



Confederation of Indian Industry

GreenCo: Transforming Goals to Gains

Contribution to the National Green Agenda



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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



Index

Messages	2
Executive Summary - GreenCo: Transforming Goals to Gains	5
Scale of the National Agenda	7
Defining Value through GreenCo	11
Special Feature	41
Partnerships	51
GreenCo's Action Ahead	57

Message



Dear Friends,

Fostering and promoting best practices on environmental management and equipping Indian industry gain the competitive advantage is one of the hallmarks of CII. Our multi-pronged approach has enabled Indian industry take a holistic and futuristic perspective on sustainability and equipping them to contribute to the Nation's green agenda. This insightful document bears testimony to this fact.

Policies and regulations are evolving continuously, and the Indian industry is playing a proactive role in supporting the government towards policymaking as well as implementation.

The role and involvement of Indian industry in Nation building is duly acknowledged and appreciated at various National and international forums and top echelons of the Government machinery. Government-Industry partnership is opening up new growth avenues for the stakeholders and is auguring well for the overall development of the Country.

As we march ahead in realizing CII's India@75 agenda, environmental sustainability would be one of the key pillars and we invite you to partner with CII in building a greener and healthier India.

Vikram S Kirloskar

President,
Confederation of Indian Industry

Message



Indian industry is at an inspiring and exciting phase, where its role in addressing ecological issues & concerns is receiving increased attention and is complementing Central and State Government efforts in climate change mitigation and adaptation. This document will give you an overview on how CII GreenCo rating is enabling companies in addressing National priorities.

The role of Indian industry in addressing climate change concerns is well acknowledged in MoEFCC's- India's Nationally Determined Contribution. This in many ways emboldened industry's efforts to set new global benchmarks in energy and environmental management.

GreenCo rating is encouraging companies to implement innovative and futuristic technologies and pursue manufacturing excellence. Today, over 500 companies are working on GreenCo rating and by 2022, we aspire to facilitate 1,000 GreenCo companies.

While the industry continues to improve its overall environmental performance, it will also complement the National agenda and contribute in addressing resource efficiency, climate change and other environmental concerns. With suitable policy interventions and incentives, Indian industry can play a more pronounced role in fostering & promoting green-growth initiatives in the Country.

Together, we will make it happen.

Jamshyd N Godrej

Chairman,
CII-Godrej GBC

Message



Government of India and the State Governments are according top priority to address concerns related to resource conservation, climate change issues etc., On the other hand, Indian industry through its out-of-the box approaches and green thought leadership is complementing the green agenda scripted by the Government.

Confederation of Indian Industry (CII) has always been in the forefront in charting 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.

Launch of GreenCo rating system is one such initiative of CII, which is driving innovations, environmental stewardship, clean technologies, natural resources management and in the process facilitating a low carbon growth trajectory. GreenCo has reiterated that green makes good business sense and going green is good to economy and ecology. United Nations Industrial Development Organization (UNIDO) has acknowledged GreenCo as one of the top 50 best practices in the World promoting green industry initiatives.

CII will continue to offer the latest and emerging concepts/ technologies to Indian industry gain the competitive advantage and contribute its best in Nation building.

Chandrajit Banerjee
Director General
Confederation of Indian Industry

Executive Summary

GreenCo: Transforming Goals to Gains



GreenCo
rated companies



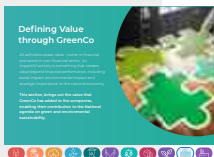
Companies working
on the rating system



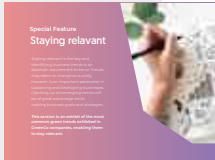
Annual recurring savings and an
impressive compilation of intangible benefits,
is our scorecard thus far.

Looking back, GreenCo was referred to as a holistic green improvement tool. Through the years, it was essential to underline the impact that GreenCo has made for the environment, for the industry, and for the Nation. GreenCo has resulted in resource savings, new business opportunities, greener supply chains and so on. However, more importantly, GreenCo has been **“Transforming Goals to Gains”**; goals – at the National-level and organizational-level and gains – both, tangible and intangible. The publication is an illustration of GreenCo’s contribution to the National agenda.

GreenCo, a voluntary initiative, has given the thrust to the industry to perform beyond compliance. In doing so, GreenCo companies have pushed themselves beyond their comfort zone to excel in their environmental performance and in the process, contributed significantly to the National agenda. **“Defining Value through GreenCo”** explains GreenCo’s contribution, parameter-wise, to respective National commitments, supported with examples¹ from GreenCo companies. **“Scale of the National Agenda”** is a pictorial representation of India’s commitments to environmental sustainability.



¹The GreenCo examples quoted are only indicative to the National commitment and not exhaustive. Green initiatives of all GreenCo rated companies are available at www.greenco.in



Companies were once following trends from across the World to enhance their environmental performance. Today, GreenCo companies are creating trends and setting benchmarks internationally for everyone to follow. **“Staying Relevant”** hand-picks the most common trends of various GreenCo companies.



GreenCo's remarkable progress would have been impossible without concerted, combined efforts from various stakeholders. It has witnessed participation of government agencies, manufacturers, supply chain partners, service & technology providers, customers, NGOs and academicians. **“Partnerships”**, illustrates GreenCo-motivated partnerships across stakeholder groups.



Moving forward, with a target of 1000 companies by 2022, GreenCo has exciting and even challenging initiatives for the Indian industry to implement. Continued strengthening of GreenCo requirements, launch of GreenCo Platinum Plus, GreenCo accredited professionals are just a few to specify.

“GreenCo's Action Ahead” introduces GreenCo's next steps to the industry, inviting participation and support from everyone. GreenCo will continue to inspire and guide the Indian industry towards attaining global excellence.

Pradeep Bhargava
Chairman
CII - GreenCo Council





Scale of the National Agenda



Energy Efficiency

- The Electricity Act, 2003
- National Energy Policy, 2018
- The Energy Conservation Act, 2001
- Energy Conservation Building Code, 2017
- National Mission for Enhanced Energy Efficiency, 2009
- **SDG Goal 12: Sustainable Consumption and Production**
- **SDG Goal 13: Climate Action**

Renewable Energy

- National Solar Mission
- National Policy on Biofuels, 2018
- The Electricity (Amendment) Act, 2018
- International Solar Alliance, 2015
- India's Nationally Determined Contribution
- **SDG Goal 7: Affordable and Clean Energy**
- **SDG Goal 13: Climate Action**

Climate Change

- India's Nationally Determined Contribution
- National Action Plan on Climate Change, 2008
- **United Nations Framework Convention on Climate Change (UNFCCC)**
- **Kyoto Protocol**
- **SDG Goal 13: Climate Action**

Water Conservation

- National Water Mission, 2008
- The Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003
- Groundwater harvesting through Mahatma Gandhi National Rural Employment Guarantee Act, 2005
- **Convention on protection and use of transboundary water courses and international lakes, 1992**
- Guidelines for issuance of no objection certificate for ground water withdrawal, 2018
- **SDG Goal 6: Clean Water and Sanitation**

Material Conservation

- Strategy paper on resource efficiency by Niti Aayog
- National Manufacturing Competitiveness Program, 2005
- National Manufacturing Policy, 2011
- **SDG Goal 12: Sustainable Consumption and Production**

- Swachh Bharat Mission, 2014
- Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016
- Solid Waste Management Rules, 2016
- Plastic Waste Management (Amendment) Rules, 2018
- E-Waste (Management) Rules, 2016
- Batteries (Management and Handling) Amendment Rules, 2010
- Construction and Demolition Waste Management Rules, 2016
- Guidelines for Co-processing of Plastic Waste in Cement Kilns, 2017
- The Environment (Protection) Rules, 1986
- Guidelines for Online Continuous Monitoring System for Effluents, 2014
- Air (Prevention and Control of Pollution) Act, 1981, amended 1987
- National Ambient Air Quality Standards, 2009
- Revised Guidelines for Continuous Emission Monitoring Systems, 2018
- **Basel Convention, 1989**
- **Rotterdam convention, 1998**
- **Minamata convention, 2013**
- **Stockholm convention, 2001**
- **SDG Goal 6: Clean Water and Sanitation**
- **SDG Goal 12: Sustainable Consumption and Production**

- **Restriction of Hazardous Substances Directive, 2015/863**
- **Registration, Evaluation, Authorisation and Restriction of Chemicals, 2007**
- **Directive on End-of Life Vehicle 2000/53/EC**
- **Environment Product Declaration**
- **SDG Goal 12: Sustainable Consumption and Production**
- **SDG Goal 9: Industry, Innovation and Infrastructure**



- Sustainable Public Procurement
- Make in India
- **SDG Goal 12: Sustainable Consumption and Production**

- Forest (Conservation) Act, 1980
- **The Convention on Biological Diversity, 1992**
- The Biological Diversity Act, 2002
- Green India Mission, 2015
- India's Nationally Determined Contribution
- **SDG Goal 9: Industry, Innovation and Infrastructure**



Defining Value through GreenCo

All activities create value – some in financial and some in non-financial terms. An impactful activity is something that creates value beyond financial performance, including social impact, environmental impact and strategic importance to the national economy.

