water wastage. Continue with the regular water audits and monitor losses. Implement standard metering infrastructure and procedures across campuses ➤ Implement aerators, waterless urinals etc. across all locations

Rainwater harvesting at JK Tyre, Chennai Unit

The unit harvests 100% of roof and non-roof runoff water (around 10,000 m^3) through RWH Pond and Percolation pits strategically placed on-site. Harvested Water used as make up Water in Process Cooling Tower after Pre-treatment

Percolation Pit in Drains – 30 Pits

1:3 Recharge potential

Onsite RWH Pond

Plant consumption (m^3)	Harvesting onsite (m^3)	Harvested outside the fence (m^3)
1,52,844	10,839	4,50,486

JK Tyre is actively driving towards a net-zero future, prioritizing water positivity, eliminating waste to landfill, and achieving carbon neutrality. Through well-defined goals and a robust action plan, they are positioning themselves as trailblazers in sustainable practices within the industry.

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Kesoram Industries Ltd, Vasavadutta Cement, Sedam

Kesoram Industries (Cement Division) is at the forefront of the cement sector producing OPC, PPC among others and driving sustainability in the cement sector. By implementing advanced technologies and processes, Kesoram Industries is successfully transforming conventional cement production into an environmentally friendly and sustainable process. Kesoram Industries sets a remarkable example for the industry, proving that sustainable practices can coexist with business growth. Vasavadutta Cement, Sedam Unit is the first to be rated GreenCo Platinum in the cement industry which is pioneering sustainability with its "Grey to Green" initiatives. Few achievements include:

- One of the lowest SEC in electrical and thermal energy - 52.7 kWh/ Ton of PPC and 698 kcal/kg of clinker
- 44 lakhs cubic meter of RWH capacity - 100% use of harvested Rainwater and Zero discharge of effluent
- Meeting RPO target of 10.5% of CPP power generation
- Increased the use of waste as lternate fuel leading to 5.98% thermal substitution rate (TSR)

"Grey to Green" aspiring long-term targets of Vasavadutta Cement Sedam Unit to achieve net zero in carbon emissions, water consumption, and waste generation.

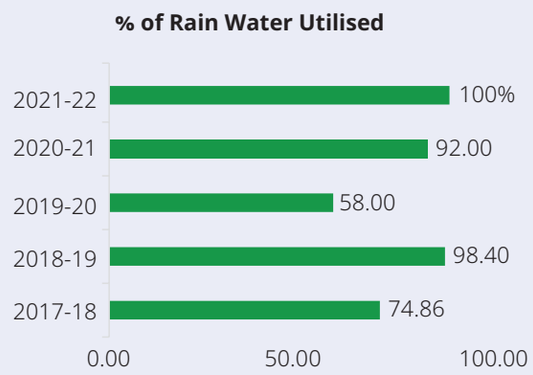
Carbon Negative by 2040	Zero waste to Landfill by 2026 and Water Positive Plant	To project energy efficiency: renewable energy mix of 10:90 to reach the goal of reduction of GHG intensity
Installation of waste heat recovery system – 13 MW	Installation of high efficiency 5 MWp ground mounted solar PV	TSR% to 12%

Kesoram Industries Ltd, Vasavadutta Cement, Sedam

CARBON NEUTRAL APPROACH:

Vasavdutta, Sedam is committed to achieving carbon neutrality through a comprehensive range of initiatives:

- Waste heat recovery
- Renewable biomass utilization in CPPs
- Commissioning solar and wind projects
- Corporate procurement of renewable energy
- Use of alternative fuels
- Implementation of heat electrification and solar calcination
- Optimizing clinker use adopting
- Elelectric vehicles
- Carbon sequestration
- Carbon capture and utilization (CCU) technologies



WATER NEUTRAL APPROACH:

The unit will adopt a comprehensive approach to achieve net-zero water consumption. They will conduct a comprehensive water audit, ensuring maximum operation of air-cooled condensers in their processes. To increase the cycle of concentration in cooling towers, they will utilize mine pit/river water. Freshwater use will be entirely replaced by treated sewage water through the installation of new STPs. Continuous monitoring of water treatment plants will be implemented to optimize operations. Furthermore, they will implement water-saving devices and construct check dams. Flash steam recovery systems are being installed in a phase manner and additional softening plants will also be installed to enhance water management and move towards achieving net-zero water consumption.

ZERO WASTE TO LANDFILL APPROACH

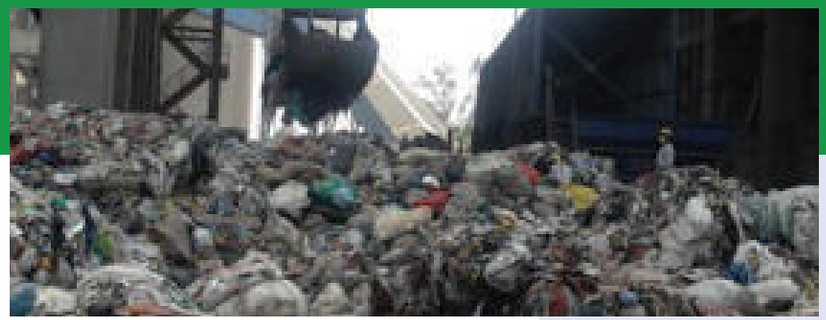
Vasavdutta, Sedam will focus on increasing the co-processing of alternate fuels and utilizing alternate raw materials in cement production. This will contribute to reducing reliance on conventional fossil fuels, optimizing resource utilization. They will also implement measures to reduce the specific unit of landfill waste and minimize lubricant consumption through effective leak identification and plugging. Various initiatives will be undertaken to reduce battery usage, improve refractory maintenance, optimize kiln operations, recycle waste materials at plant and colony, and enhance mill performance.

