A Decade of Impact: Evaluating Godrej's CSR Initiatives (2013–2023)

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Abstract: This paper seeks to explore the Environmental Corporate Social Activities. What is CSR and the corporate governance related to CSR. Also, the paper shows Environmental CSR of Godrej & Boyce Co. Ltd. of the last 10 years (2014-2023). The segments where Godrej company focuses for CSR are, Energy, water management, waste management and biodiversity. This research paper shows how the CSR of each segment has changed with years and how the company has achieved their CSR targets. Findings of the paper suggests that Godrej has been managing its CSR activities well and have improved on all its plants and manufacturing outlets reducing emissions, taking up renewable sources of energy, recycling waste and reducing the use of water and using rainwater harvesting etc.

INTRODUCTION

Godrej & Boyce, a key player in multiple industries, has established a solid reputation for its dedication to sustainability. By exploring its environmental CSR initiatives, we can gain important insights into how large corporations balance their business goals with their environmental responsibilities. Their strategy serves as an example for others to emulate. This research can highlight best practices that not only inform environmental policies but also impact corporate strategies, especially in emerging markets like India. It provides a guide for other companies looking to implement sustainable practices.

BACKGROUND

Corporate Social Responsibility (CSR) is a corporate strategy that encourages businesses to be accountable not only to themselves, but also to their stakeholders and the broader community. Businesses can increase their awareness of how they affect the economic, social, and environmental facets of society by adopting corporate social responsibility (CSR).

Corporate Social Responsibility (CSR) encompasses a wide range of endeavours and actions that companies undertake in an effort to improve society. These initiatives can be broadly classified into four main categories: economic, charitable, ethical, and environmental responsibility.

The power of corporate social responsibility (CSR) to help businesses and society at large is what makes it so important. Engaging in corporate social responsibility (CSR) helps businesses lower risks that could harm their operations, attract and retain top people, and improve their reputation and brand image. A company's long-term viability is bolstered by CSR initiatives, which also open up new markets and foster innovation and operational efficiency. Ultimately, corporate social responsibility (CSR) allows businesses to contribute to the betterment of society, which can result in increased economic growth, environmental sustainability, and a higher standard of living. Wikipedia contributors. "Corporate Social Responsibility." Wikipedia. N.p., 25 Sept. 2024. Web.

CSR Laws and Policies

- Companies Act 2013, mandates that certain companies must allocate at least 2% of their average net profits from the preceding three financial years towards CSR activities. This provision applies to companies with a net worth of Rs. 500 crores or more, a turnover of Rs. 1000 crores or more, or a net profit of Rs. 5 crores or more during the immediately preceding financial year (Ministry of Corporate Affairs, n.d.).
- The Securities and Exchange Board of India (SEBI) mandates that companies listed on the stock exchange must provide a Business Responsibility and Sustainability Report (BRSR), which outlines their CSR activities (Koper, 2023) (Rao, 2021).
- CSR activities should not include activities that are part of the normal course of business of the company (i.e. the company's regular business operations).
- Any extra profits or surplus generated from CSR projects cannot be added to the company's regular business profits. The money should be used for further CSR initiatives.

- Under the new amendment COVID-19-related activity in the normal course of business: This covers companies undertaking research and development into vaccines, medical devices, and drugs related to COVID-19, even if such activity is in their normal course of business. This exemption is allowed up to the financial year 2022-2023. However, the company must make separate disclosures in their annual report and must undertake such research and development in collaboration with an institute specified in Schedule VII of the act. (Rao, 2021)

LITERATURE REVIEW

Corporate Social Responsibility (CSR) has evolved significantly over the past few decades, from a voluntary act to becoming a legally mandated obligation in several countries, including India. The concept of CSR broadly refers to the responsibility that companies have toward society, beyond profit maximisation.

Godrej reports its efforts to make its activities more environmentally friendly in its sustainability report for the year 2014–2016. The company was able to reduce water consumption by 43% and energy consumption by 39% compared to 2011. With the help of rainwater harvesting, Godrej was able to achieve water positivity. Godrej recycles 99.6% of non-hazardous waste and reduces the amount of hazardous waste by 33%. Godrej's efforts to preserve the mangroves of Pirojshanagar, tells us how dedicated it is to biodiversity. The report also shows Godrej's commitment to creating sustainable products, this helped Godrej achieve its environmental objectives and expand its business. Godrej aims to remove non-hazardous garbage from landfills and lower energy.