This section, brings out the value that GreenCo has added to the companies, enabling their contribution to the National agenda on green and environmental sustainability.





Energy Efficiency

With a projected 4% annual growth rate of primary energy demand, contributed by a continually growing population and their ever-increasing energy demand, India is already sharing space with the World's leading energy consumers. India's efforts to conserve energy and enhance energy efficiency are underway, quite visibly demonstrated through various policies, missions and commitments.

The Electricity Act, 2003

was aimed at supporting the electricity industry by promoting competition, protecting the interest of consumers and supply of electricity to all areas, ensuring transparency for subsidy measures, and promoting environmental and climate benign policies.

The National Energy Policy, 2018 of India places its focus on four key areas:

energy access at affordable prices with 100% national electrification by 2022, improved national energy security and independence through reduced imports & diversified energy mix, greater sustainability, and support economic growth.

The Energy Conservation Act, 2001

laid out norms and codes for large consumers to adhere to. The formation of the Bureau of Energy Efficiency and its associated functions was an outcome of the Act.

The Energy Conservation Building Code, 2017

brought in minimum requirements for energy-efficient design and construction of buildings at a time when more than 70% of the country's built-up space is yet to be built.

“GreenCo encourages its companies to attain world class status in energy efficiency.

It defines characteristics of world class companies, with one of them stating that world class companies achieve and maintain *lowest specific energy consumption*.

GreenCo companies are attempting to *benchmark their performances*, process-wise, section-wise and department-wise – internally, within group companies, nationally and internationally. Companies efficiently frame *SEC reduction targets* to constantly enhance their energy performance, backed up by efficient *metering and monitoring systems* that will ensure sustenance of best performance.

GreenCo rated airports, namely, **Bengaluru, Mumbai and New Delhi** benchmark their energy performances with respect to each other in terms of energy consumed per passenger and energy consumed per square feet.

The ability to share best practices with each other, benchmark performances and enhance overall sector performance has led the **Indian Cement industry** emerge as the global leader in energy efficiency.



The **National Mission for Enhanced Energy Efficiency, 2009** aims at creating a conducive policy regime to strengthen the energy efficiency market. Of its four mechanisms, the **Perform, Achieve and Trade** scheme, a market-based mechanism designed to enhance efficiency in designated consumers, was quite successful in terms of achieving its objectives.

**Perform,
Achieve and
Trade**

**Market
Transformation
for Energy
Efficiency**

**Energy
Efficiency
Financing
Platform**

**Framework
for Energy
Efficient
Economic
Development**

GreenCo, with its intent of driving world class energy efficiency in its companies, requires companies to set clear *energy performance baselines* leading to *stretched targets* backed with an efficient *action plan* with clearly *allocated resources*. Companies are motivated to strengthen their performance year-on-year in comparison with their previous performances.

GreenCo's methodology of implementation has supported several GreenCo companies in meeting their PAT requirements, resulting into all of them having exceeded their PAT targets.

The **Market Transformation for Energy Efficiency** program brought in an accelerated shift to affordable, energy efficient appliances. The **Standards & Labeling** program was framed to assist consumers in making an informed choice by providing visible labels of the product's energy performance.

A requirement of GreenCo is to ensure adherence of companies to green procurement guidelines for all major purchases including capital goods. In this context, GreenCo has been creating a pull in the market for greener, energy efficient equipment.

GreenCo companies have been contributing to the increasing market requirement for energy efficient motors, BLDC fans, HVLS fans, LEDs, 5-star air conditioners, and others.

GreenCo companies are encouraged to constantly monitor equipment wise efficiency with respect to the equipment's rated efficiency and also the best available efficiency in the market. It guides companies in bridging the existing gap in efficiencies and also indicates the time for replacement with energy efficient equipment.

Hero Moto Corp, Neemrana monitors its compressors' energy consumption real time for the units consumed per cfm.

Several other policies and schemes, nation-wide, state-wise and industry-specific are constantly implemented.



Renewable Energy

Increase in the use of renewable energy in the country has been an impressive success story in the last decade. A capacity addition of **80046.73 MW_p grid-interactive power** and **1259.00 MW_{EQ} captive power** (as of May 31, 2019) has been achieved from renewable sources namely solar, wind, small hydro, and biomass. With an aspiring target of 227 GW renewable energy by 2022, the trend is expected to continue, at even faster rates. India, through its several commitments and policies, has been re-emphasizing its urge to move towards renewable energy sources.

The **National Solar Mission** targets to attain 100 GW grid-connected solar power by 2022.

The **National Policy on Biofuels, 2018** puts forward mechanisms to encourage the use of first, second and third generation biofuels including bioethanol, biodiesel, ethanol, municipal solid waste and others.

The **Electricity (Amendment) Act, 2018** has an inclusion of renewable energy sources mentioning introduction of renewable energy service companies and implementation of renewable purchase & generation obligations.

The **International Solar Alliance, 2015** is aimed at ramping up solar energy, thereby helping to bend the global greenhouse emissions curve.

India's **Nationally Determined Contribution** commits to achieve 40% installed capacity from non-fossil fuel-based energy resources by 2030.

Globally, the commitment to ensure access to affordable, reliable, sustainable and modern energy for all, is demonstrated through **Goal 7: Affordable and Clean Energy of the Sustainable Development Goals.**

All policies and commitments are channeled towards scaling up alternate, renewable forms of energy by enhancing capacities, reducing cost of finance and technology for the competitive use of renewable energy and supporting growth of innovative business models.

“ GreenCo’s intent in renewable energy is to encourage companies to focus on long-term energy security by maximizing their share of renewable energy generation and utilization.

GreenCo companies have reported a capacity addition of approximately 751 MW.

Companies have also stretched their targets to attain the status of *net-zero energy buildings* through renewable energy.

Honda Motor Cycle, Narsapura, a GreenCo Platinum rated facility, currently operates on ~90% *renewable energy* for its electrical energy requirements. **Integral Coach Factory, Perambur**, a GreenCo gold rated facility operates on 95% *wind energy*.

GreenCo, through several national and international programs has facilitated implementation of projects and *channeled funds* to GreenCo companies, with a **special focus on SMEs**.

GreenCo, along with Asian Cleantech MSME Financing Network and SIDBI has facilitated implementation of ~50 kW solar energy system in **Nahar Paper Mills, Baddi**, a GreenCo Platinum rated SME unit.

Innovative business models have been emerging in the market to enable companies implement renewable energy systems without an immediate, huge financial burden for the organization.

Brakes India Limited, Chennai, a GreenCo Platinum rated company, utilizes solar energy through the group captive scheme in India. The system, owned 30% by Brakes India and 70% by a service provider, features advanced trackers and high efficiency solar panels, generating more than 14 million units of electricity a year, offsetting more than 6% of Brakes India's electricity use.



Delhi International Airport Limited has installed a 7.84 MW solar plant at its airside, with special designs adopted to enable placement of solar panels beside the runway. The model project has been replicated across several other airport facilities in India. With the current system contributing to 11,407 tCO₂e emission reduction per year, DIAL targets to expand its capacity to 20 MW by 2020.