100% Recycling in colony area

Kesoram Industries Ltd, Vasavadutta Cement, Sedam

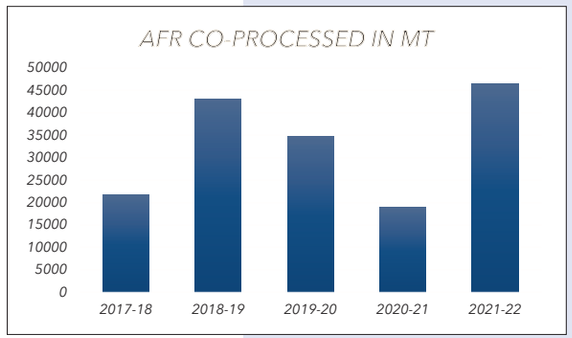
ALTERNATE FUEL LIKE MSW, PLASTIC WASTE AND BLACK CARBON FEEDING ARRANGEMENT PROJECTS

Vasavdutta, Sedam is actively engaged in co-processing plastic waste from various sources, including Goa Plastic Waste, Sunrays Compost, 3M plastic waste from Bengaluru, Bangalore Maha Nagara Palike, Saahas Bangalore, Hasiru Dala Bangalore, RBI Mysore, and other NGOs. They collect different types of waste from industries and segregate them into biodegradable and non-biodegradable categories. Non-biodegradable plastics are baled and then supplied to VC for co-processing, where they are converted into energy, contributing to waste-to-energy initiatives and reducing the environmental impact of plastic waste disposal.



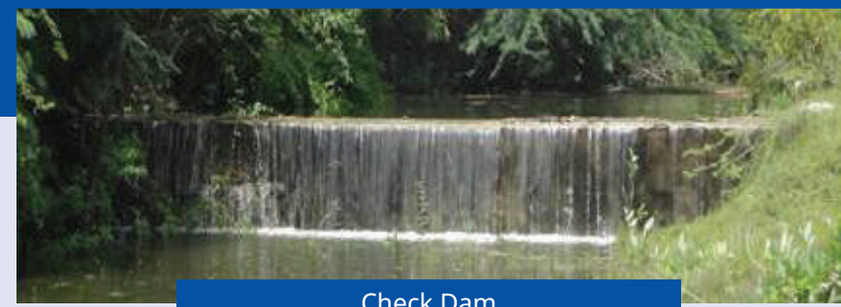
Alternate Fuel Sources:

- MSW & Plastic Waste
- Carbon Black
- Agriculture Waste
- MSW-RDF (GOA & BBMP)
- Plastic waste (3M, Sunrays, Sahaas, Harisu, Dala & Railways)



RAINWATER HARVESTING

Sedam unit has developed a rainwater harvesting system with a capacity of 44 lakh cubic meters, including the mines and power plant areas. They have also established a network of stormwater drains in the colony, plant, and mines to manage the flow of rainwater. Garland drains have been constructed around the mine pit to channelize rainwater from the catchment area into the pit. Additionally, a network of drains diverts water from the mines' catchment area to the mines' sump. The surrounding areas of ponds have been transformed into beautiful gardens, and all the ponds are interconnected using pumps and piping systems. This comprehensive approach allows for the capture and utilization of 100% of the captured rainwater, reducing the reliance on freshwater sources. They have also constructed check dams beyond the fence.



Check Dam

In their journey towards net zero, Vasavdutta Cement, Sedam Unit are on the track towards water positivity, zero waste to landfill and net zero carbon. Their aspiring targets with specific action plan will push the company to be a forerunner in sustainability.

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Lakshmi Machine Works, Foundry Division, Coimbatore

Lakshmi Machine Works Limited, a leading Textile Machinery Manufacturer in India and one among the three in the world to produce the entire range of Spinning Machinery. In 1962, LMW was founded to provide Indian textile mills with the latest Spinning Technology. Established in 1993, LMW's no bake Foundry division caters to OEMs in global & domestic market with niche products. Its sustainability highlights include:

- Net Zero Carbon Footprint
- Water Efficient Manufacturing
- >90% Reuse and Recycle Valuable Resource
- Improved Energy and Resource Efficiency
- 98% Renewable Electricity

Rural development has always been a key focus area for LMW. LMW's focus on holistic, sustainable development principles, believes that for a positive change to become sustainable, the active participation and ownership of the community are vital. As a Platinum rated foundry unit, energy, water and material efficiency is at the forefront of LMW's sustainability initiatives.

LMW HAS SET ANNUAL PLANT TARGETS AND BENCHMARKED AGAINST THE BEST INDUSTRY NORMS

Indicator	2025 Targets
Melting Energy Efficiency (Against industry best 571 kWh/ton liq. metal)	-5.5%
Specific water consumption (0.55KL/ton liq.metal)	-5 %
Specific manufacturing waste generation (HW & NHW)	-15%

Indicator	2025 Target
Scope 1 Emissions (Ton CO_2 eq.)	-15%
Scope 2 Emissions (Ton CO_2 eq.)	-50%
Total renewable energy share	>98%

Lakshmi Machine Works, Foundry Division, Coimbatore

CARBON NEUTRAL APPROACH:

LMW is committed to business practices that safeguard the environment and ensure its sustainability. Through employee participation, LMW aims towards a net zero carbon footprint.

Reduction in CO_2 emissions

Energy efficient machinery, BS VI fleet, local purchase and processing of finished goods.

Offset CO_2 emissions

28 company owned off-site windmills for LMW group, 10 MW Solar PV plant, use of efficient electric induction furnaces.

