

GODREJ AND BOYCE MFG CO LTD , INTERIO CHENNAI - JOURNEY ON “**GREENCO RATING**”



Presentation By:-

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Godrej & Boyce Mfg. Co. Ltd.



The Pioneering Company
of the Godrej Group, since
1897



Known for
Philanthropy and Labour
Reforms



Diversified portfolio across
Segments from Locks to
Rocket Engines



The only corporate house to
maintain 1,750 acres of
mangroves
Committed to conserve nature



Presence in India and abroad
with Branches in all key
geographies



Godrej Interio - SEZ Chennai

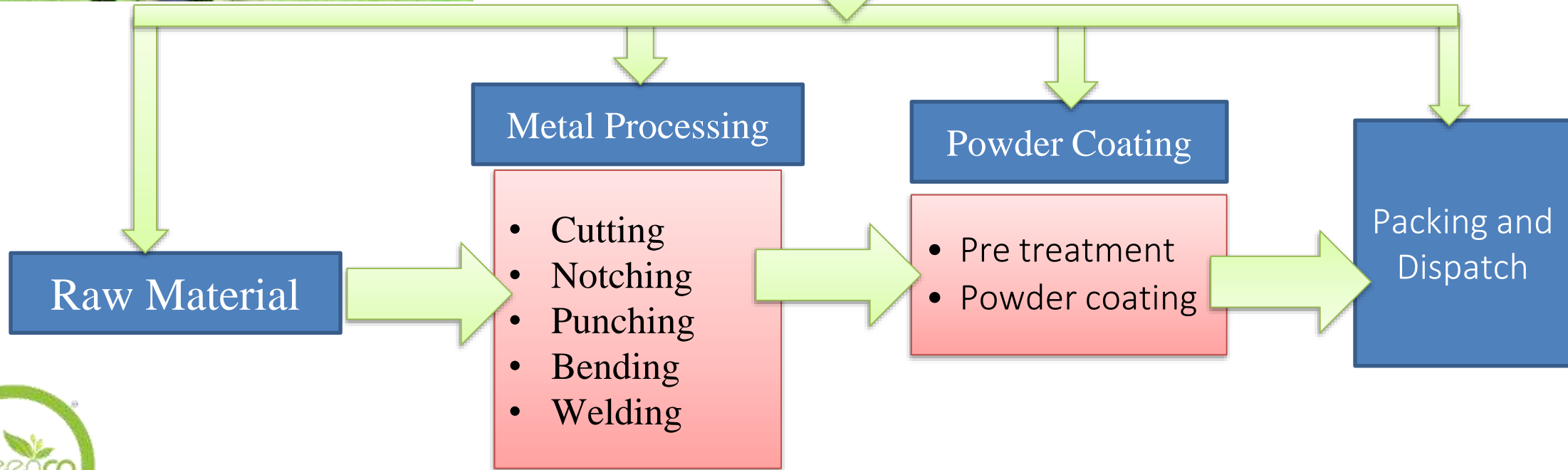


- The Factory is in operation since 1992
- Located in **Special Economic Zone**
- Manufacturers of customized **steel storage solutions**
- Have business partners in Australia, Canada, UK, Saudi Arabia, Caribbean Islands and Africa
- Our Plant is Built in **3.5 Acres** land