The 2016-2019 report shows Godrej is leaning more towards sustainability through its Good & Green Vision. Godrej reduced its energy consumption by 40%, helping them achieve carbon neutrality, and eliminating waste. It received GreenCo certification for 10 manufacturing units and five of them got Platinum status. By 2015, Godrej achieved water-positives in its operations. Godrej focused on innovating in sustainable products, aiming to generate one-third of its revenues from green products and services.

The 2019-2023 report shows Godrej set higher targets for energy efficiency, emissions reduction, and sustainable products. Godrej earned 37% of its revenue from "Good & Green" products and made efforts in water management, by reducing specific water usage by 60%. We can also see 99% waste elimination and increased focus on reducing Scope 3 emissions in its supply chain. Godrej continues its conservation of mangrove, helping carbon sequestration and biodiversity protection. Godrej partners with India Plastics Pact, and increased its digital transformation to increase its sustainability reports and operations

CSR initiatives taken by few companies-

Tata group: The Tata Group has had an age-long tradition of CSR efforts, mainly through educational and health-care initiatives and environmental conservation. Watershed management programs have helped ensure greater water availability in rural areas, and investments in education have increased access to quality education for economically weaker sections of society.

Reliance Industries: Reliance’s environmental CSR revolves around promoting renewable energy and waste management. They have invested in large-scale solar power projects and are working towards reducing plastic waste through recycling initiatives. Their efforts contribute to cleaner energy and reduced environmental pollution (Reliance Foundation Report, 2020).

Infosys: Infosys is committed to environmental sustainability, striving for carbon neutrality. They invest in green buildings, renewable energy sources, and extensive reforestation programs. Additionally, Infosys emphasises waste reduction and water conservation within their operations (Infosys Foundation Annual Report, 2020).

Research Question

How has Godrej & Boyce Mfg. Co. Ltd.'s Environmental CSR evolved over the decade, and what key strategies and initiatives have driven progress in energy, water, waste management, and biodiversity?

Objective

The objective for this research paper was to analyse and document the evolution of Godrej & Boyce Mfg. Co. Ltd.'s Environmental Corporate Social Responsibility over the past decade.

RESEARCH METHODOLOGY

Research design

Longitudinal Research design has been taken up. Analysing Godrej & Boyce Environmental CSR activities over the last decade.

The data collection method used in this research paper is secondary data sources, it consists of both qualitative and quantitative data in order to have a much more in-depth analysis. Company's annual report and sustainability reports are major sources of data

Procedure

The sustainability and annual reports of each year were studied thoroughly and all data and facts were stated out from each segment of energy, waste management, water management and biodiversity. Past research papers gave an outline on how the research is to be conducted for the above research question. Then analysis was conducted on how CSR changed along the years was analysed for each of the segments and concluding remarks were made. For each segment.

Data Analysis

Thematic Analysis is used throughout the paper and there are no statistical tests conducted for the analysis.

RESULTS

Energy

Management approach towards energy management in 2013 considering the long-term impact of climate change was to reduce specific energy consumption by 40% and increase renewable energy share by 30% by 2020. Fuel consumed in 2013 includes high speed diesel, piped natural gas, liquefied petroleum gas, furnace oil, biomass energy, energy from grid electricity and solar energy. (Godrej & Boyce) In the later years, renewable sources of energy such as solar increased and non-renewable sources such as petroleum and gas and oil decreased.

At Godrej renewable energy encompasses producer gas and solar PV. Producer gas plants have been installed at Appliances division (Mohali and Shirwal) and Interio (Bhagwanpur). Agri waste is being used as fuel in place of diesel for heating application as a process. (Godrej & Boyce)

Onsite Rooftop Solar PV Installation:

Business unit	Location	Installed capacity	Year of commissioning
Interio Plant -01	Shirwal	250 kW	2016
Interio Plant -02	Shirwal	116 kW	2016
Lawkim	Shirwal	250 kW	2016
Plant 13, Annexe	Vikhroli	120 kW	2016
Total		**0.74 MW**	

Installed solar PV capacity (Fig. 12.3)

Years	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total Energy Consumption (in GJ)							
Valia & Ambernath Facility	13,88,140	15,37,205	14,91,436	15,66,758	14,38,340	18,39,842	22,22,291
Wadala Facility	18,350	21,234	17,928	18,209	5,048	3,308	3,273
Renewable Energy	41%	42%	45%	52%	49%	54%	68%
Energy Intensity	315	276	251	239	218	239	218
Reduction from Base Year (10-11)	38%	42%	43%	47%	57%	53%	57%

(All information in the table above has been gathered from the Sustainability reports of Godrej & Boyce mentioned below)

Renewable energy share with respect to the total energy consumption.