Banglore International Airport Limited and **Mumbai International Airport Limited** have installed on-site renewable energy systems of 2.8 MW and 3.4 MW respectively.



Modern Coach Factory, Raebareli, has an onsite solar park of 3 MW capacity and with another 7 MW addition in progress. **SRG Spinning Mills, Tirupur** has substituted 100% of its energy requirements with wind energy.



The GreenCo rating system has also been adopted by renewable energy parks. GreenCo's renewable energy parks, namely **Zuvan Solar Energy, Kurnool, Animala Wind power, Kadapa** and **AMR Hydro Power** have been rated under GreenCo. Zuvan Solar park monitors the efficiencies of its solar panels based on condition monitoring in addition to time-based monitoring that has led to an overall increase in its generation efficiencies.





Climate Change

India's total annual GHG emissions have increased from 1,884.3 million tonnes (Mt) of CO₂e in 2010 to 2,306.3 Mt of CO₂e in 2014¹, with the energy sector, industrial processes & product use, agriculture, and waste contributing to 73%, 8%, 16% and 3% respectively. India's commitments toward combating climate change has been globally recognized as promising and ambitious. India is indeed taking significant steps to achieve its targets, in certain cases, meeting its targets well before the projected timeline. As a result of India's proactive and sustained actions on climate change mitigation, the emission intensity of India's Gross Domestic Product (GDP) has reduced by 21% over the period of 2005 - 2014.

India's **Nationally Determined Contribution** to the UNFCCC puts forward India's role in strengthening the global response to the threat of climate change. *India has a target to reduce the emissions intensity of its GDP by 33 to 35% by 2030 from 2005 level.* Several other existing policies and commitments have been supporting the country progress toward achieving its targets.

National Action Plan on Climate Change, 2008 are directed at creating awareness on the threat posed by the climate change and propose steps to counter these changes. Looking back at the initial commitments, India has been a constant supporter in several global initiatives aimed at combating and mitigating climate change.

The **United Nations Framework Convention on Climate Change (UNFCCC)**, a Rio Convention, was adopted with the ultimate objective of stabilizing greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. It also served as an instrument that directed funds to climate change activities in developing countries.

The **Kyoto Protocol**, linked to the UNFCCC, was seen as an important step towards a truly global emission reduction regime with its three mechanisms -international emissions trading, clean development mechanism and joint implementation.

Globally, the commitment is also reflected through **Goal 13: Climate Action of the Sustainable Development Goals** that aim to take urgent action to combat climate change and its impacts and also to integrate climate change measures into national policies and strategies.

¹ India Second Biennial Update Report to the UNFCCC

“GreenCo’s intent for its companies is to aim at being carbon neutral in their long run.

The energy sector emissions contribute to 73% of the country’s total GHG emissions. With manufacturing contributing to 18.4% of the energy sector emissions and 8% to the industrial processes & product use, GreenCo companies are on the right track in supporting India achieve its GHG emission reduction.

GreenCo facilitates companies to *inventorize their emissions* as per the international protocol for GHG inventorization and devise *systems for continuous monitoring*. Companies have been stretching their boundaries and field of influence, to look *beyond direct GHG emissions*.

GreenCo companies, namely, **Mahindra and Mahindra, Zaheerabad, ITC Paper - Kovai and Bhadrachalam units, and Kirloskar Oil Engines Limited, Kagal** are carbon neutral.



Implementing GreenCo has also eased the Airport Carbon Accreditation process for **Bengaluru, Mumbai and New Delhi airports**, in which they have all achieved the neutrality level.

Companies, while aiming carbon neutrality, have offset GHG emissions through carbon sequestration projects and avoided GHG emissions through the use of renewable energy.

GreenCo companies have collectively reduced their GHG emissions by 1.75 Million Tonnes CO₂e and have specific targets to reduce emissions year on year.



Water Conservation

A soaring 1.34 billion people ('17) population and counting, an encouraging industry growth with a 29.1% share in the country's Gross Value Added ('18) and an agricultural economy with 17.1% share in the country's Gross Value Added ('18), India is fast-approaching a state of severe water stress, whose crises are noticed today. Studies state that, India is one of the top countries in reaching the most people with clean water, yet faces challenges with respect to droughts, reduced groundwater table levels, and increasing demand from users.

Through its several policies and missions, India demonstrates its focus on water-related aspects quite clearly and can be broadly listed as:

1. **Water conservation**
2. **Water use efficiency**
3. **Integrated water resources management**
4. **Prevention and control of water pollution**
5. **Restoration of water and water bodies**
6. **Monitoring and improvement in water quality**



Some of the policies that commit to the above objectives include the **National Water Mission, 2008**, **The Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003**, **Groundwater harvesting through Mahatma Gandhi National Rural Employment Guarantee Act, 2005**, the **Convention on protection and use of transboundary water courses and international lakes, 1992** and the **Guidelines for issuance of no objection certificate for ground water withdrawal, 2018**.

“ GreenCo leads companies with an intent of achieving water-positive status.

Companies work toward this objective through a step-by-step approach that generally starts with an *efficient metering* and monitoring system, leading to *stretched target* setting, followed by implementing *actions* alongside the principles of *reduce, reuse, recycle and recharge*.

GreenCo encourages companies to extend their water conservation efforts beyond their fence, owing to the fact that water is a shared resource and has to be conserved along with the society. GreenCo companies that aim to achieve water neutral / positive status have carried out this exercise efficiently enabling them attain their targets. Initiatives such as construction of check dams, water user groups, watershed management programs are commonly undertaken.

Water neutrality/positivity status is claimed by GreenCo companies such as **Godrej Appliances Division, Shirwal (1:1.28), Cummins Recon Pithampur and Phaltan (1:6.3 and 1:5), JK Tyres, Chennai (1:3), ITC Kovai (1:1.36), Honda, Narsapura (1:1), HPCL LPG Bottling division (1:1.318)** and many others.



Several companies including **TCL Jamshedpur, Mahindra, Zaheerabad, Godrej Appliances Division, Shirwal, ACC Cement, Honda Motorcycles, Rail wheel Factory, Kapurthala**, and others monitor their *ground water table levels and recharge efficiencies*. Companies have also extended their efforts in understanding the impact of rain water recharge within and beyond the fence through *hydrogeological studies*. The results of studies are used to further enhance collection and recharge structures.

Companies such as **ITC Kovai and Tata Steel** have carried out *water stress studies* using the WATSCAN tool to understand their watershed in terms of indicating pockets with high/low water percolation, water accumulation, water losses, identifying potential areas for recharge or storage structures, and take necessary actions.



Waste Management

Waste management is long-spoken of as a critical concern and industries have come a long way in generating and managing their waste. India, through its various policies and regulations has been driving systematic waste management in industries. GreenCo strongly emphasizes the implementation of the *waste management hierarchy* in its companies, which places its preference from the most-preferred to the least-preferred as *avoid, reduce, reuse, recycle, energy recovery and disposal*. GreenCo companies also have a target of achieving *zero-waste-to-landfill*. Several companies currently have less than 0.05% of their hazardous waste going to landfill and have clear action plans to bring it down to zero.

The Swachh Bharat Mission, 2014 was launched to accelerate efforts to achieve universal sanitation coverage and to bring in focus on safe sanitation. GreenCo encourages its companies to extend *environmental sustainability efforts beyond the fence*.

Several companies such as **Hindustan Petroleum Corporation Limited, Indian Railways, ACC Madukkarai** have adopted SBM as an initiative to meet those requirements by implementing activities in adjoining societies, villages, schools and others.



“GreenCo works with the principle of “beyond compliance” to ensure preparedness of industries to meet future, stringent requirements.

Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 regulate responsibilities for hazardous waste generators in terms of prevention, minimization, reuse, recycling, recovery, utilization, and safe disposal.

The **Solid Waste Management Rules, 2016** mandate clear segregation and separate storage of solid waste generated.

The latest **Plastic Waste Management (Amendment) Rules, 2018** place its emphases on efficient plastics waste recycling and extended producer responsibility for plastics.