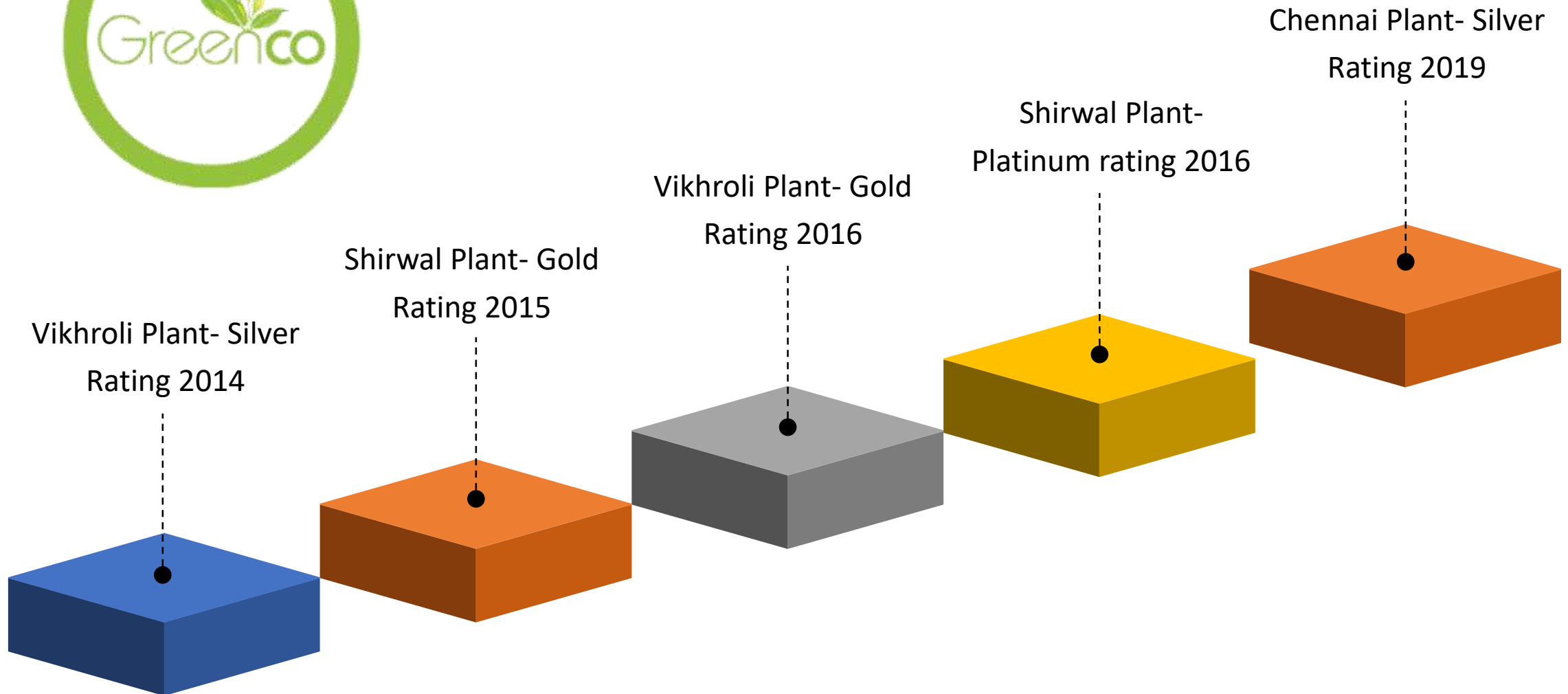
- **SEDEX IV pillar audited facility**
- **GreenCo Silver Rated**