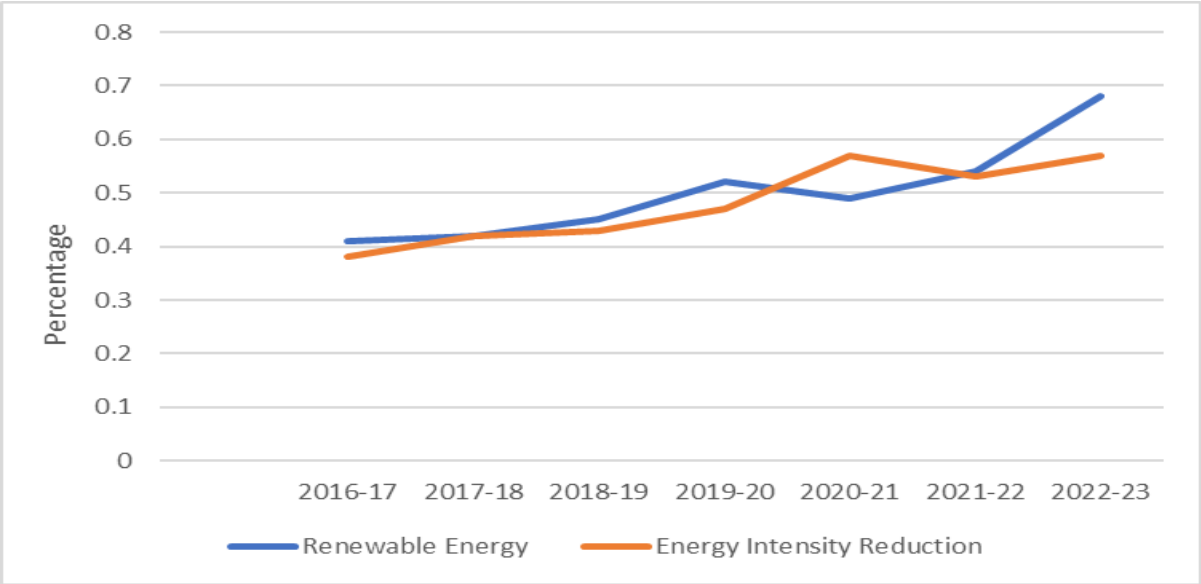
The company had been generating 41-57% of its total energy from renewable sources over the years.

The Company aims to switch to renewable energy sources. It achieves this by installing a capacity of 7.88 MW of solar power with roof top installation at Chennai, Mohali, Sahiwal and Vikhroli. The company also engages in power purchase agreements and green tariffs.

The company demonstrated an overall improvement in energy performance over the three years (FY 16-19):

Total Energy Consumption (in GJ)- Despite increasing energy consumption which may be and have been due to growth in operations, Godrej's efforts toward energy efficiency are noteworthy.

Energy Intensity (GJ/MVA) - Energy intensity or the measure of energy use per unit of output went down from 315 GJ/MVA to 218 GJ/MVA; this shows an enhanced efficiency of energy usage relative to production.



Use of renewable energy has been increasing year on year and the energy intensity has reduced, which are both positive sign for the company, more green energy is being used in proportion to the increasing production.

Energy Intensity Reduction (from base year FY 2010-11)- An ongoing decline in energy intensity is a measure of successful efforts toward minimising energy consumption yet keeping, or increasing the production.

Energy Efficiency and Reduction of Energy Requirements of Products and Services (Godrej & Boyce)

Godrej & Boyce (G&B) has played a pioneering role in energy management since establishing its energy conservation cell in 1980. The company has embraced green certification, carbon foot-printing, and sustainability reporting, which have helped solidify its sustainability credentials.

Godrej's manufacturing units were awarded GreenCo certificates by CII-GBC for energy management.

Platinum certificates to: Godrej Appliances, Mohali. Godrej Interior and Appliances, Shirwal. Godrej, Lawkim.

Gold certificates to: Godrej locks and Interio, Vikhroli

Silver: Godrej Security solutions, Vikhroli. Godrej precision engineering, Vikhroli.