The **E-Waste (Management) Rules, 2016** focus on extended producer responsibility with a target-based approach for producers to take back e-waste based on their sales volumes.

The **Batteries (Management and Handling) Amendment Rules, 2010** regulate responsibilities and ensures that used batteries are collected against new batteries sold.

Construction and Demolition Waste Management Rules, 2016 require responsible handling of waste resulting from construction, re-modeling, repair and demolition

Guidelines for Co-processing of Plastic Waste in Cement Kilns, 2017 encourages the disposal of hazardous waste to be co-processed as alternate fuel in cement kilns.

Tata Motors Limited has used nanotechnology for improving painting efficiency in its automobile paint booths, resulting in significant reduction in the hazardous paint sludge generation.

Hero Moto Corp, Neemrana has implemented a bell-painting system to reduce the generation of hazardous paint sludge.

Godrej Industries Limited has used the plasma gasification technology to handle its process-generated hazardous waste.

Delhi International Airport has a target to achieve zero plastics in its terminals by the end of 2019.

Nippon paint and Asian paint have devised strategies to take back certain percentage of their paint containers from the market and divert it toward responsible recycling.

E-Parisaraa is the first GreenCo rated e-waste recycler with good efforts in the four verticals of GreenCo for e-waste recyclers.

GreenCo companies have contributed significantly to the success of co-processing, as waste generators and also as waste users. **17 cement companies in India are GreenCo rated and more than 80 companies manage their hazardous waste through co-processing.**

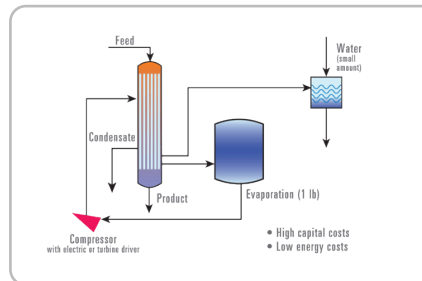
The provisions under **The Environment (Protection) Rules, 1986** specifies standards for emission or discharge of environmental pollutants and waste water generation along with the quantum. The **Guidelines for Online Continuous Monitoring System for Effluents, 2014** mandate highly polluting industries, CETPs, STPs, Waste incinerators, users of treated effluent for irrigation to install real time monitoring system at the outlet of ETP and to monitor the quality of treated effluent.

GreenCo allocates extra weightage to companies that operate as *zero liquid discharge facilities*. In addition, companies are encouraged to stretch to their maximum limits in *recycling and utilizing the treated effluent* back into their processes. Companies are also required to operate their own *sewage treatment plants* and substitute fresh water requirements for domestic purposes with treated sewage. Companies have identified *state-of-the-art technologies* for their treatment facilities to support with the objectives. In this process, companies have been able to reduce their fresh water consumption substantially.

Several units of **HPCL** have used the technique of *phytoremediation* to treat the waste water generated and use treated water for gardening.



Sundram Fasteners Limited, Madurai and **Titan Industries Limited, Hosur** have used the technology of *mechanical vapor recompression system* for the treatment of their industrial waste effluent with low energy cost.



Godrej Consumer Products Limited, Malanpur, to treat its effluent, has implemented *Aquatron*, which selectively removes dissolved solids and suspended solids, is efficient in removing heavy metals, salts and minerals and reduces BOD and COD up to 96%.



The Air (Prevention and Control of Pollution) Act, 1981, amended 1987 aims at prevention, control and abatement of air pollution by specifying standards for the quality of air.

The National Ambient Air Quality Standards, 2009 indicate levels of air quality necessary with an adequate margin of safety.

The Revised Guidelines for Continuous Emission Monitoring Systems, 2018 requires compliance with legislation, installation of CEMS for highly polluting industries, and suggests other industries to consider installation of CEMS system as a tool of self-regulation.

CPCB has introduced stringent norms for certain sectors such as cement, power plants, and several **GreenCo companies perform better by at least 20% over and above their legal requirements with respect to their stack emissions.** In addition to stack emissions monitoring, companies also carry out periodic monitoring of their *ambient emissions* and *work zone emissions* to ensure that they are maintained better than the minimum requirements.

Shree Cement Limited, Rajasthan has implemented *flue gas desulphurization* to ensure low sulphur dioxide emissions.

In addition to country-level requirements, India has also signed and ratified several international conventions. **The Basel Convention, 1989** on the control of transboundary movements of hazardous wastes (ratified by India in 1992), **the Rotterdam convention, 1998** on import and export of hazardous chemicals (ratified by India in 2005), **the Minamata convention, 2013** on mercury use and handling (ratified by India in 2018), **the Stockholm convention, 2001** on persistent organic pollutants (first 12 POPs ratified by India in 2006) are a few to name.

GreenCo, in its requirements, require companies to eliminate the use of hazardous substances in their processes and products, thereby ensuring adherence to all of the stated conventions.



Material Conservation, Recycling & Recyclability

Businesses have started to focus on circular models with a view to minimize use of natural resources and waste generation. Businesses with these models facilitate efficient manufacturing resulting in reduced environmental footprint. It is at this juncture that the role of aiding technologies and innovative operations assume importance. It is also critical for policy interventions at this stage that will enable faster and broader implementation of resource conservation principles.

India, at the policy level, has brought in a focus on material conservation and resource efficiency.

The latest **strategy paper on resource efficiency by Niti Aayog** was released with an objective to assess resource-related issues faced by India and advice the government on a comprehensive strategy for resource efficiency.

The **National Manufacturing Competitiveness Program, 2005** places emphasis on the development of MSMEs through lean manufacturing, technology upgradation, and quality enhancement.

The **National Manufacturing Policy, 2011** aims to increase manufacturing's contribution to GDP to 25% by 2022. Development of SMEs, implementation of industrial training and promotion of green manufacturing are key objectives of the NMP.



“ GreenCo’s intent in material conservation is to encourage companies focus on conservation of raw materials and natural resources.

Companies focus on three major aspects: their **raw materials, consumables and packaging material**. GreenCo companies focus on raw material conservation to reduce demand for virgin materials in two perspectives. On one hand, companies are *improving their internal performances to reduce raw material consumption* and on the other, they are *substituting raw materials with recycled materials or waste materials*.

Titan Industries Limited, Hosur, uses gold for plating its products in a vapourized system under vacuum. During the GreenCo process, Titan identified methods to enhance the gold recovery from vapour.

Kenna Metal, Bengaluru has implemented systems for material recovery such as tungsten-carbide recovery, cobalt recovery from sludge, etc.

Godrej Tooling Division, in the process of die manufacturing generates solid carbide scrap and in the process of electrical discharge machining generates graphite waste. The material that used to be sent as scrap earlier is now recycled without downgrading its properties, achieving significant material and cost savings.

GreenCo companies are constantly working to minimize consumption of packaging material and to increase the recycled content in the packaging material used for their products.

Several GreenCo companies have switched over to returnable packaging from one-time packaging, wherever possible. In the process, companies have also been able to reduce their logistics emissions, in addition to achieving resource savings.

Companies have also attempted to shift from expanded polystyrene (thermocol) based packaging to kraft paper-based biodegradable packaging, without affecting their product’s safety. **Hindustan Petroleum Corporation** has modified the design and weight of its lubricants’ bottles resulting in significant material and cost reduction.



Green Supply Chain

An organization's holistic green growth is also dependent on its supply chain's green performance. Transparency and accountability are essentials, that are demanded not just within the organization but also across the supply chain. While it is challenging, it is quite important, owing to the opportunities and risks the supply chain poses to any business. *Embedding sustainability in the supply chain is the key to creating a greener supply chain.*

India has an on-going program on **Sustainable Public Procurement (SPP)** with a task force functioning to review international best practices in the area of SPP, inventorize the current status of SPP in India across government organizations, prepare a draft sustainable procurement action plan and recommend an initial set of product/service categories where SPP can be implemented.

“ GreenCo's intent for its companies is to enhance the environmental efficiency of their supply chains.