Sequester carbon emissions

Large scale plantation, carbon capture & storage

WATER NEUTRAL APPROACH

Rainwater harvesting pits spread across the facility help collect and recharge ground water that is monitored via piezometers to monitor ground water level and supported with beyond the fence initiatives. Use of green casting helps minimize water losses in the foundry operations.

ZERO WASTE TO LANDFILL APPROACH

Recycling of scrap metal generated onsite to efficiently use waste metal. Additionally, the molding sand used in the foundry is recycled into fresh sand for reuse again. This circular approach helps eliminate CO_2 emissions from transportation of fresh sand from riverbeds and also helps conserve natural resources.

Thermal Sand Reclamation Plant – FDY II

Thermal reclamation of sand with clean LPG fuel helps conserve natural sand and minimize CO_2 emissions during reclamation process. (capacity of 3 Ton/hr).

This is off-set by complete elimination of CO_2 emissions caused during transport of virgin sand.

Savings achieved

- 98.2% recycling rate of sand in FDY II (230 Kg/MT liq.metal)

Future performance targets to achieve net zero carbon emissions to be set in conjunction with SBTi guidelines. Updated targets shall be based on life cycle assessment of the casted products and its carbon footprint.

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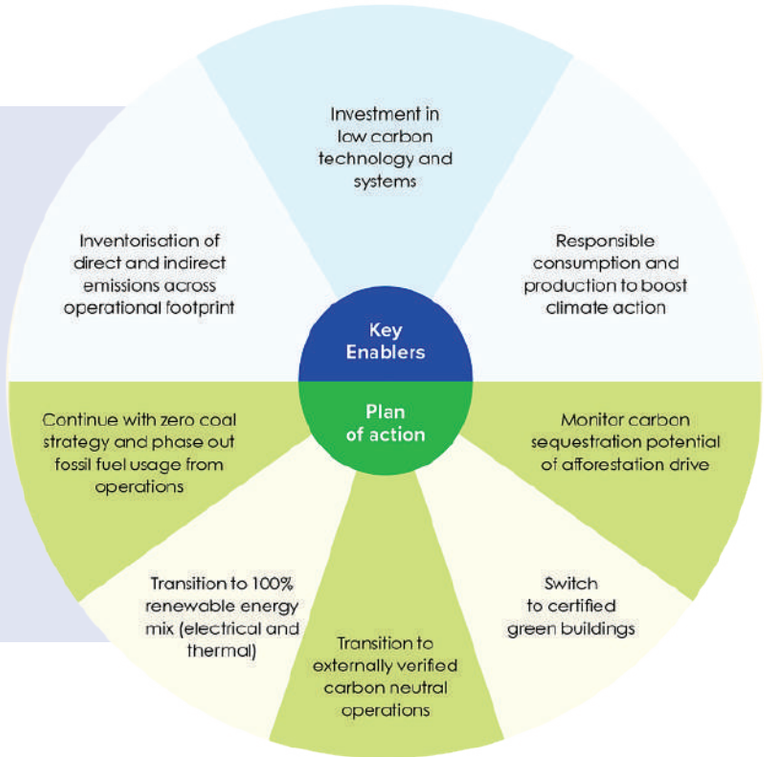
Marico Limited Perundurai

Marico Limited is a prominent player in India's consumer goods industry, focusing on beauty and wellness products. With a wide range of brands spanning hair care, skin care, edible oils, healthy foods, male grooming, and fabric care, Marico has a significant presence in the lives of one out of every three Indians. Brands like Parachute, Saffola, and Nihar Naturals are well-known household names. Marico's commitment to sustainability is evident through its Perundurai plant, which is a certified **"carbon neutral"** plant and uses electricity from renewable sources such as wind & solar. Marico drives its sustainability efforts through a self-developed Product Sustainability Index (PSI), reflecting their dedication to greener practices.

ENERGY INTENSITY REDUCED BY 73.0% FROM BASELINE FY13

GHG EMISSIONS INTENSITY REDUCED BY 77.5% FROM BASELINE FY13



The organization has clear targets with focused targets on achieving net zero in carbon emissions, water consumption, and waste generation.

Indicator	2025 Target
Energy productivity (2022)	Reduce by 73%
Specific water (all sources) (2022)	reduced by 63%
RE Share	93% by 2030
Water Harvesting	412 crore liter
Carbon intensity (2030)	Reduce by 93%

Indicator	2025 Target
Packing Materials	100% recyclable packaging Increase the use of recycled Content by 30%

Marico Limited Perundurai

CARBON NEUTRAL APPROACH

Marico net zero carbon as reduction in CO_2 emissions, offset CO_2 emissions, and improving equipment efficient.

Energy Efficiency

Use of equipments that are energy effective in nature.

Sequester carbon emissions

Afforestation to support India's commitment.

Renewable energy

93% of the energy is to be sourced from renewable sources.

CARBON NEUTRAL PLANT

Marico's Perundurai plant is certified as carbon neutral for last 3 years.

WATER SAVING APPROACH

Through various initiatives and improvements the organization was able to reduce to water consumption by 50% WRT 2019 and 43 ponds constructed in FY22 which was able to save 3 crore of water saving potential till date.

Energy share at Perundurai

Wind	Biomass	Grid	Solar	Diesel	LPG
47.6%	43.7%	5.5%	2.5%	0.5%	0.1%

ZERO WASTE TO LANDFILL

Impact objectives of resource optimization, responsible consumption, climate resilience, sustainable manufacturing operations and waste minimization are deep rooted in our company goals, the organization co-processed 6300MT of plastic waste.

ALTERNATE FUEL

Marico is transitioning from petroleum-based to renewable solid fuels, exploring the use of waste materials like coconut shells. They performed feasibility analysis and replaced FO boiler with SFB boiler.