Business-Wide Energy Reduction in Product Use Phase

To extend energy savings beyond manufacturing, Godrej has encouraged its divisions to develop products that reduce energy consumption during the consumer use phase. This reflects a holistic approach to sustainability, addressing both production and product life cycle impacts.

In the 2016-2017 report Godrej aims to take an initiative to reduce energy intensity by 30% till 2020 and in the report of 2019-2023 it has mentioned 57% reduction in specific energy since 2011.

Energy efficient initiatives taken by them

1. Compressed Air Integration

Godrej used advanced air compressors that adjust speed based on need, saving energy. They installed smart controllers to keep air pressure just right and used special compressors for tasks like painting. Aluminium pipes were used to reduce leaks, and efficient blowers replaced compressed air in some areas.

2. Heat Retention and Recovery

They improved furnace insulation with special coatings and regularly checked insulation to save heat. Waste heat from compressors and paint booths was reused. Heat pumps were used to reduce heating needs, and biodiesel was used for heating water.

3. Lighting, HVAC, and Building Systems

Godrej upgraded to energy-efficient air conditioning and lighting systems. They used smart fans, automatic condenser cleaners, and sensors to save energy. Better insulation and efficient pumps and motors were also installed.

4. Process Optimization

They improved hydraulic systems with energy-saving motors and optimized paint processes. Machine idle time was reduced, and efficient motors were used in paint booths.

5. Ventilation

Energy-efficient fans and turbo ventilators were installed to improve air circulation.

Emissions

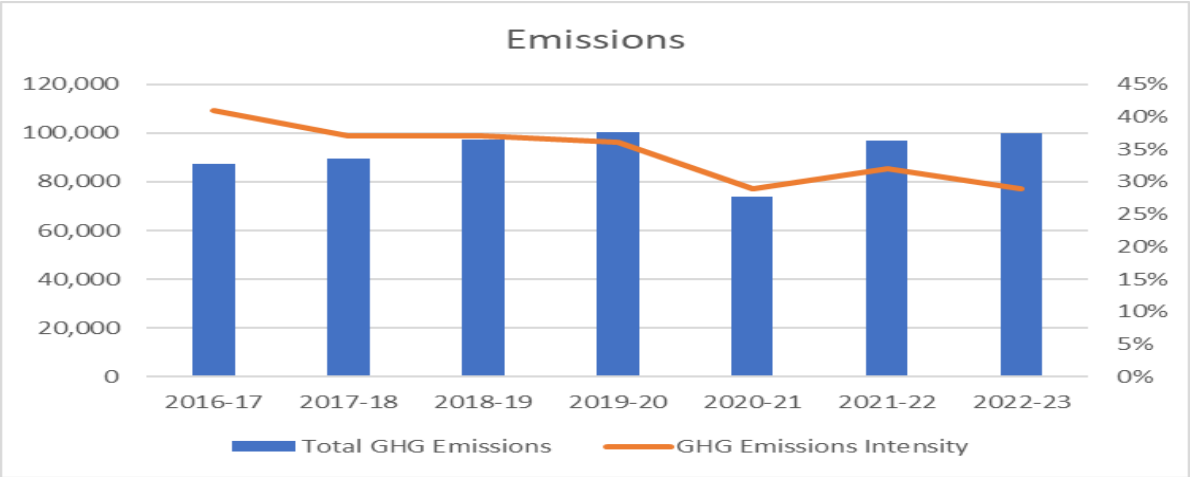
GHG Emissions

Years	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Direct Emissions	11,092	12,589	12,441	16,806	12,826	20,315	18,201
Indirect Emissions	76,118	77,049	84,983	83,443	60,975	76,542	81,664
Total GHG Emissions	87,210	89,638	97,424	100,249	73,801	96,857	99,865
GHG Emissions Intensity	41%	37%	37%	36%	29%	32%	29%

(All information in the table above has been gathered from the Sustainability reports of Godrej & Boyce mentioned below)

Direct emissions refer to the greenhouse gases emitted directly from sources that are controlled or owned by the company. Indirect emissions are those that result from the consumption of purchased electricity, heat, or steam. GHG emissions intensity measures emissions per unit of output or activity, and lower intensity indicates better environmental performance relative to production.

The Company's direct and indirect emissions have increased this may be a result of increased production. The company's GHG Emissions intensity has decreased from 41 tCO2e/MVA to 29tCO2e/MVA. This means that the company could produce more with the same emissions.