GreenCo's focus areas for green supply chain include -





One of the most effective ways of addressing environmental problems is to focus on prevention of pollution at the source by greening of the purchasing function at the beginning of the supply chain. GreenCo's requirement on *green procurement guidelines* encourages its companies to identify, select and purchase of products or services with significantly less adverse environmental impact.

Several GreenCo companies including **Godrej and Boyce, Burckhardt Compression, ITC Paper Boards and Specialty Paper Division (PSPD), Valvoline Cummins** and many others have detailed procurement guidelines to support green procurement.



Transportation has a huge impact on the environment and GreenCo companies essentially include *impact of transportation* in the environmental analysis of their supply chain. Companies evaluate their logistics systems including the mode of transportation, sources of fuel, locations of suppliers, performance of logistics operators and others to enhance their logistics performance.

Kesoram Industries Limited, Vasavadatta Cement has a green transport policy that mandates good environmental performance of its logistics provider.

Cummins group of companies have switched over to suppliers in their closer proximity instead of imports, resulting in significant reduction in transportation emissions.

Airports rated under GreenCo, namely, **Bangalore, Delhi, and Mumbai** have moved onto using CNG and battery-operated vehicles instead of diesel-based vehicles. Companies are also replacing small, multiple vehicles with large, consolidated vehicles to reduce their logistics emissions.



Supplier engagement and efficiency improvement programs aims to help suppliers improve their environmental performance and reduce costs, thereby enabling the companies to improve business competitiveness and sustainability.

GreenCo companies have extended excellent support to their suppliers in creating awareness and building their capacities. Baselines have been framed for suppliers for those environmental areas that are critical to the suppliers such as energy, water, carbon and toxicity.

Godrej and Boyce group of companies have exhibited exemplary performance by bringing their suppliers onboard to implement the GreenCo rating system for SMEs.

52 of their supply chain partners are GreenCo rated with 4 of them having achieved GreenCo Platinum.

Other corporates such as **Tata Motors Limited, ITC PSPD, Hero MotoCorp**, are also engaging their suppliers in their GreenCo journey for a holistic environmental performance.

15 GreenCo companies have been constantly working with their suppliers on green improvement programs and more than 729 supply chain partners are implementing green initiatives.



Product Stewardship & Life Cycle Aspects

Internationally, several guidelines and regulations have been implemented to ensure safe and environment-friendly manufacture and use of products.

- The **Restriction of Hazardous Substances Directive, 2015/863** restricts the use of ten substances for those products that are placed in the European Union market. Owing to the effectiveness of the requirement, India has adopted the RoHS guidelines for many sectors and industries, including the MSMEs.
- The **Registration, Evaluation, Authorisation and Restriction of Chemicals, 2007** guidelines ensures that chemicals produced, imported, sold and used in the EU are safe by replacing substances of very high concern.
- The **Directive on End-of Life Vehicle 2000/53/EC** aim to prevent and limit waste from end-of-life vehicle (ELV) components and also ensures its reuse, recycle or recovery, wherever possible. It mandates a minimum of 95% by weight per vehicle to be reused and / or recycled.
- **Environment Product Declaration**, a life cycle assessment-based tool to communicate the environmental performance of a product, is an increasing trend in many sectors.

India has been aligning its focus in this direction, with the extended producer responsibilities of the E-Waste (Management) Rules, 2016 and Plastic Waste Management (Amendment) Rules, 2018 as its visible efforts.

GreenCo, since its inception, has been propagating the principles of product stewardship and life cycle assessment.

GreenCo companies that have adopted these principles are preparing themselves to meet *future regulations*. Product stewardship is being responsible for all phases of a product's lifecycle – from design to end of life and places the

primarily responsibility with the producer. To achieve this objective, life cycle assessment serves as an excellent tool which is the most comprehensive method to assess the *environmental impacts of a product, process or activity throughout its life cycle*.

From GreenCo perspective, product stewardship and life cycle assessment intend to address the following key areas



Product stewardship begins with the concept of design for environment that determines the product's environmental performance across its life cycle including production, use and disposal phases during its design stage. Design for environment involves certain changes made to the process and product to improve its environmental performance. Designing for recycle, reuse, re-manufacture, disassembly, energy efficiency, material efficiency, are a few micro concepts of design for environment.

Godrej group works with a target of having one third of its portfolio revenues from good and/or green products and services by 2020.

JK Tyre and Industries Limited, has been constantly working to improve the retreadability of tyres thereby extending its life, improving the rolling resistance to enhance the fuel efficiency, elimination of usage of petroleum products and so on. JK Tyres has also been selling services in terms of *sell-mile concept* instead of products. Old tyres are retreaded for further use.



Extended producer responsibility is a policy instrument introduced to extend the responsibility of producers for its products from a cradle to grave perspective. Introduced as a producer requirement, EPR has also helped producers reduce their product's environmental footprint, facilitating sustainable development.

GreenCo's requirements for EPR specifies companies to evaluate *systematic take back alternatives*. Take back programs eventually lead to efficient recycling and/or remanufacturing programs, resulting in significant material savings. This also leads to the case that secondary and tertiary use of products in the market with reduced efficiencies, can be potentially minimized and materials can be resourcefully upcycled.



Cummins India has set up two reconditioning facilities to take back used generators from the market, both nationally and internationally, remanufactures it and puts it back into the market.



ITC's recycled-based paper division in Kovai, which was initially dependent on import waste paper is now largely dependent on domestic waste paper. This has been achieved through its wellbeing -out-of-waste' program that collects waste papers from institutions and societies in South India.



Reliance Industries, Hoshiarpur, has set up a system that collects PET bottles to be upcycled and substituted as poly filament fibres.

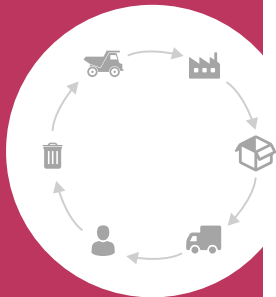


Godrej Industries Limited has set up a waste-plastics collection system in Andhra Pradesh to collect and recycle post-consumer plastics waste.



GreenCo companies are required to minimize and over a period of time *eliminate the hazardous and toxic substances used in their products and processes*. Redesigning products to avoid the presence of hazardous and toxic substances are opportunities that responsible businesses are tapping.

Godrej's furniture manufacturing division, Interio, strengthened their chemical management system, by working on a colour coding to indicate and phase out hazardous chemicals - green for safe chemicals, grey for potential chemicals that might have to be eliminated and black for internationally banned chemicals that needs to be completely eliminated.



Life cycle assessment helps companies determine *risks and environmental optimization potential* for a product/ process at each stage of the life cycle. It helps companies in making the right choice since LCA considers all the life cycle stages of a product. It also helps consumers in making the right choice among various alternatives available.

A more mature model of life cycle assessment is **environment product declaration (EPD)**. The overall goal of an EPD is to provide relevant, verified and comparable information about the environmental impact of a product. *CII GreenPro*, has been guiding environmentally conscious customers to make informed choices of their procurement and works to facilitate green product market transformation in India through product certification.

Several companies are looking at the GreenCo and GreenPro rating as environmental performance improvement tools for their processes and products respectively.

“ **49 GreenCo companies have carried out life cycle assessment studies for its products.** ”



Godrej Locks switched over from brass to lacquer-coated steel for its safe deposit locks as a result of their LCA study that stated material consumption and electricity consumption are the major environmental considerations in a lock's life cycle. The change resulted in significant material and cost savings for that business.



Several **cement companies** have carried out LCA studies for their cement products to market their products as environmentally-preferred products.



Nippon paint has launched their products in the market as greener products which has contributed quite well to their market share increase.



JK Tyre and Industries Limited carries out environment product labeling for its tyres indicating values of rolling resistance, wet grip and noise levels, thereby letting its customers make an informed choice.



Tata Motors Limited has been carrying out life cycle assessment studies to analyze the impact of the components used in their vehicles and identify alternate materials to minimize the overall environmental impact.



Biodiversity

India, through its several policies and acts emphasize the importance of preserving biodiversity. The **Forest (Conservation) Act, 1980** provides for the conservation of forests, its use, its felling and any other forest-related activities.