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Rialto Enterprises Private Limited, Chennai

Rialto Enterprises Limited, based in Chennai, is emerging as a trailblazer in sustainability and net-zero initiatives. With a strong commitment to environmental stewardship, the company is leading the way by implementing innovative solutions and practices. Rialto Enterprises Limited prioritizes sustainability across its operations, incorporating eco-friendly technologies and practices to reduce its water, waste, and carbon footprint. Highlights of the company include:

WATER POSITIVE

1 : 5.5
Water Positive Unit

ZERO WASTE TO LANDFILL

More than 99% of waste goes for recycling

CARBON NEUTRAL

2028

~65 % of the demand met by 1.74 MW solar PV

Rialto initiated the production of manual toothbrushes in 2001. The site holds ISO:9001, ISO:14001, ISO 45001, ISO13485, and GreenCo Platinum certifications. Rialto supplies more than 140 countries globally. As of June 2023, the site has achieved an impressive record of 2005 accident-free days. Rialto also adheres to nine voluntary codes, demonstrating its commitment to safety, responsible, and sustainable manufacturing practices.

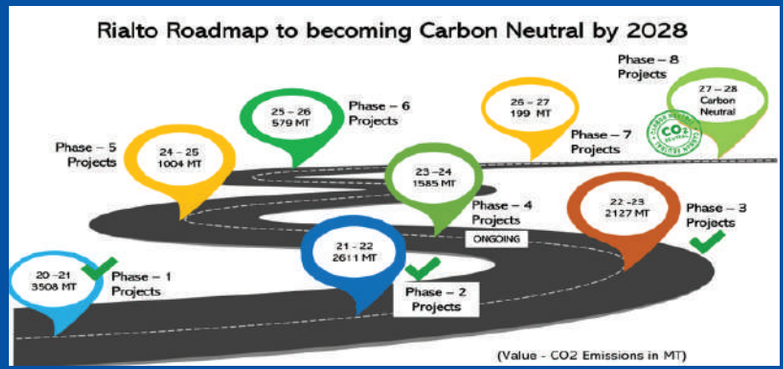
GREEN MANUFACTURING AT RIALTO

Rialto stands as a best-in-class facility, excelling in energy and material efficiency while operating a water-positive facility. With 65% of their energy coming from renewable sources, they demonstrate their commitment to sustainability. Additionally, their zero waste-to-landfill facility ensures responsible waste management practices. Rialto takes pride in its sustainable green supply chain and implements design-for-environment principles and product stewardship. The company also prioritizes green infrastructure, showcasing its dedication to creating a sustainable and eco-friendly environment.

Rialto Enterprises Private Limited, Chennai

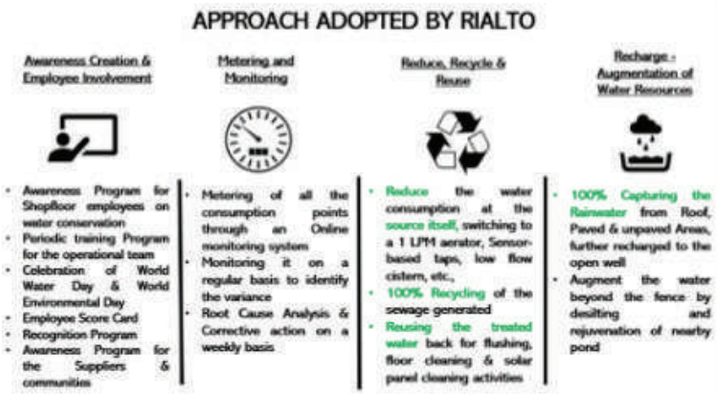
CARBON NEUTRAL APPROACH

The company has set a target of becoming Carbon neutral by 2028 and Net-Zero Carbon by 2040. The approach includes a reduction in scope 1,2 and 3.



WATER NEUTRAL APPROACH

Water Neutral Approach: The unit has successfully attained water positivity through the following strategies:



Scope 1 (Reduction of emissions): Ecofriendly refrigerant replacement, solar power as backup during power failure to avoid using DG run.

Scope 2 (Reduction of emissions):

Solar Power Plant Installations:

- **Phase 1:** Installed 270 kWp, resulting in a reduction of 280 MT (Aug'20)
- **Phases 2 and 3:** Main Factory -1 and Stores Area installations of 507 kWp (Sep'22), contributing to a reduction of 395 MT CO_2e
- **Phase – 3:** Group Captive Power plant of 1 MW at Kamuthi (Jun'23), resulting in a reduction of 1105 MT CO_2e

Scope 3 (Reduction of emissions):

- Source change / Localization for Raw materials suppliers from other countries to India resulted in a reduction of 169.81 MT
- Moving the suppliers closer to the site resulted in a reduction of 144.95 MT
- Introduction of Milk-run logistics & 90% reusable packaging from suppliers resulted in a reduction of 164.6 MT

ZERO WASTE TO LANDFILL APPROACH

The unit has already achieved zero waste to landfill Status. They are targeting to achieve Net Zero Hazardous waste generation now by 2025 and 100% re-usable packaging material will be received from suppliers by 2025.

Rialto Enterprises Private Limited, Chennai

Green Supplier Development Program (GSDP) – Phase -1

As an environmentally conscious GreenCo platinum-rated company, Rialto has taken the initiative to handhold all its supplier partners on their green journey. Rialto launched GSDP - Phase 1 in March 2022, to support its "7 Selected Supply Partners", which is having a major environmental impact in the value chain. The focus is on energy and water conservation, greenhouse gas emission reduction, material conservation, and efficient waste management. The intent is to evaluate the environmental performance of supply partners, support them in improving their performance, help them to evaluate their GHG emissions, ensure compliance with legal regulations, and recognize the best supplier through the "Green Supplier Award". The benefits achieved by the 7 suppliers of GSDP phase – 1 is provided in the table.