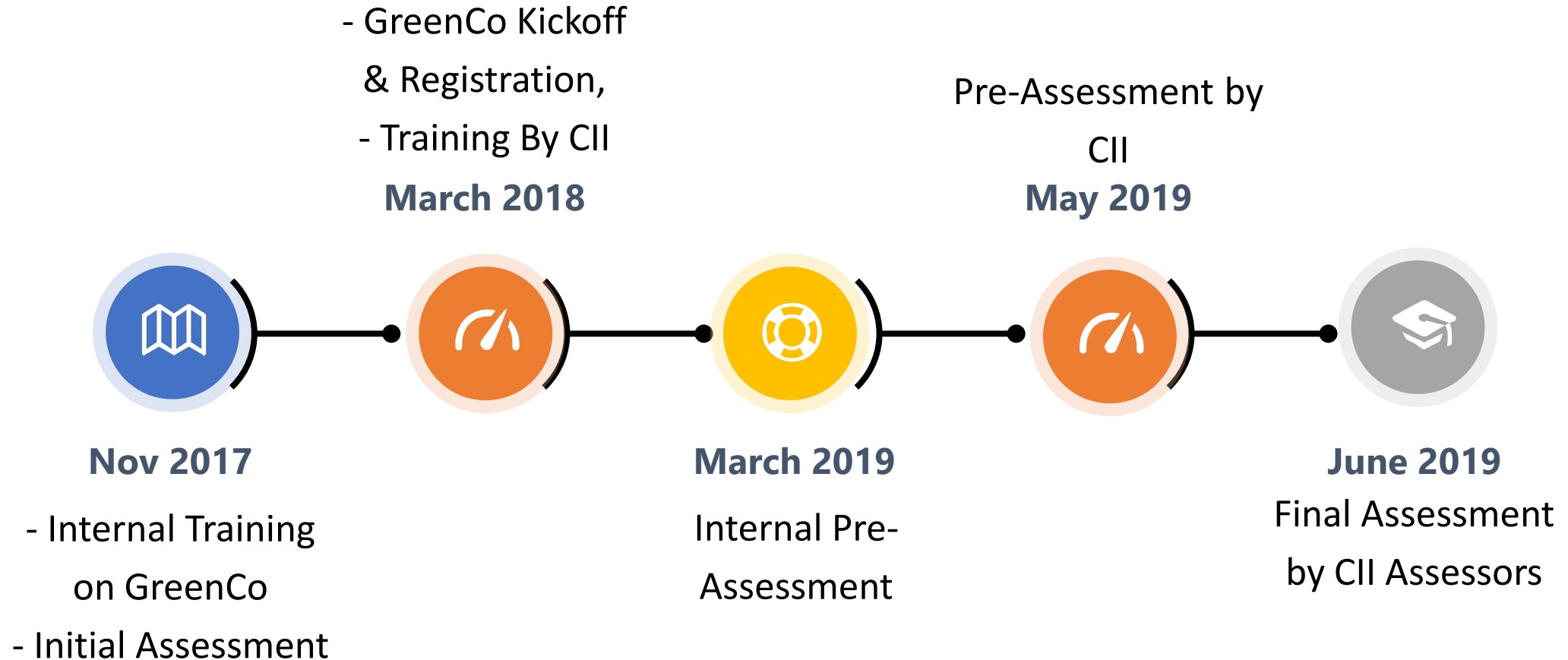
Process layout for Interio Chennai



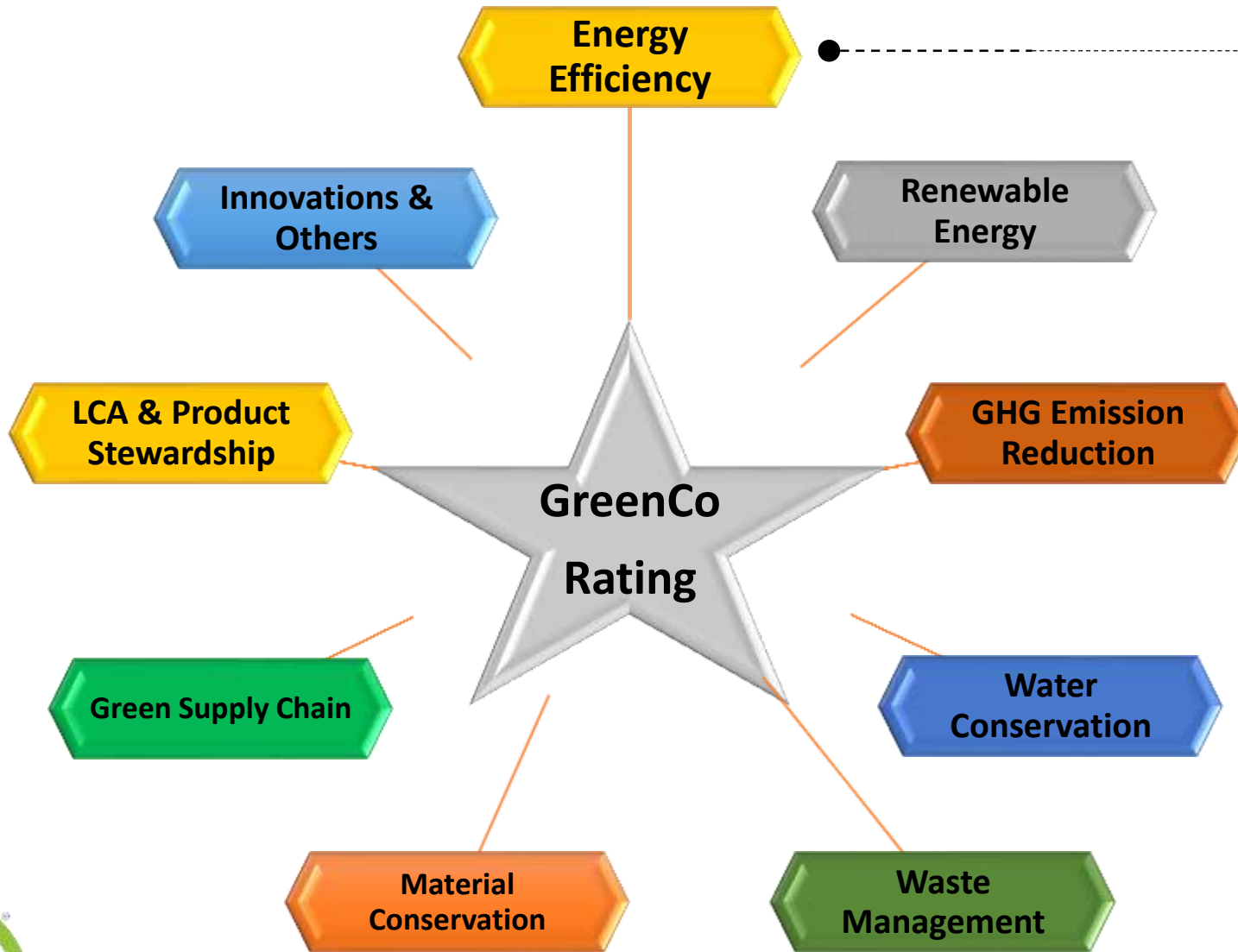
GreenCo @ Godrej Interio



