

Circular Economy Practices

Godrej & Boyce Mfg. Co. Ltd.

Tejashree Joshi
Head – Environmental Sustainability
Godrej & Boyce Mfg. Co. Ltd.

Godrej & Boyce has

Diverse presence in **10 industries**

Presence in over 80 countries with USD **1.5 Bn** revenue annually

Over **14,000** employees



Organization

OUR BUSINESS UNITS

Godrej Aerospace



Godrej Process Equipment



Godrej Precision Engineering



Godrej Tooling



Godrej Construction



Godrej Electricals & Electronics



Godrej Material Handling



Godrej Storage Solutions



Godrej Lawkim Motors



Godrej Vending



Godrej Interio



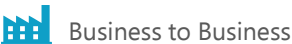
Godrej Appliances



Godrej Security Solutions



Godrej Locks & Architectural Fittings and Systems



Business to Business



Business to Customer



Business to Government

What drives us

PURPOSE

Pioneer Progress for Generations

VISION

Admired for sustainability practices, innovative solutions, and superior business performance.

MISSION

Unlock experiences that engage customers and build loyalty.

VALUES

Integrity, Trust, Respect,
Customer Centricity,
Entrepreneurship,
Environment Stewardship



Overview of our ESG Initiatives

ENVIRONMENT

- Biodiversity & Mangroves conservation
- Energy efficiency & productivity
- Water conservation & Stewardship
- Waste reduction and diversion
- Plastic use reduction & recycling
- Increasing Circularity
- Reducing carbon emissions
- Increasing carbon offset
- Generating higher revenue share from good & green products

SOCIAL

- Skill development for youth
- Diversity in workforce from across India
- Employee wellbeing and safety; beyond Godrej
- Transforming education
- Health & sanitation
- Water Harvesting & availability
- Afforestation & Environment Protection
- Community development
- Enhancing farmers' incomes
- Empowering women

GOVERNANCE

- An ecosystem approach to Governance
- Working with business partners to drive
 - Social, environmental and other regulatory compliance
 - Good governance practices
 - Undertaking social projects
 - Fair business practices
 - Business excellence framework to engage all stakeholders

PIONEERS in Environmental Sustainability

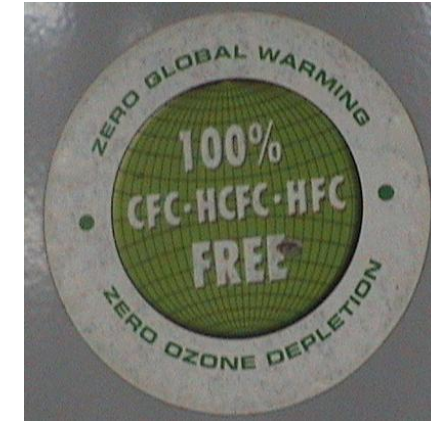
1st company in India to introduce Ozone Depletion Substance (ODS) free Refrigerators

1st company in the world to produce Air Conditioners with 'Zero' Ozone Depletion Potential (ODP) and minimal Global Warming Potential (GWP)

We set up 1st 'Platinum' rated Green Building in India, under the USGBC LEED Certification, the 'CII-Sohrabji Godrej Green Business Centre' in Hyderabad, which houses the Head Quarters of Indian GBC

We set up India's 1st 'Net Zero' Building under Indian Green Building Council (IGBC) Rating system, and we also partnered the World GBC to promote 'Net Zero' in the Asia-Pacific region

We set up 1st 'Recycled Concrete Blocks' plant, that used Construction debris as raw material that replaces



Godrej Climate Initiative Journey

2007 : One of the first companies to sign the ESG code



Reply Form

Please tick

I accept your invitation to be a signatory for CII - Code for Ecologically Sustainable Business Growth

I accept your invitation to be a participant in the MSG activities

I would like to know more about MSG

Name: MR. JAMSHYD N. GODREJ
 Designation: CHAIRMAN & MANAGING DIRECTOR
 Company: GODREJ & BOYCE MFG. CO. LTD.
 Address: FIROJI HANAGAR
VIKROLI, MUMBAI 400017
 City: MUMBAI
 TEL: +91-22-67963015/16
 Mobile: +91
 Fax: +91-22-67961555
 Email: jngodrej@godrej.com

Godrej Good Green

Beyond business: Building a more Inclusive and Greener India



Ensuring Employability

2 lacs

urban & rural youth trained
in skilled employment



Greener India

40%

Reduction in Energy & water
consumption

30%

Renewable Energy use

Carbon Neutrality

0 Waste to Landfill

+ve Water Balance



Good & Green Products

Have a third of our portfolio
revenues comprising of Good &
Green Products & Services