GSDP Supplier Awards - 2023

GSDP Supplier Awards - 2023

Cumulative savings achieved		
Electrical energy savings	13,80,855	kWh
Thermal energy savings (Diesel & CNG)	35.5	kL of fuel
GHG emission mitigation	3739.4	MT of CO_2 eq.
Renewable energy Addition	2411	kWp of RE
Water Conservation	19,914	kL of water
Resource conservation	241.5	MT of material
Waste Reduction	12,693	kgs of waste
Total investment made	340	Rs Lakhs
Monetary savings	175.6	Rs Lakhs
ROI	2	years

With the success of the GSDP Phase-1 program, Rialto now launched Phase – 2 in July 2023 with 6 suppliers.

In its journey towards sustainability, Rialto has already achieved Water Neutrality and Zero Waste to Landfill and will soon reach Carbon Neutral. However, this has not stopped here. The company is now helping its suppliers become green spreading sustainability and becoming an inspiration to others. Rialto also won the "Green Champions Award" from Tamilnadu Pollution Control Board in June 2022.

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Sagar Cement Bayyavaram, Vizag-Grinding Unit

Sagar Cements Limited is one of India's leading Cement manufacturer with an installed production capacity of 10.85 MTPA. Sagar Cements Bayyavaram, Vizag- Grinding Unit have always prioritsed sustainability and incorporating sustainable practices across the operations and improving the environmental performance. Sagar Cement sustainability highlights include:

- Appreciable Green Belt 41.3 % with Conservation of 32 native flora species from forest dept.
- Unit met 100% Water requirement from harvested rainwater. 46.3% reduction in SWC.
- 34.5 % overall specific electrical energy reduction in the last three years.
- Emits 31.3 % less carbon in Scope 1 & Scope 2 & 81.53% offsite renewable energy.
- 100 % Recycling of Treated Sewage Wastewater utilized in Plant Operations.

Sagar Cements Limited focused on producing superior quality cement with initiatives to protect and preserve the natural environment by collecting every drop, converting waste heat to usable energy, cutting down on emissions, optimizing energy use and practicing green energy. Bayyavaram Grinding Unit is recognized as GreenCo Platinum Rated company under the Green Rating system.

Sagar Cement Limited, have clear targets defined in ESG roadmap, with focused targets on achieving net zero in carbon emissions, water consumption, resource optimization, biodiversity and waste generation.

Indicator	Targets
Increasing the green electrical energy ratio in operations to 50% by 2030 and 100% by 2050	65 kWh/t of cement by 2030
Water positivity	10X by 2030
Resources (Reduction in Clinker Factor)	64% by 2030 & 50% by 2050
Use of Decarbonated Raw Material	2% by 2030

Indicator	Targets
Net Zero & Align with SBTi 1.5°-scenario by 2030	2050
Increase use of Alternate Fuel	20% by 2030 & 50% by 2050
Zero Emission Vehicles	30% by 2030 & 100% by 2050
Biodiversity(diversified native plantation)	5 Hectare/yr with ~10,000 saplings

Sagar Cement Bayyavaram, Vizag-Grinding Unit

CARBON NEUTRAL APPROACH

Carbon Neutral Approach: Sagar Cement develops approaches to achieve net zero carbon as reduction in CO_2 emissions, offset CO_2 emissions, and sequester carbon emissions.

- Reduction of Specific Electrical Consumption and increase use of alternate fuel
- Increase Green Electricity
- Sequester carbon emissions with diversified and native plantation

ZERO WASTE TO LANDFILL APPROACH

Sagar Cement Limited has clear waste mapping across its facility enabling it in identification, segregation, and collection of waste in the plant. It utilizes the waste generated by other industries as a feed to its operations , thereby achieving resource optimization and reducing waste generation. Waste such as fly ash, slag, gypsum, oil and metal scrap are also disposed efficiently and responsibly with zero hazardous waste making it to landfills.

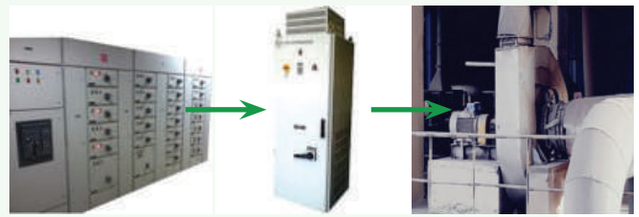
Cement mill-3 booster fan DOL to VFD conversion

For booster fan, DOL methods have the basic motor starting capabilities, while VFDs have motor control throughout the start, stop and run time. The drive can dramatically reduce the energy consumption when compared to DOL operation, where the motor runs at full speed regardless of the demand. A VFD is extremely versatile and often used in process applications where a constant pressure or flow needs to be maintained. In addition, because the motor can be run at a slower speed and hence use less energy, use of a VFD can facilitate significant power savings.

Savings achieved

- Energy Savings: 64,240 kWh/year
- Cost Savings: Rs. 3.75 lakhs/year

IMCC **VFD Drive** **Booster Fan**



WATER NEUTRAL APPROACH

With a scientifically-designed rainwater harvesting system channeled to recharge pits and water bodies / collection ponds and with several beyond the fence initiatives, Sagar Cement Limited have huge potential to become water neutral or water positive.

In their journey towards net zero, Sagar Cement is aligned with the global goal and India's vision of decarbonization. The company is investing in the latest and advances technology to minimize its carbon footprint and is undertaking and exploring the steps it needs to take to reduce overall emissions. It is also working on carbon cost estimation and adaptation.