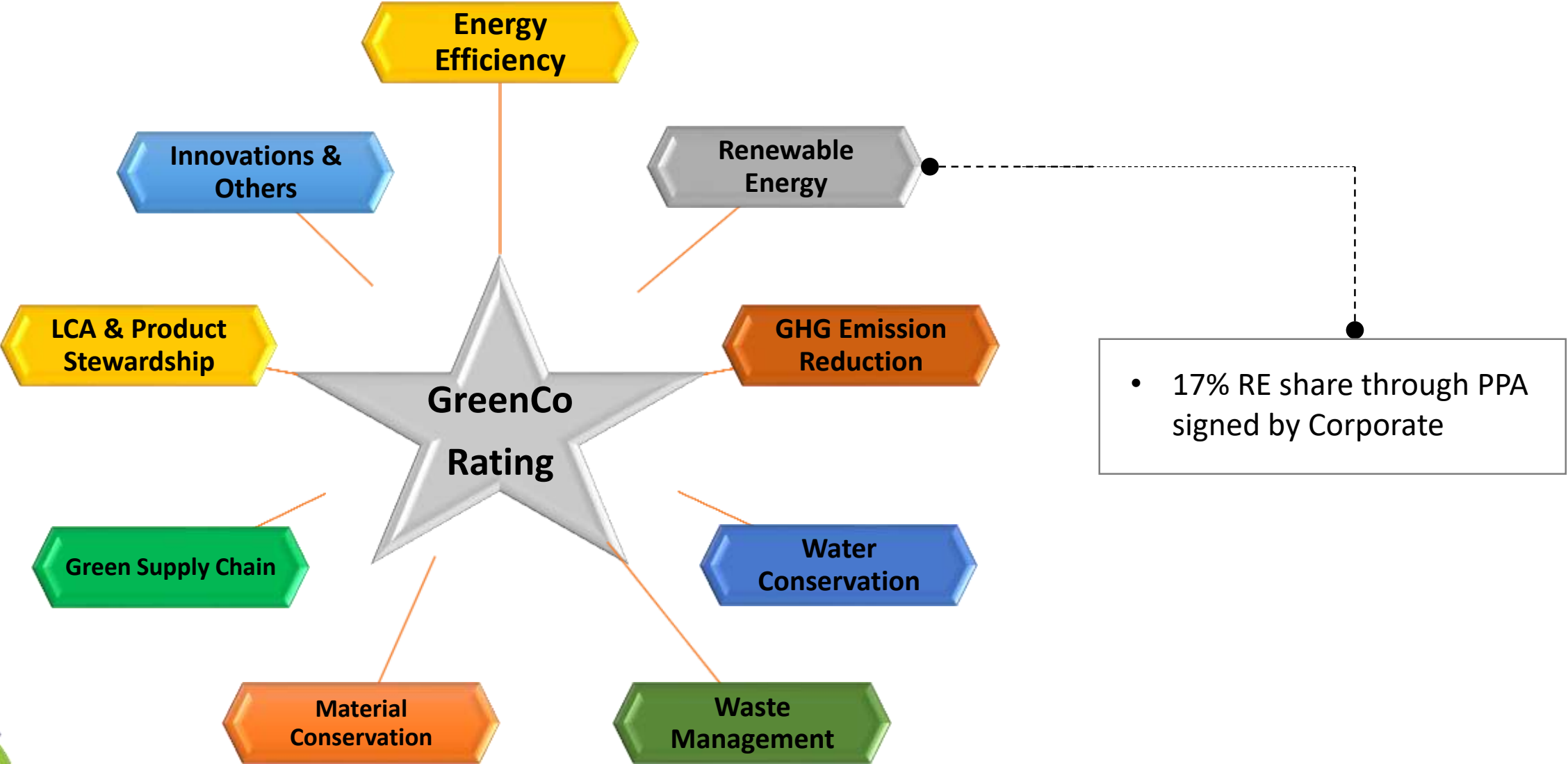
GreenCo Timeline at Chennai Plant-

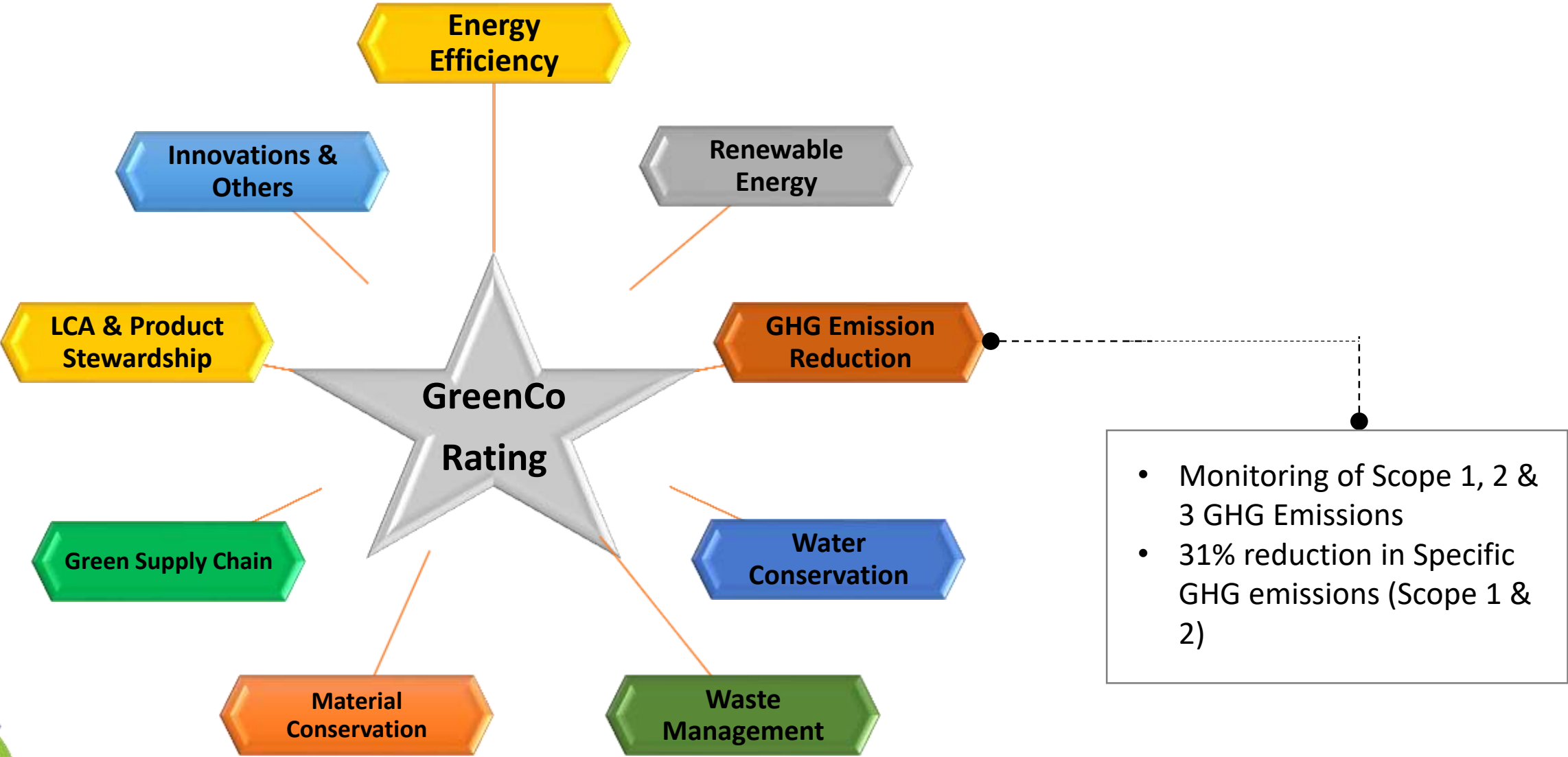


GreenCo Focus Areas



- 38% Reduction in SEC
- Online Energy Monitoring System
- Energy Scorecard implementation
- Domestic and International benchmarking with group companies