Community Development

6

States

8

Locations

24

Villages

Environmental Sustainability Focus Areas



Water Efficiency



Energy Efficiency



Renewable Energy Use



Material Use Efficiency &
Waste Reduction and Recycling



Carbon Neutrality



Biodiversity Conservation

Focus on Low Carbon Pathway



ENERGY CONSERVATION

Approach: Holistic Energy Management

Key Initiatives

- Use of Realtime Energy data analytics
- Enhancing operational efficiency of Air Compressors and centralized HVAC System
- Process efficiency improvement
- Use of low temperature process chemicals
- Efficient pumps, motors, hydraulic PP, Fan and Vacuum systems
- Efficient lighting



RENEWABLE ENERGY

Location: Vikhroli, Mohali, Shirwal, Chennai, Haridwar

Key Initiatives

- Switch from HSD / LDO / FO to PNG / clean fuel
- Rooftop Solar
- Solar Power Purchase Agreement (PPA)
- Agri-waste briquette-based Producer Gas plants

An infographic about water conservation. The background is a photograph of a wastewater treatment plant with concrete structures, railings, and a large circular tank. The title 'WATER CONSERVATION' is written in large white letters at the top. Below the title is a horizontal line. Underneath the line, the text 'Location: 23 Manufacturing plants' is displayed. Below that, the heading 'Key Initiatives' is followed by a bulleted list of seven initiatives. The right side of the image is darkened to provide a background for the text.

WATER CONSERVATION

Location: 23 Manufacturing plants

Key Initiatives

- Water Audit of process and utilities
- Use of low flow water efficient fixtures
- 100% Effluent treatment
- Zero liquid discharge
- Maximising utilization of Recycled water
- Use of Nature based treatment solutions
- Maximise harvesting of Rainwater



RAINWATER HARVESTING

Location: Vikhroli, Khalapur, Shirwal, Mohali,
Haridwar,
Madkai, Goa, Chennai

Key Initiatives

- Maximum catchment capacity
- Efficient Storm water management
- Assessing Impact
- Realtime ground water level monitoring
- Monitoring extraction
- Capture for substituting use
- Ground water recharge

WASTE REDUCION & RECYCLING

Approach: Zero Waste to Landfill

Key Initiatives

- Eliminating Toxic or Hazardous material use
- Minimising Hazardous waste generation
- Maximising material recovery, reuse
- Promoting waste upcycling and recycling
- Adopting Extended Producers Responsibility
- Product Stewardship
- Adopting Circularity Principles



The Impact



Waste Recycled
was equivalent
to **18675** stand-
ard
40ft containers



Renewable Energy
generated and used
would suffice
to power
2.02
Million homes
over a month



Wastewater
Recycled
& Rainwater
Harvested
would suffice the
need for
261.8 Million
persons
over a year

Certified Green Products



Godrej Appliances

Energy Efficient AC and Refrigerators
(BEE 4 / 5 Star & % Star Rated)
Environment friendly refrigerant



Godrej Interio

Green Certified Furniture
(GREENGUARD, BIFMA LEVEL, GRIHA, GREENPRO, INDOOR
ADVANTAGE)

Certified Green Products

Godrej Construction

Recycled
Concrete Block



Autoclaved
Aerated
Concrete
Blocks



Godrej Material Handling

Electric Forklifts



Godrej Lawkim Motors



Energy Efficient Induction Motors (IE3/IE4 Rated)