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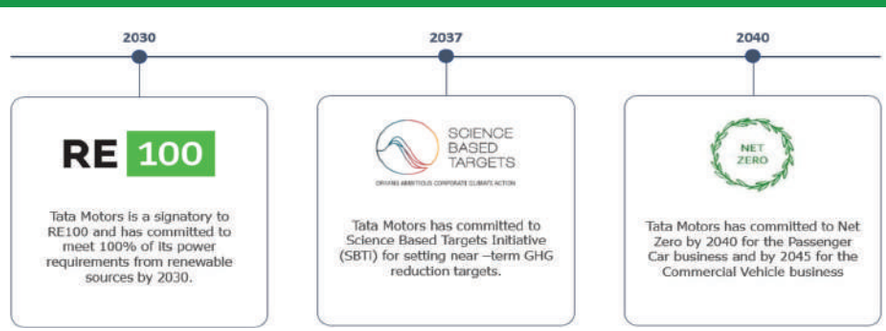
Tata Motors Limited

Tata Motors Limited is India's largest original Equipment manufacturer (OEM) offering extensive range of integrated, smart and e-mobility solutions. They are also making significant progress in sustainability across various fronts. They are prioritizing the development and promotion of electric vehicles (EVs) to reduce emissions and combat air pollution. The company is also investing in renewable energy, including solar and wind power, to decrease reliance on non-renewable sources. Tata Motors is implementing eco-friendly manufacturing practices, embracing energy efficiency, waste reduction, and water conservation. By collaborating with stakeholders, they aim to create a sustainable ecosystem, emphasizing responsible supply chain practices and the use of sustainable materials.

Tata Motors is leading the way towards achieving net zero emissions through its sustainability initiative, Aalingana. Aalingana represents the group's dedication to developing and scaling innovative technologies and solutions that drive the green transition. By leveraging group synergies, Tata Motors aims to assist companies in reaching their sustainability targets. As a signatory to RE100, Tata Motors has pledged to meet 100% of its power requirements from renewable sources by 2030. Additionally, they have committed to the Science Based Targets Initiative for setting ambitious greenhouse gas reduction targets. With a commitment to achieving net zero emissions by 2040 for the Passenger Car business and by 2045 for the Commercial Vehicle business, Tata Motors is firmly on the path towards a sustainable future.

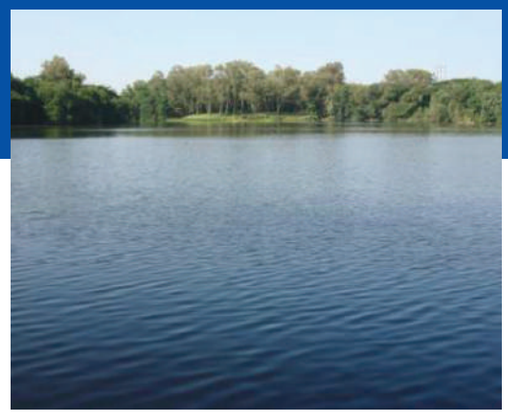


PROJECT AALINGANA

Tata Motors Limited

WATER NEUTRAL APPROACH

Tata Motors demonstrates a strong commitment to efficient water use and conservation. They prioritize measures such as effluent recycling, leakage reduction, and the creation of water bodies through stormwater runoff and groundwater recharge. In FY22, they conserved 9.24 lakh m^3 of water, equivalent to 19.7% of their total consumption. The Pantnagar plant serves as an exemplary model of water stewardship, recycling treated effluent and raising awareness among local communities. Notably, the plant has surpassed water conservation by replenishing more water than it consumes, thanks to well-designed groundwater recharge structures. Tata Motors' dedication to sustainability and community contribution sets them as a water conservation role model.



CARBON NEUTRAL APPROACH

Tata Motors is actively striving towards carbon neutrality through various initiatives. They have implemented Energy Conservation (ENCON) projects across all their plants and offices, resulting in significant energy savings. In FY23 Tata Motors Pantnagar alone led to a reduction of 5,846 tCO_2e in emissions through its 7MWp Solar Power Plant, localized solar power and solar heater in canteen and ENCON Projects. These achievements showcase Tata Motors Pantnagar's commitment to energy efficiency and environmental sustainability as they work towards their goal of becoming carbon neutral.

UTK: REDUCTION IN ENGINE TESTING TIME

More the engine testing time more will be the fuel and power consumption and thus to meet the customer demand the engine test beds are run in all the shifts. Tata Motors, Pantnagar, has successfully reduced their engine testing duration by 30.3% through various improvements without any impact on performance. They now conduct testing in two shifts to meet customer demand. Measures such as adjusting power, reducing oil level, changing flywheel position, and installing a new resonator have enhanced efficiency in their engine testing process.

Savings:

30.3 % reduction in engine testing time

Total annual saving: 7,64,400 kWh and fuel saving 2,028,000 Litres

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Toyota Kirloskar Motor, Bidadi, Karnataka

Toyota Kirloskar Motor Private Limited (TKM) is one of the leading auto manufacturers in India. TKM embraces sound governance practices to ensure economic growth that goes together with environment protection and value-creation for all stakeholders.

100% Renewable Energy (in electricity) procured at Bidadi Manufacturing plant since June 2021.

Reduction of 37,329 Tons of CO_2 through utilization of Renewable Energy.

89% water demand met through recycled & rainwater for production.

>99.9% zero waste to landfill status achieved.

** Direct disposal to landfill*

Toyota, follows a philosophy of **'Respect for the Planet'** by considering environment as one of the primary stakeholders in every business decision. TKM, a GreenCo Platinum rated plant is committed to environment protection through adoption of eco-friendly systems and practices. TKM employs the **Toyota Earth Charter** as the action plan for addressing the issues of global environment and has formulated policies and targets underneath this plan to drive environmental initiatives.