In 2016-17 report they had set a target to become carbon neutral by 2020 and had a 35% reduction in Carbon emission intensity in 2019-23 report they mentioned 58% reduction in carbon intensity since 2011

Water Management

Instead of counting the drops, make every drop count. G&B achieved ‘Water Positive’ status in FY2016 which was 1.3 times positive at that time.

Initiatives that led to Water positivity are –

Adaption of water efficient processes within the campus 100% treatment and recycling of effluent Rainwater Harvesting (both in the premises and outside as well as CSR initiative) (Godrej & Boyce)

Years	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total Water Consumption (kL)	6,08,063	6,75,626	7,50,695	7,27,316	6,83,915	6,54,411	6,60,323	7,56,428	7,98,665
Specific Water per ton of Product (kL/T)	4.1	4.6	5.06	4.2	3.93	3.93	4	3.85	3.59
Water Reused or recycled (%)	11.50%	11%	12.50%	30%	24.40%	34%	27%	24%	19%

(All information in the table above has been gathered from the Sustainability reports of Godrej & Boyce mentioned below)

The total water consumption has grown over the years from 6,08,064 k/L in 2014-15 to 7,98,665 k/L in 2022-23. This may be due to the increased production capacity.

The specific water per ton of product is fluctuating as it started at 4.1 in 2014-15 it peaked at 5.06 in 2016-17 and fell down to 3.59 in 2022-23. This shows that the efficiency of water used is not very stable; this may be due to several factors like age of machinery and quality of water.

The company used to reuse or recycle approximately 12% in 2014-17 then it more than doubled in 2017-18 at 30% as the company started following the principles of reduce, reuse and recycle. It started reducing again as the company got more efficient in using water till it reached 19% in 2022-23.

Company's goal was to become water positive by 2020, which it achieved in 2016 itself and reduced more than 20% consumption of fresh water when compared to 2011-12.

Major objectives of G&B's water targets include adaptation of water efficient processes within the campuses, 100% treatment and recycling of effluents and rainwater harvesting (within the premises and outside as a part of CSR initiatives). (Godrej & Boyce)

All upcoming manufacturing facilities have been designed on principles of green buildings and have comprehensive effluent and sewage treatment, and recycling systems designed for 100% recycling of treated water and ensuring zero discharge from the facility. (Godrej & Boyce)

Rainwater harvesting by recharging groundwater aquifers has been taken up at various locations within the industrial garden township of Pirojshanagar in Vikhroli. (Godrej & Boyce)

Notably, the volume of water recycled and reused has consistently exceeded the volume of fresh water consumed in each fiscal year. This indicates that Godrej has effectively implemented water conservation measures and is making significant strides in water sustainability.

Godrej has made impressive strides in water conservation, achieving a water positive status of 179%. This means they replenish more water than they use. In the fiscal year 2020-21, they managed to offset their cumulative freshwater footprint, calculated from the base year of 2010-11, by replenishing more water than they withdrew. This remarkable achievement is maintained through several thoughtful and effective techniques:

- Water Audits: Regularly checking their processes and utilities to find ways to save water.
- Efficient Fixtures: Installing low-flow fixtures that use less water without compromising performance.
- Effluent and Sewage Treatment: Treating all wastewater to ensure it's clean before it's reused or released.
- Zero Liquid Discharge (ZLD): Ensuring no industrial wastewater is discharged into the environment.
- Recycled Water: Making the most of recycled water in their operations.
- Nature-Based Solutions: Using natural methods to treat and manage water.
- Rainwater Harvesting: Collecting and using rainwater both within their facilities and in the surrounding areas.

All of Godrej's manufacturing facilities practise zero discharge, meaning they don't release any untreated water into the environment. This commitment helps protect local ecosystems and communities, ensuring their operations have minimal negative impact.

Steps Godrej took to address Groundwater Over-Extraction at Pirojshanagar, Mumbai

To tackle groundwater over-extraction, our Pirojshanagar facility in Mumbai has implemented several measures:

1. IoT Monitoring: We use IoT-based digital flow meters and telemetry systems on all 16 groundwater extraction structures for real-time monitoring. Alerts are triggered if limits are exceeded. (google what this technique means if explanation is required)
2. Usage Reports: Regular reports help us track and address unusual water usage patterns.
3. Rainwater Harvesting: We capture and filter rainwater from rooftops and open areas to recharge groundwater, with an annual capacity of 425,865 m^3.