Certified Green Products

Godrej Electricals & Electronics



Industry 4.0 Ready



Users: Toyota Auto Parts, Philippines



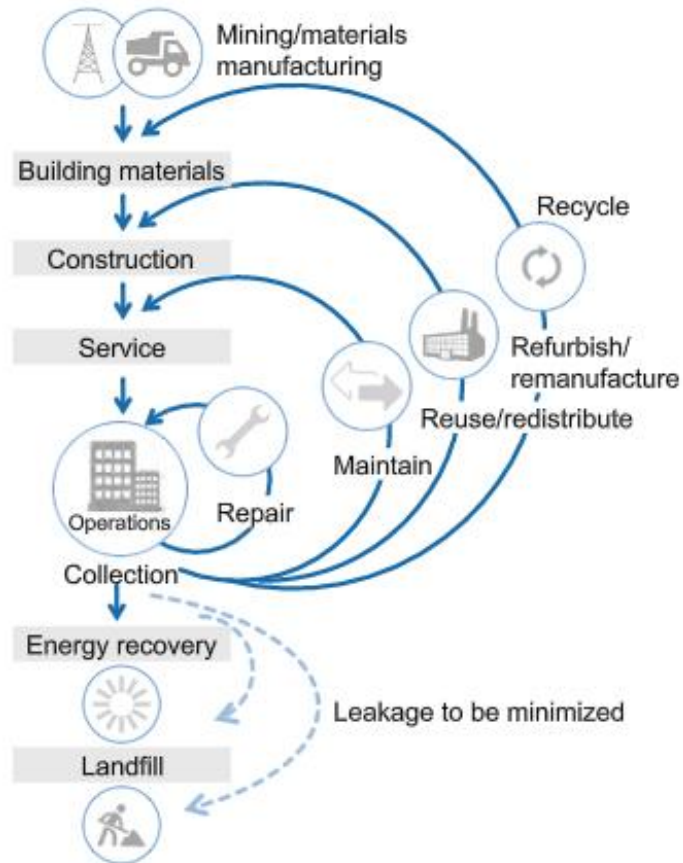
CIRCULARITY IN PRODUCTS & PROCESSES

GODREJ CONSTRUCTION



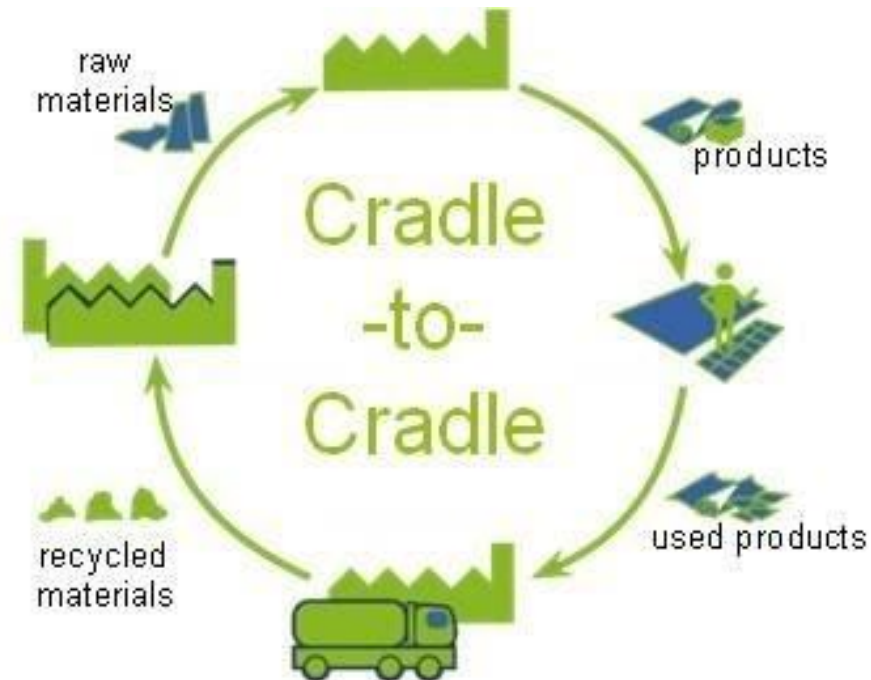
Circular Economy - Recycling Concrete Debris