Toyota 2050 Environmental Challenge – 7th Environmental Action Plan (EAP 2021-25)

Toyota Environmental Challenge	2025 Reduction Targets
Challenge 1: New Vehicle Zero CO_2 emission – Scope 3: Use phase	30% ($gmCO_2$ eq./km)
Challenge 2: Lifecycle Zero CO_2 emission – Scope 3: Supply chain	Logistics: 12.5% ($kgCO_2eq/Veh$) Suppliers: 25% ($KTonCO_2eq$) Dealers: 15% ($kgCO_2eq/SVC$)
Challenge 3: Plant Zero CO_2 emission – Scope 1+2: Energy Efficiency	Absolute CO_2 target: 79% ($TonCO_2eq$) Energy target: 10% (GJ/Veh)
Challenge 4: Plant Water Consumption Reduction	67% (m^3/Veh)
Challenge 5: Establishing a recycled based society and systems	2 Dismantling facilities in India
Challenge 6: Establishing a future society in Harmony with Nature	Continuous contribution to society thru' afforestation, environment education & conservation projects

Toyota Kirloskar Motor, Bidadi, Karnataka

CARBON NEUTRAL APPROACH

TKM has a three-pronged approach to achieve Net-Zero CO_2 emissions aided by hybrid technology, renewable power, carbon sequestration and efficiency improvements. Toyota Green Wave Project since 2009 planted more than 3,23,000 plants to help sequester CO_2.

WATER NEUTRAL APPROACH

100% of waste-water generated is treated and water is reused back in the plant. Supported by a hydrogeological study, scientifically-designed rainwater harvesting system channel water to water bodies / collection ponds and piezometers are used to continuously monitor ground water level. The Ecozone developed with two ponds within the plant premises, and one beyond the facility helps recharge the ground water and support local stakeholders.

New Vehicle Zero CO_2 Emission

Aimed towards reducing 90% of new vehicle CO_2 emissions by 2050 (compared to 2010 global level emissions) thru' GREEN MOBILITY.

Lifecycle Zero CO_2 Emission

Zero CO_2 emission at Suppliers, Dealers, & Logistics through collaborative approach by adopting on-site renewable energy, efficient resource utilization & knowledge sharing.

Plant Zero CO_2 Emission

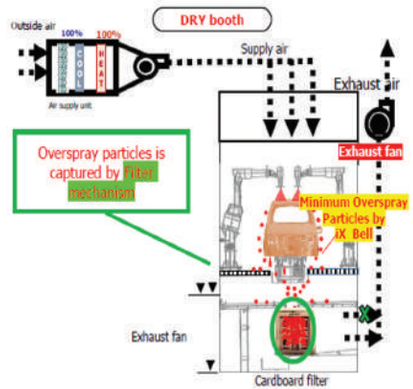
Energy efficiency improvement kaizens, capacity utilization enhancement, 100% renewable electricity, switch to low emission fuel for thermal energy.

ZERO WASTE TO LANDFILL APPROACH

TKM has clear value stream mapping across its facility enabling the identification, segregation, and collection of waste in each section. TKM recovers all material generated within the plant, segregated at source and sent daily to recycling centers. Initiatives taken to minimize the quantity of waste generated and utilization of material like metals and plastic scrap generated back within the plant and affiliate partners is helping minimize the total waste generated. The ETP waste generated is minimized by dry-booth painting system, thereby reducing water consumption while also improving painting efficiency.

Paint Sludge Reduction via Dry Paint Booth

Wet paint booth converted to automated dry paint booth that eliminates sludge and load on energy intensive ETP, Further water consumption and water circulation pump is eliminated.



Category	Savings
Electricity	1352 (Mwhr/year)
LPG	138 (Tons/year)
Water Savings	889 (m^3/year)
CO_2 reduction	1447 (Tons/year)
Total Cost Saving	25.56 mill Rs.

In their journey towards net zero, TKM's 8th Environmental Action Plan will incorporate SBTi targets that were validated in Sept'22. The plant has achieved net zero waste to landfill and 100% Renewable electricity status. It further aims to achieve > 2X water positivity status, and net zero emissions status (In Scope 1+2+3).

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Tata Steel Downstream Products Ltd, Ranjangoan

Tata Steel Downstream Products Limited (TSDPL) was originally set up in 1997 as Tata Ryerson Ltd., a joint venture between Tata Steel of India and Ryerson Inc. of USA. In 2009, Tata Steel acquired the entire equity of Ryerson Inc. and thus was born TSDPL, a 100% subsidiary of Tata Steel.

Tata Steel Downstream Products Ltd. aims to achieve emission intensity <0.003 TCO_2e/mt by 2030.

TSDPL Ranjangaon, Pune Achieved 231% CO_2 Off-set against Scope-1,2.

TSDPL Pune unit is the first in Indian Steel Service Industry to bag GreenCo Platinum Award.

Reduced fresh Water consumption by 50% over last 5 years & using 73% of renewable energy.

TSDPL is India's Largest Steel Service Centre Organization with 9 large processing units, 16 sales and distribution locations and a host of partners like external processing agencies, suppliers and other stakeholders. The Company caters to a broad spectrum of industries and has emerged as one of the leading Automotive Steel Supplier. World-class processing facilities and comprehensive quality assurance systems combine to make TSDPL a benchmark in the steel service industry.