Total wastewater recycled and rainwater harvested over the last decade is equivalent to the water consumed by 261.8 million persons annually. (Godrej & Boyce)

Waste Management

G&B's waste management practices are designed to minimise environmental impact from waste streams as far as possible by reduction in generation of waste, segregation at source for better management, maximising reuse and recycle practises along with proper management to accomplish a definitive long-term goal of 'zero non-hazardous waste' to landfill and '50% reduction in generation of hazardous waste' over a span of 10 years. We have devised a focused approach towards waste management. (Godrej & Boyce) Company recycles 99.6% non-hazardous waste. The company aimed to achieve 0 waste to landfill by 2020 and recycle 100% waste.

Years	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Total Waste Generated	3,697	4,108	4,564	5,405	6,011	13,314	7,929	9,270	14,433
Non-Hazardous Waste	2,538.14	2,820.15	3,133.50	240	502	5,499	689	563	622
Hazardous Waste	1,159	1,288	1,430.61	5,164	5,509	7,915	7,240	8,707	13,811

(All information in the table above has been gathered from the Sustainability reports of Godrej & Boyce mentioned below)

Reduced hazardous waste by 33% in 2016. Handled and disposed of as per provision of the said rules only through MoEF, CPCB, SPCB authorised recyclers of waste management entities.

initiatives implemented at G&B are thinner recycling, e-waste recycling, recovery and recycling of waste oil to ensure reduction in hazardous waste generation in line with the target of 50% reduction over base year 2010 as part of the Greener India initiative. (Godrej & Boyce)

The Company had a target of 40% reduction in generation of specific Hazardous Waste by FY 18-19 It achieved an 39% reduction. It also wanted Zero waste to landfills by FY 18-19. The actual progress is that the company diverted 99.8% Non-hazardous waste from landfills.

The company has reduced the total hazardous from 321MT to 255MT. The company also increased the amount of non-hazardous waste it recycles from 9,712MT to 9,970MT.

These are some of the waste management projects initiated during the reporting period mentioned below: -

- Installation of filter press at Vikhroli East RMC for sludge management
- Utilisation of RMC sludge for manufacturing of recycled concrete blocks
- Effluent Treatment Plant (ETP) sludge reduction by using Nano-chemicals
- Oil Filtration and Reuse
- Forklift battery regeneration
- Re-filtration and reuse of waste hydraulic oil (Godrej & Boyce)

By 2031-32, G&B plans to Reduce Hazardous and Non- Hazardous waste by 25%, and completely phase out the use of EPS and replace it with 100% recyclable plastic packaging. (Godrej & Boyce)

Plastic Waste Management

The company has maintained a steady rate of total solid waste processing throughout the three fiscal years.

There was a notable increase in the amount of waste composted, reaching 3,084 MT in FY 16-17 and peaking at 3,274 MT in FY 18-19. This indicates a growing emphasis on organic waste management and resource recovery.

The quantity of recycled waste fluctuated over the period. It reached its highest point in FY 16-17 at 734 MT but declined slightly in FY 18-19 to 597 MT.

Godrej Company has made notable progress in solid waste management, particularly in composting. The company's efforts have helped divert significant amounts of waste from landfills, contributing to environmental sustainability.

Almost 10,350 MT of solid waste was generated during last 3 years by the company, out of which 8,359 MT was composted and 1,964 MT of dry waste was recycled. Through this the Company has avoided 10,350 MT of waste burden on city landfills. (Godrej & Boyce)

In 2016-17 Godrej set a 'Greener India Goal' to reduce the generation of hazardous waste by 50% and ensure zero non-hazardous waste to the landfills by 2020. (Godrej & Boyce)

In the years 2019-23 to achieve this goal Godrej has placed well established processes for monitoring and managing different categories of waste generated in its operations. (Godrej & Boyce)

No significant spills were reported during the reporting period they also set up a municipal solid waste recycling facility in the premises to manage entire solid waste generation as a step towards a 'Zero

waste to landfill' goal under 'greener India'. (Godrej & Boyce)

In alignment with the 'Greener India' initiative, Godrej set ambitious targets to reduce the generation of hazardous waste by 50% and to achieve zero non-hazardous waste to landfills by 2020. (Godrej & Boyce)

58% reduction in specific waste to landfill was recorded in 2016-17 and 52% reduction in generation of hazardous waste and 99.6% non-hazardous waste was diverted from landfill in 2019-23 period. (Godrej & Boyce)

Godrej Construction's Pirojshanagar plant can recycle up to 300 tonnes of concrete debris waste per day. And processed more than 25,000 MT Concrete debris waste. (Godrej & Boyce)

Godrej's waste management practices are meticulously designed to mitigate the environmental impact associated with waste generation and disposal. Godrej prioritises the reduction of waste generation at the source, segregation for enhanced management, and responsible disposal. (Godrej & Boyce)

Godrej has established robust processes for monitoring and managing various categories of waste generated in its operations. Notably, no significant spills were reported during the reporting period.