Figure 14: Circular Economy Principles in the Construction Value Chain⁸⁰

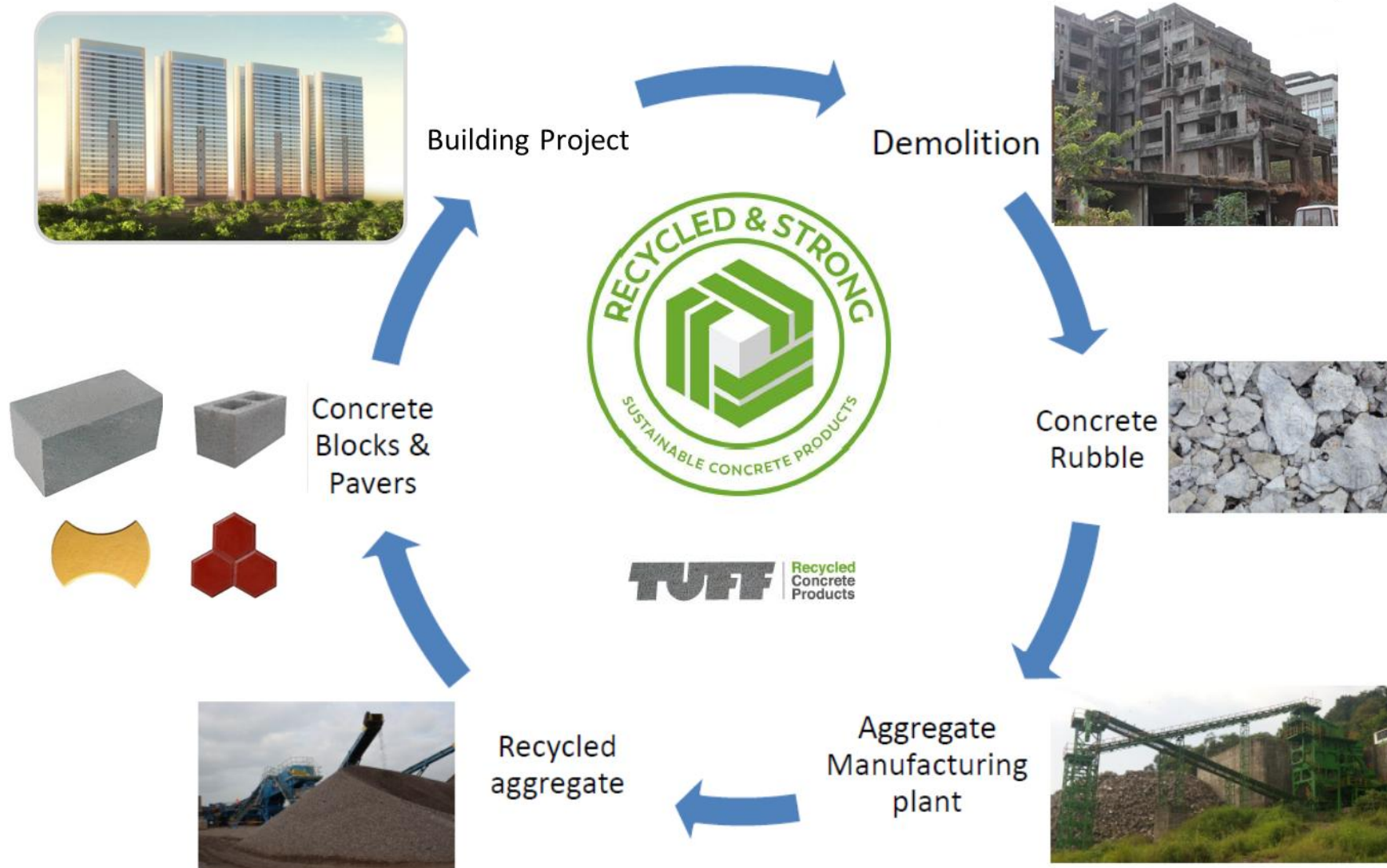


Source: Ellen MacArthur Foundation; World Economic Forum; The Boston Consulting Group

CIRCULAR ECONOMY PRINCIPLE: DESIGN PRINCIPLES TO BE CONSIDERED TO MAKE THE BUSINESS MODEL MORE SUSTAINABLE - LIFE CYCLE ASSESSMENT (LCA)



Recycling Concrete Debris



Recycling Concrete Debris

RCM Plant received Green Pro Certificate in Feb 2018



Recycling Concrete Debris



**GODREJ CONSTRUCTION HAS
ALREADY RECYCLED
28,000 MT
OF CONCRETE DEBRIS TILL DATE**

Recycling Concrete Debris



Precast Box Culverts for Storm Water Drainage for Mumbai Coastal Road Project – Pkg 1

Employer:



PMC:



General Consultant:



Recycling Concrete Debris

To **promote adoption of Circular Economy principles** in the Construction industry, we have developed **for the first time a very sustainable concrete mix design comprising of ~ 30% of Recycled Concrete Aggregates (RCA)**, sourced from concrete waste debris, recycled at the Godrej Recycled Concrete Plant, at Vikhroli, Mumbai



CIRCULARITY IN PRODUCTS & PROCESSES

GODREJ APPLIANCES



GREEN BALANCE

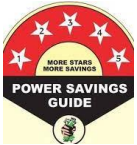


India's 1st to offer **100% CFC, HCFC, HFC** free refrigerators voluntarily in 2001