TSDPL is working towards net Zero

- Reduce Energy Consumption (Scope 1 & 2) by installation/ upgrading to energy efficient compressors & motors
- Reduce Emission (Scope 3) by optimising the routes of vehicles, load on vehicles & usage of CNG based vehicles
- Recycle & Reuse -Water, steel strap, wood, plastic,etc
- Enhance Renewable Energy Generation and Utilization

Methodologies	
Industry knowledge and open source innovation	TSDPL is collaborating with various technical institutes and technology start-ups/SMEs nationally and internationally to create an ecosystem for cross-learning and collaborative working in emerging technologies, environment, Artificial Intelligence, robotics and other long-term research assignments.
Strategic Focus	To identify opportunities to go green in all aspects of business, in line with TSDPL's aspiration to be zero waste, water positive and sustain platinum-rated facilities.

Tata Steel Downstream Products Ltd, Ranjangoan

TSDPL's Strategic focus on 3 Key themes- Reduce, Recycle and Reuse of Energy, Water and Waste

Reduce , Reuse & Recycle

Stoppage of Usage of RO MB plant for Pickling & boiler which saved daily 40KL rejected water amounting to Rs 6 lacs.

Reduction of Water at Source

"First Time in Industry"

5 Rolls Brushing Unit installed in Pickling & Oiling Line before Acid Tanks. This resulted in reduction in use of Acid as well reduced effluent generation.

LDO fired boiler converted into biomass briquette fired Boiler.

Induced Draught fan and Forced draught fan used to support the combustion.

Use of Bio-Mass Briquettes in Boiler

CO_2 Offset through Solar Power Plant.

"Zero Used/ Spent Oil Disposal"

1.Filtration unit for Hydraulic Oil –Rs 3.2 Lacs invested for purchase of two machines.

2.100% RP oil collected and re-used.

Reuse of Packing Straps
Recycling of HDPE, LDPE by conversion into granules.
Recycling & Reuse of Packaging wood.

Waste Segregation, Recycling

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Confederation of Indian Industry

About CII

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government, and civil society, through advisory and consultative processes.

CII is a non-government, not-for-profit, industry-led and industry-managed organization, with around 9,000 members from the private as well as public sectors, including SMEs and MNCs, and an indirect membership of over 300,000 enterprises from 286 national and regional sectoral industry bodies.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

Extending its agenda beyond business, CII assists industry to identify and execute corporate citizenship programmes. Partnerships with civil society organizations carry forward corporate initiatives for integrated and inclusive development across diverse domains including affirmative action, livelihoods, diversity management, skill development, empowerment of women, and sustainable development, to name a few.

As India strategizes for the next 25 years to India@100, Indian industry must scale the competitiveness ladder to drive growth. It must also internalize the tenets of sustainability and climate action and accelerate its globalisation journey for leadership in a changing world. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2023-24 as 'Towards a Competitive and Sustainable India@100: Growth, Inclusiveness, Globalisation, Building Trust' has prioritized 6 action themes that will catalyze the journey of the country towards the vision of India@100.

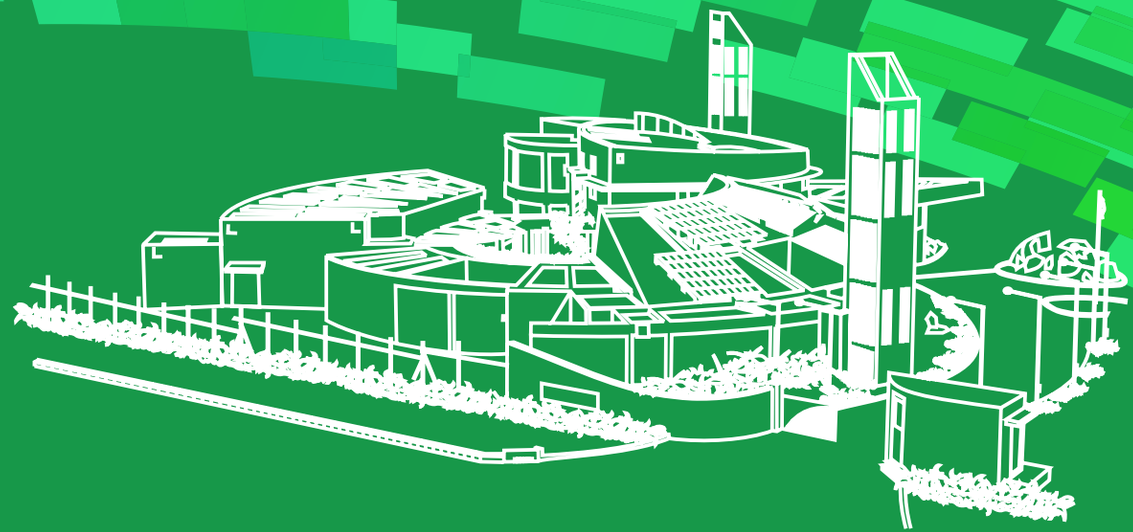
With 65 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

About CII - GBC

CII — Sohrabji Godrej Green Business Centre (CII - GBC) is one of the 10 Centers of Excellences of the Confederation of Indian Industry (CII). CII-Sohrabji Godrej Green Business Centre offers advisory services in environmental issues and policies. CII-Godrej GBC works closely with the stakeholders in facilitating India emerge as one of the global leaders in Green Business. The Centre is housed in Hyderabad and is one of the greenest buildings in the world. The Centre was inaugurated by Dr A P J Abdul Kalam, the then President of India, on July 14, 2004. Under the aegis of Green Business Centre, there are six councils having expertise in six different parameters of Environmental sustainability. These councils are headed by stalwarts of Indian industry who have emotional and professional connect with the respective subject matters. The six councils are:

- Energy Efficiency Council
- Green Company Council
- Green Entrepreneurship Council
- Green Products Council
- Indian Green Building Council
- Renewable Energy Council

Confederation of Indian Industry



Confederation of Indian Industry

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