Additionally, Godrej has established a municipal solid waste recycling facility within its premises to manage the entire solid waste generation from Pirojshanagar township, Vikhroli. This initiative is a significant step towards achieving the 'Zero waste to landfill' goal under the 'Greener India' initiative'. (Godrej & Boyce)

Biodiversity

Godrej & Boyce's efforts to improve biodiversity, and its active participation in mangrove management at its Vikhroli campus, has shown a consistent dedication to this goal. The company's strategy for biodiversity is centred on the expanding green belt zones planting native trees, guarding the surrounding environment and wildlife, and spreading knowledge about the value of biodiversity. With time, this has affected not just the campus but also the greater Mumbai Metropolitan Area.

Godrej's Green Belt Development is committed in making sure that 39% of its industrial areas are transformed into green belt zones over the course of many years. These figures show that the companies devote a sizable portion of its operational areas to biodiversity conservation, supporting the ecosystem and mangroves' ability to sequester carbon. Managing the mangrove ecosystem on its Vikhroli campus has been one of Godrej's primary biodiversity initiatives. This ecosystem provides a vital home for many different species over a sizable area.

The saplings were planted across various locations, highlighting the company's adaptive strategy based on site-specific requirements.

In 2017-18: 4,900 saplings were planted at various factories, and 2.2 acres of green cover were added to the Pirojshanagar campus, marking a substantial effort in biodiversity enhancement. (Godrej & Boyce)

In 2018-19: A total of 6,450 saplings were planted, with 3,265 saplings at Valia and 3,185 at Amber Nath. This year maintained a relatively high level of plantation activity across different locations. (Godrej & Boyce)

In 2019-20: The company planted 4,967 saplings, with 4,500 at Valia and 467 at Amber Nath. This year saw a slight decrease compared to the previous year but still reflected significant plantation efforts. (Godrej & Boyce)

In 2020-21: The total saplings planted dropped to 3,495, with 3,375 at Valia and 120 at Amber Nath. This reduction could be attributed to various external factors such as the pandemic or site-specific conditions. (Godrej & Boyce)

In 2021-22: This year marked a notable increase, with 9,500 saplings planted across Gujarat and Maharashtra. This surge reflects the company's renewed focus on restoring biodiversity following the challenges of the previous year. (Godrej & Boyce)

In 2022-23: The total number of saplings planted decreased to 3,965 across Gujarat and Maharashtra, signalling a return to more stable levels after the peak in 2021-22. (Godrej & Boyce)

Godrej manages its mangrove and terrestrial ecosystems through its Wet 2017–18, 5,000 seeds from indigenous plant land Management Services (WMS) and Horticulture Management Services (HMS) departments, in addition to its sapling plantation. Species were gathered in support of the business's continuous efforts to restore and plantations. Global recognition was granted to Godrej's biodiversity management initiatives by 2023. International organisations like the International Union for Conservation of Nature (IUCN) and the United Nations Environment Programme (UNEP) recognised its mangrove

management project as a "Global Solution" on the PANORAMA platform. This acknowledgement shows how significant Godrej's conservation efforts are on a worldwide scale.

Godrej's biodiversity efforts over the past years have evolved from campus-based conservation projects of saplings plantation to globally recognized initiatives. While there have been fluctuations in the number of planted years to year, the consistent development of green belt zones and ongoing efforts to manage ecosystems reflect the company's adaptive and responsive approach to environmental sustainability. The company's commitment to maintaining and improving biodiversity within its areas of operation, particularly through the preservation of the mangrove ecosystem and increasing green belt, reflects a long-term vision of environmental stewardship. Through consistent research, conservation, and awareness programs, Godrej has set a high standard for biodiversity management in corporate India.