Pioneers of **R290 Refrigerant ACs**

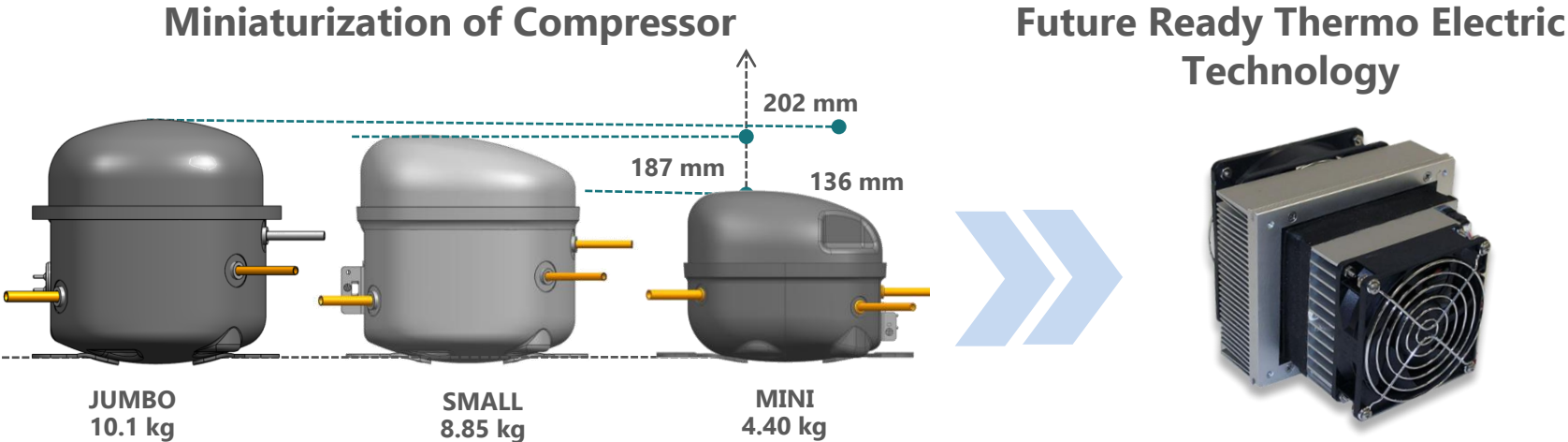
- 0 Ozone Depleting Potential
- Least Global Warming Potential
- Better energy efficiency, more than 12%



REFRIGERANT	TYPE	GWP
R-134 a	HFC	1,430
R-404A	HFC	3,922
R-410A	HFC	2,088
R-32	HFC	675
R-290	HC	3

R-600a HC 3

TECHNOLOGY EVOLUTION



56% Weight Reduction

33% Size Reduction

Refrigerant & Compressor Free Cooling

Global Cooling Prize Finalist

upto **5x**
LOWER
ENERGY



GREEN AIR CONDITIONING

FOR COOLER HOMES & A COOLER PLANET



Global **Cooling** Prize

Top 4 finalist

and the only Indian AC brand
in 2100+ contestants across the world

— Making India Proud —

GREEN OPERATIONS



99%

Recyclable Content for
Manufactured products



**Bio-Degradable HoneyComb
Green packaging**

1st in Indian LA industry



Supplier Cluster Program

60% Local Buy from GreenCo Suppliers
32 Green Co Rated Suppliers

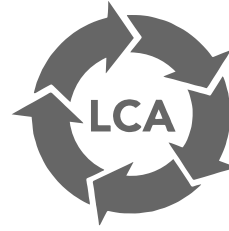
Good & Green Products



PRODUCT CERTIFICATION

340+

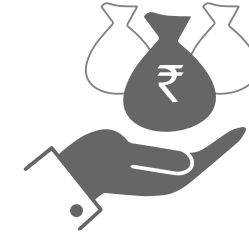
Products have external Green Products certification appropriate to the product line



LIFE CYCLE ANALYSIS

115+

Products have undergone comprehensive Life Cycle Assessment during design improving green quotient



REVENUE CONTRIBUTION

30%

Revenues(average) have been accrued from Good & Green Products

The Business Value

GREENER INDIA	
52%	Reduction on Specific Energy Use
59%	Reduction on Specific Water Use
106%	Water Positive (Since 2016-17)
51%	Hazardous waste reduction
99.8%	Waste diversion from landfill
16%	Renewable Energy Use
50%	Carbon Offset

THE VALUE GENERATED →

Indicator	Value
Revenue from Good & Green products	20,000+ Cr
Water recycled and rainwater harvested	12.9+Mn Cum
Waste recycle (diverted from Landfill)	491,180+MT
Renewable energy used	730,380+ GJ
Carbon sequestered in Mangroves	11 Lac+ TCO2e
Biodiversity hosted on campus	1600+ SPECIES

G&B FACILITATED GREEN BUILDINGS FOOTPRINTS	
600+	Green Building facilitated
300+	Million sq. ft impacted
300+	Gold & Platinum rated projects

G&B FACILITATED IMPACT	
553,000MWh/annum	Energy savings
135,000KL/annum	Water savings
470,000MT/annum	CO ₂ savings



Godrej | GODREJ & BOYCE

ESG: CREATING VALUE FOR ALL



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