The Convention on Biological Diversity, 1992 was introduced with the goal of conservation of biological diversity and the sustainable use of its components.

The Biological Diversity Act, 2002 provides provisions for the preservation of biological diversity and mechanism for equitable sharing of benefits arising out of the use of traditional biological resources.

The **Green India Mission, 2015** aims at improving the quality of 5 million hectares of degraded forests and bringing 5 million hectares of non-forest areas under forest cover in 10 years, improve eco-system services such as carbon sequestration, hydrological services and biodiversity.

India's Nationally Determined Contribution commits to create an additional carbon sink of 2.5 to 3 billion tonnes of carbon dioxide through additional tree cover.

GreenCo companies are motivated to maintain 20% additional landscape cover with respect to their mandatory requirements. They focus on developing native & adoptive species in their premises, with a detailed inventory of the flora & fauna, focus on increasing high carbon sequestering species and create monitoring systems to estimate carbon sequestered.

Bangalore International Airport Limited, the first GreenCo rated facility, maintains a landscape cover over 85 acres with an impressive cover of 12,013 palms, succulents and trees, 161 varieties of flora, 123+ faunal species, uses organic manure and pest control techniques while providing the grandeur it offers.

Godrej Lawkim Motors Limited, Shirwal, a GreenCo Platinum rated facility, nurtures unique plant life of the Western Ghats, with a special emphasis on medicinal plants, through research and the use of local community knowledge on medicinal uses of plant species. Afforestation on 250 acres land is just one of the benefits of the initiative.



GreenCo & SDGs

The **United Nations Sustainable Development Goals (SDGs)** are a universal set of 17 Goals and 169 targets to guide actions for greater achievement of human wellbeing by 2030, evolved from the Millennium Development Goals. The goals and targets, range across aspects of social, economic and environmental well-being of humanity.

This section, draws out GreenCo's alignment with the environment-specific SDGs.



GreenCo's objectives are in line with the objectives of the Sustainable Development Goals with all GreenCo companies taking actions in all environment-related aspects of SDGs. The impact made by GreenCo companies is certainly a huge contributor to the Sustainable Development Goals and its targets.



GreenCo in micro, small and medium enterprises

Micro, Small and Medium Enterprises (MSMEs) has the capacity to drive economic growth and development at regional, national and global levels. The MSME sector in India continues to demonstrate remarkable resilience in the face of global and domestic economic circumstances. According to the estimates of the Ministry of MSME, Government of India, the sector generates around 100 million jobs through over 46 million units situated throughout the geographical expanse of the country.

With their immense contribution to the nation's GDP and exports output, it is easy to comprehend the salience of the role they play in social and economic restructuring of the country. In the last five years, MSME sector has exhibited a growth rate of 13% on an average, an impressive performance compared to most of the other manufacturing sectors.

While several large-scale industries have taken major steps in greening their processes, it is also essential for large companies to extend their initiatives down their supply chain, which is generally composed of micro, small and medium enterprises.

A green company focuses not just within its manufacturing boundary, but also across its value chain. It not just adds to the bottom-line improvement for the large company and the MSME, but also mitigates potential risks that could arise from under-performing supply chain partners.



100 million jobs
through over
46 million units

There is also an urgent need for the Indian MSME sector to initiate environmental sustainability efforts, for which the GreenCo Rating System is one of the best available tools to adopt. **GreenCo facilitates MSMEs improve performances beyond just compliance.** The GreenCo rating for SMEs is kept simple and also all-inclusive in order to facilitate MSMEs to improve their overall environmental performance.

GreenCo rated SMEs go beyond minimum requirements to improve their overall performance. **Atharva Poly Pack Private Limited** has established energy scorecards for its injection moulding machines to not just monitor efficiencies but also establish and encourage accountability amongst its employees.

Shree Ashtavinayak Glass Private Limited, Khandala is one of the very few SMEs to have extended sustainability efforts beyond its fence. The SME has adopted two schools in nearby villages and has also adopted a nearby village to implement the projects. Some of the green initiatives in its model village Salav, include, use of biogas for cooking purposes, solar lamps, rain water harvesting systems and recharge structures, among others.

Vishwadeep Pressparts Private Limited, Pune, a presspart manufacturer, set up a portable biogas plant to utilize the waste generated within their facility. During their course of GreenCo implementation, the SME has converted the system into a commercial product and now promotes portable biogas plant of varying capacities.





Khutale Engineering Private Limited, Satara has been an inspiring GreenCo SME rated unit. As a strong believer of implementing green practices, Khutale Engineering has been a local torch bearer of green initiatives. The SME has taken several steps to promote green manufacturing in industries located in and around Satara through prevailing associations.



Radhe Industries Limited has innovated its processes by introducing low-cost automation technologies and has implemented Single-Minute Exchange of Die (SMED) concepts to improve Overall Equipment Effectiveness (OEE).



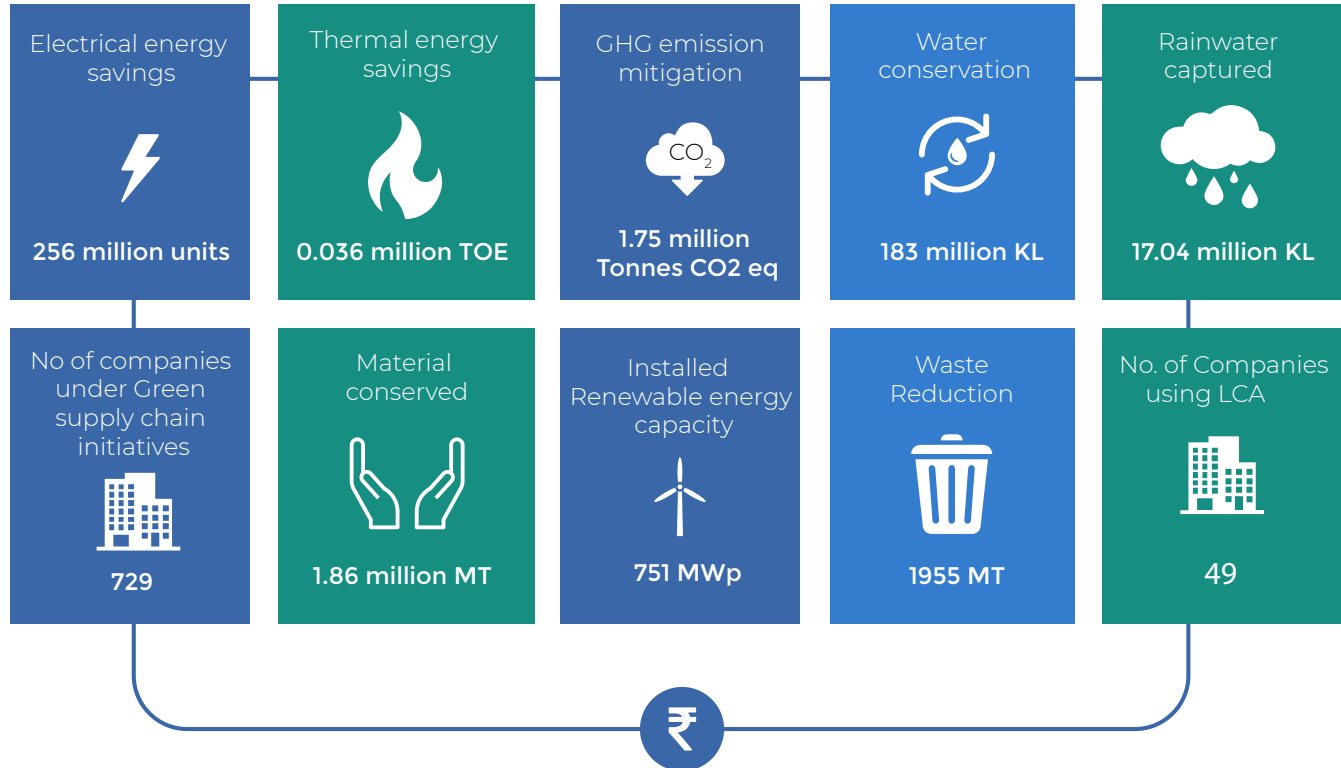
Syndicate Impex Limited, Tirupur, a garment manufacturer, has launched a recycled-yarn based garment that consumes reduced water, nil fertilizers, reduced chemicals, less carbon footprint and eliminated waste going to landfill, in comparison with a normal garment.