WASTE REDUCTION & DIVERSION	WATER CONSERVATION & STEWARDSHIP	PRESERVING BIODIVERSITY	ENERGY EFFICIENCY & PRODUCTIVITY
Total waste minimization	Reducing water use intensity	Mangroves conservation	Reducing energy use and emission intensity
Plastic use reduction and recycling	Wastewater recycling	Awareness to rescue and rehabilitation of distressed fauna	Transition to low carbon technologies from Thermal energy to electricity
Increasing adoption of circularity	Rainwater harvesting for own operations and in communities		Green & NetZero buildings developed for company's operations & tenants

(Image has been taken from Godrej & Boyce Sustainability Reports)

DISCUSSION

Limitations

1. Lack of Comparative Benchmarks: The paper lacks comparative analysis with other companies or industry standards. It would be valuable to see how Godrej's achievements stack up against other similar manufacturing entities
2. Limited discussion on Social aspects of CSR: While the report emphasises environmental aspects of CSR, social impacts like community involvement, employee engagement in sustainability, or the impact of CSR activities on local communities are not discussed in detail. For a holistic CSR report, these dimensions are also important.
3. Limited discussion on Challenges and Mitigation: While the achievements are highlighted, there is a lack of discussion about the challenges or difficulties faced during the implementation of sustainability initiatives. Addressing challenges, and how the company overcame them (or plans to), would provide a more balanced view.
4. Lack of Clear targets for Future: Although the document reflects well on past achievements,

there is a lack of clear targets or roadmaps for future years (post-2023). Setting specific, measurable, and time-bound objectives would enhance the credibility of their sustainability efforts and allow for better progress tracking.

5. Lack of Statistical Analysis: The paper lacks robust statistical analysis in several areas, which makes it difficult to thoroughly assess the actual impact of Godrej & Boyce environmental initiatives.

CONCLUSION

Godrej & Boyce Mfg. Co. Ltd. has achieved notable success in its Environmental CSR initiatives, demonstrating a long-term commitment to sustainability through focused efforts in energy management, emission reduction, water conservation, waste management, plastic waste management, and biodiversity preservation. Over the years, the company has adopted environmentally conscious practices that have not only improved operational efficiency but also reduced its ecological footprint.

In Energy Management, Godrej has made substantial improvements by reducing its energy intensity from 315 GJ/MVA to 218 GJ/MVA—a significant accomplishment. By integrating renewable energy sources such as solar power and producer gas plants, the company has reduced its specific energy consumption by 57% compared to its 2011 baseline. Additionally, the use of energy-saving technologies has further contributed to this progress, with renewable energy now accounting for 41-57% of the company's total energy consumption.

The Company's direct and indirect emissions have increased this may be a result of increased production. The company's GHG Emissions intensity has decreased from 41 tCO2e/MVA to 29tCO2e/MVA. This means that the company could produce more with the same emissions.

Water Management has been another area of success for Godrej. The company achieved water-positive status in 2016, meaning it replenishes more water than it consumes. This milestone was reached through innovative water-saving measures, including rainwater harvesting, 100% effluent recycling, and the use of water-efficient fixtures. Despite an increase in overall water consumption due to expanded operations, the company reduced its specific water usage per ton of product from 5.06 kL/ton in 2016-17 to 3.59 kL/ton in 2022-23.

In terms of Waste Management, Godrej has significantly reduced hazardous waste generation by 39% compared to its base year, and it has diverted 99.6% of non-hazardous waste from landfills. The company is working toward its goal of zero waste to landfill by implementing comprehensive waste segregation and recycling programs, successfully reducing hazardous waste while increasing recycling efforts.

In the area of Plastic Waste Management Godrej has made important advances in solid waste processing and composting. The company diverted 8,359 MT of compostable waste and 1,964 MT of recyclable waste, significantly reducing its landfill contributions. By 2023, Godrej had established a municipal solid waste recycling facility as part of its larger goal of achieving zero waste to landfill.

Godrej & Boyce has consistently focused on biodiversity conservation through efforts like expanding green belt zones and managing the mangrove ecosystem at its Vikhroli campus. The company has converted 39% of its industrial areas into green zones, enhancing biodiversity and carbon sequestration. Despite yearly variations in sapling numbers, Godrej's initiatives have received global recognition, including from the IUCN and UNEP. These efforts demonstrate the company's long-term commitment to environmental sustainability, establishing it as a leader in corporate biodiversity management in India.

Godrej & Boyce commitment to environmental CSR has not only improved its sustainability performance but also set a benchmark for other companies in India. Through continuous efforts in energy efficiency, water conservation, waste reduction, and plastic waste management, the company remains dedicated to creating a greener and more sustainable future.

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