Not just for large industries, GreenCo has been driving benefits, both tangible and intangible for the MSMEs. Strengthening existing business opportunities with customers, opening new paths for businesses, innovating in manufacturing processes, marketing products and processes as green and many more.



GreenCo Benefits

The benefits of the GreenCo Rating system are clearly visible, witnessed by companies, quantified and shared, thereby proving 'Green makes business sense'



Cumulative annual recurring savings by GreenCo companies

Rs 1257 Crores (173 million USD)

Special Feature

Staying relevant

Staying relevant is the key and identifying business trends is an absolute requirement to be so. Trends may seem to change so quickly, however, is an important parameter in sustaining and developing businesses. Catching up on emerging trends will be of great advantage while making business goals and strategies.

This section is an exhibit of the most common green trends exhibited in GreenCo companies, enabling them to stay relevant.



Trend 1

Sustainability Goals Integrated with Business Goals

As sustainability moves up in the priority list of businesses, working on sustainability goals will give businesses the much-needed sustained growth. In essence, **sustainability and business goals need integration** - an important trend to watch out to while staying relevant.

Integration

Business goals and sustainability goals cannot operate as stand-alone components of a strategy. While doing so, each of the components, is made more vulnerable to failure, with the latter being affected the most.

Realizing the importance, organizations have started integrating the two components.

Sustainability, contributing to business sense, has also been a reason why organizations have pursued the integration.

Godrej, as part of its Good & Green vision, is committed to creating a more employable workforce, building a Greener India and innovating for good and green products, by the year 2020. For Godrej, **green is a corporate strategy** and businesses revolve around it. Environmental sustainability is a key part of the manufacturing processes and value chains across businesses. Carbon neutrality, water positivity, zero waste to landfill, increase in use of renewable energy are a few of their green goals.



The commitment of Tata Group toward sustainable development is rooted back to its origin with the principle of developing businesses with social and environmental consciousness. Tata Motors Limited, in line with its corporate commitments, has contributed positively to the environment through several green aspects, also supported by GreenCo. TML, across its facilities, use **GreenCo as a performance improvement system**, thereby setting and beating their own benchmarks.

Sustainability efforts pay off when worked together. A committed top management and its dedicated team are two sides of a coin. Several organizations, including ITC, PSPD, through GreenCo, have demonstrated that **total employee involvement** has been one of the prime motivators in accomplishing sustainability goals. Human resources combined with **upfront financial resources** contribute significantly to establishing sustainability practices.

Trend 2

Beyond Compliance

Compliance is critical. However, sticking to just compliance is not sufficient to stay relevant.

Organizations have started to focus on creating more value by not just meeting compliance, but by going **beyond compliance** – a trend to pursue immediately.

Beyond Compliance

While some organizations view compliance as risk mitigators, GreenCo companies use it to their competitive advantage. Gone are those days when compliance was looked at as a liability with unjustified returns. GreenCo companies have been making business sense by staying way beyond compliance.

Rain water harvesting systems within the companies is a compliance requirement by many state pollution control boards. GreenCo companies have **extended initiatives on water conservation beyond the fence**, striking the necessity to co-exist with the society for a shared resource. GreenCo companies have achieved water positivity in the ratio ranging from 1:1 up to 1:6.



Ensuring the disposal of hazardous and non-hazardous waste generated in the facility to authorized waste recyclers is a compliance requirement. GreenCo companies have progressed in the aspect of waste management and are achieving **zero waste to landfill** status. Hero MotoCorp, Neemrana does not send any of its waste to landfills and is certified as a zero waste to landfill facility.

While the Indian government has National targets on greenhouse gases emission reduction, it is not a compliance requirement for industries yet. GreenCo companies have strategies, targets and defined action plan to reduce their GHG emissions. **Carbon neutrality** is an ambitious target that many GreenCo companies are working to achieve. GreenCo rated facilities as a part of ITC, Paperboard and Specialty Paper Division have achieved carbon neutral status with a third-party validation.

Trend 3

Transparency in Supply Chain

Transparency in business is the new trend. Every stakeholder demands transparency. GreenCo companies are acting responsibly by bringing **transparency in supply chains** – a trend that will continue to support organizations in staying relevant.

Transparency

Responsible supply chains involve greater transparency. GreenCo companies have moved over from auditing their supply chain partners to closely collaborating with them in enhancing their overall environmental performance. Companies have also identified new business models arising out of these collaborations. The relationships built tend to last longer.

GreenCo companies identify critical suppliers, with criticality also addressing environmental risks in addition to business risks. **Working with critical suppliers**, supporting with the development of baseline for suppliers, and facilitating continuous improvement in their environmental performance is a part of the green supply chain strategy of many GreenCo companies.

One of the most effective ways of addressing environmental problems is to focus on prevention of pollution at the source by greening of the purchasing function. **Green procurement**, supported with its guidelines and implementation methodology, precisely addresses this growing trend in GreenCo companies. Green procurement guidelines are generally applicable to purchase groups such as capital goods, raw materials, consumables, packing materials, building materials and office products.

Enhanced transparency in the supply chain has led to benefits for suppliers and their customers. GreenCo is used as a **selection criterion** when organizations identify and shortlist their suppliers. GreenCo rated companies, as suppliers to larger organizations, are able to strike attractive business opportunities in the process.

Outperforming Demands

Not just large organizations, medium and small players are also stepping up to enhance their environmental performance. While bottom line improvement can be a reason, increasing stakeholder demand is a major motivation for organizations to focus on green.

Stakeholders demand transparency in environmental performance of companies. Green Co companies such as Godrej Locks, Interio and Appliances, Tata Motors, Mahindra Vehicles, JSW, My Home, Vasavadatta & Zuari Cements have focused on carrying out **life cycle assessment studies** of major products. Companies have identified their hot spots and further enhanced their environmental performance by addressing these hot spots. The findings from LCA studies are also used in the environment product declaration of the product.

Extended producer responsibility has been imposed as compliance for a few sectors. However, GreenCo companies are taking that step quicker than their counterparts and compliances, through effective **product take back and recycling** programs. Cummins Reconditioning divisions, Reliance Hoshiarpur, Godrej Industries Limited are instances of EPR done right.

While environmental performance improvement is the primary objective of GreenCo companies, they also look at GreenCo as a **tool for green marketing / branding**. Organizations demonstrate outstanding green performances and use that as a differentiating factor from their peers and competitors. Textile units in the Tirupur and Erode cluster have been implementing GreenCo as a green branding tool, to reach out to their environment- conscious export market.





Partnerships

The common denominator of any movement lies in harnessing the collective strength and energy of all stakeholders. Shared goals and like-minded people are its critical success elements. To recognize the importance of the cause, to demonstrate willingness to excel and to take lead in the implementation have been the movement's contributors.

This section is a magnificent illustration of the **partnerships motivated by GreenCo.**



Take-Make-Use-“Upcycle”

Moving businesses toward a circular growth model from a linear model is an important change to be embraced. Doing so, offers businesses, attractive advantages in terms of raw material consumption reduction, competitiveness, resilience, and profitability. GreenCo has been encouraging its companies to capitalize on the time being opportune.

Businesses have outlined the implications of a circular model on its growth.

Tata Motors Limited, a pioneer in various automobile trends, has also been a forerunner in implementing GreenCo across its seven units. Working on raw material use efficiency, directly impacts the bottom line of businesses in addition to offering several environmental benefits. TML has charted out an action plan to actively manage materials from its *end-of-life vehicles*, through an enhanced recycling process, that will put recycled plastics from car bumpers back into new car bumpers. The recycling process, piloted with Banyan Nation, a formal plastic recycler, demonstrates that upcycling of plastics will better retain its technical and economic value, to be used in new cars. TML is *re-working on its design* specifications to support upcycling at the car's end-of-life.

This collaboration, facilitated by GreenCo, is an excellent case of closed loop recycling.



Green Cooperation

Relationships in business work to benefit the involved parties; marginally or immensely, either way, leading to overall business growth. GreenCo companies have explored extending cooperation with businesses in the process of becoming green. GreenCo, through its several forums share best practices for its replication.

A green cooperation evolved in the process.

Khutale Engineering Private Limited, Satara manufactures sheet metal components. Khutale Engineering has been supplying sheet metal components and sub- assemblies to Godrej and Boyce group of companies. The GreenCo rated facilities of **Godrej and Boyce**, in their efforts to green their supply chain, guided Khutale Engineering in implementing the GreenCo Rating System for Small and Medium Enterprises. Khutale Engineering bagged the prestigious GreenCo Platinum.

As a practice, the GreenCo e-group shared the best practices of Khutale Engineering amongst its subscribers. One of its subscribers, **Lucas TVS Limited**, also a GreenCo rated company, has enrolled Khutale Engineering as its supplier for its sheet metal component supplies.

A GreenCo rated company enrolls another GreenCo rated company as its supplier, leading to a greener value chain.



One's Waste, Another's Fuel

Years ago, when industries did not have an option of sustainable disposal of hazardous waste, securing waste in landfill was the go-to solution. Later, CPCB, permitted co-processing of hazardous waste in cement kilns, owing to its environmental advantages including zero toxic emission and residue. **GreenCo motivates companies to work toward attaining zero-waste-to-landfill status.** GreenCo companies are exploring sustainable methods to handle their waste.

The production facilities and workshops of Indian Railways are attempting to enhance their environmental performance through implementing GreenCo. Railway workshops focus on overhauling of locomotives, engines and wagons, thereby resulting in the generation of different types of waste.

While effective waste handling method was available for some of them, zero-value waste including rexin seat covers, combustible waste, etc. was stored within the facility for a long time. During GreenCo implementation, Indian Railways teams across various facilities, identified the option of disposing the zero-value waste in cement kilns. Workshops, namely, **Perambur Loco Works** and **Golden Rock, Trichy** are now disposing off ~600T of zero-value waste in **UltraTech Cement, Reddipalayam**, a GreenCo Gold company and **Mysuru Workshop** at **Vasavadatta Cement, Sedam**, a GreenCo Platinum company.



Preferential Supplier

Customers demanding **enhanced environmental performance from their suppliers** has been a trending practice lately. Reports across the world states that the business case for supply chain sustainability is growing appreciably.

Shree Ashtavinayak Glass Private Limited, Khandala (SAC), GreenCo SME Platinum rated, is a manufacturer of toughened glass, insulated glass, tinted glass, and others. **GlenDimplex UK**, manufacturer of consumer electrical goods, has a target of reducing its carbon footprint, for which it aimed at working with suppliers who will contribute to its emission reduction target.

Since most its supplies were imported and transport emissions are inevitable, GlenDimplex decided to focus on suppliers with a lesser environmental footprint. In its supplier evaluation criteria, 25% weightage was provided for environmental performance. With this stringent requirement, SAC outperformed its competitors from China and Turkey, to bag an order of 2.5 Million GBP with GlenDimplex and business with various other international buyers

- A GreenCo-motivated business case of a preferential supplier.



Green Clusters

The growth potential of clusters is linked to their conducive environment offering inclusive development. Clusters generally share similar backgrounds and hence replication of best practices tend to be easier.

GreenCo, through its general framework and its SME rating system, has been encouraging the **development of green clusters along with associations and other partners.**

GreenCo in textile industries in the Tirupur cluster is encouraged by local associations, namely, **Tirupur Exporters Association (TEA)** and **Indian Texpreneurs Federation (ITF)**. Various spinning, dyeing and garments units in the Tirupur cluster are in the process of implementing the GreenCo rating system. The **Indian Machine Tool Manufacturers & Association (IMTMA)** has committed to encourage its members to use GreenCo as an environmental performance improvement tool.

The **Rajasthan State Pollution Control Board (RSPCB)** has signed a Memorandum of Understanding with GreenCo, to encourage industrial clusters in Rajasthan to implement GreenCo to enhance their environmental performance. RSPCB has also committed attractive incentives to those industries implementing GreenCo.

GreenCo's Action Ahead





GreenCo Accredited Professional

GreenCo aims to enhance knowledge and build capacities of the industry to face global green standards. The GreenCo Accredited Professional program is aimed at encouraging continued learning and green skills development for industry professionals. The program is set to run all through the year encouraging more participation from the industry.

Revised versions of GreenCo Rating System

Considering the value-addition that the GreenCo rating system offers, it is required to continuously upgrade the rating requirements. This will ensure that the overall average goes up and companies will have to perform better to sustain the existing level of rating. To fulfil this intent, GreenCo will be upgraded at regular intervals with its revisions. The current version of the rating system is Version 3.

GreenCo Platinum Plus

GreenCo Platinum Plus is a challenging set of requirements that is exclusively designed for GreenCo Platinum rated companies. Platinum plus is introduced with an objective of motivating Platinum companies to maintain their world class status by continuously improving their environmental performance. With GreenCo Platinum as the minimum requirement, platinum plus poses several stringent requirements for GreenCo companies to meet.

GreenCo Facilitation

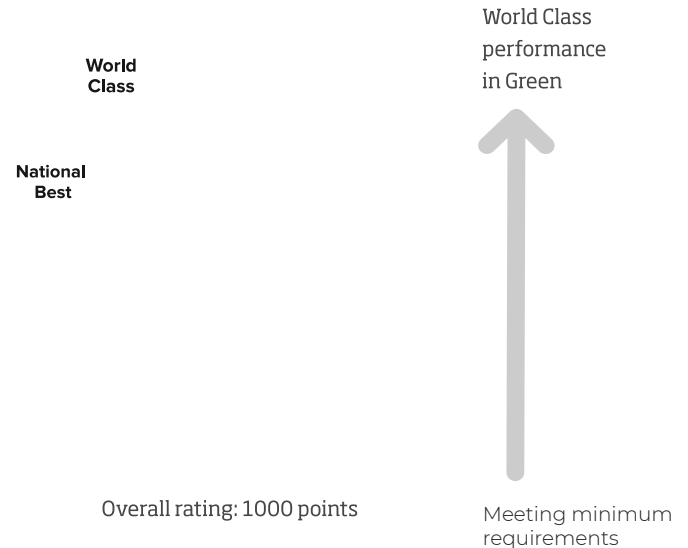
GreenCo, in its holistic nature, addresses all important aspects of environmental sustainability. Going ahead, with a target of 1000 companies by 2022, GreenCo will facilitate companies meet requirements such as green supply chain, zero-waste-to-landfill status, energy efficiency, water neutrality, carbon neutrality, life cycle assessment and extended producer responsibility. GreenCo companies will directly benefit out of the extended facilitation by GreenCo.

About GreenCo

CII Godrej GBC has developed the GreenCo rating system the “First of its kind in the world ” framework that provides guidance and leadership to organizations to trend the green path. The objective is to define and assess “How green is your company” and highlight the way forward to facilitate world class competitiveness through green strategies. The assesment provides significant value addition and direction to businesses to facilitate excellence in resource conservation, greener value chain, superior ecological performance and an enhanced corporate green ilmage. The framework adopts a cradle to cradle lifecycle approach, to evaluate the activities of the company on the ecological front.

The various performance parameters and levels of the rating system are as shown below

Parameters	Weightage (Points)
Energy Efficiency	150
Water Conservation	100
Renewable Energy	100
Greenhouse Gases Emissions	100
Waste Management	100
Material Conservation, Recycling and Recyclability	100
Green Supply Chain	100
Product Stewardship & Life Cycle Aspects	125
Innovation for Environment	50
Green Infrastructure & Ecology	75
Total	1000







SM

Greenenco



Confederation of Indian Industry

Confederation of Indian Industry

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CII_GreenCo Rating



CII_GreenCo



CII_GreenCo Rating