- Development of Water Balance
- 20% reduction in Sp. Water Consumption
- Use of recycled water through RO in PT Line
- 80 % Rain Water Harvesting potential captured



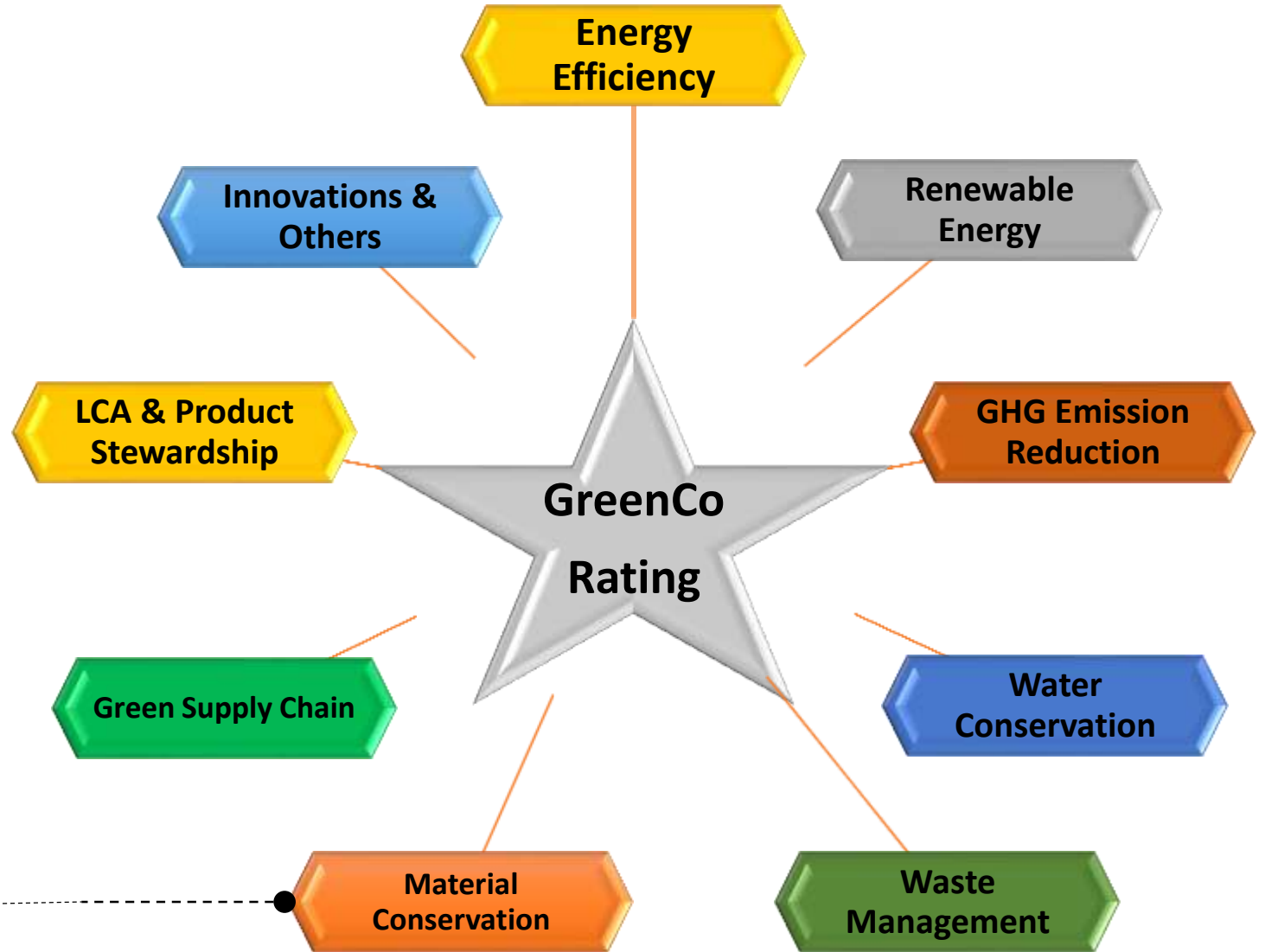


- Development of Waste Management Area
- 23% reduction in Sp. Non-Hazardous Waste Generation
- 53% reduction in Sp. Hazardous waste generation
- Implementation of Zirconium Coating in PT line

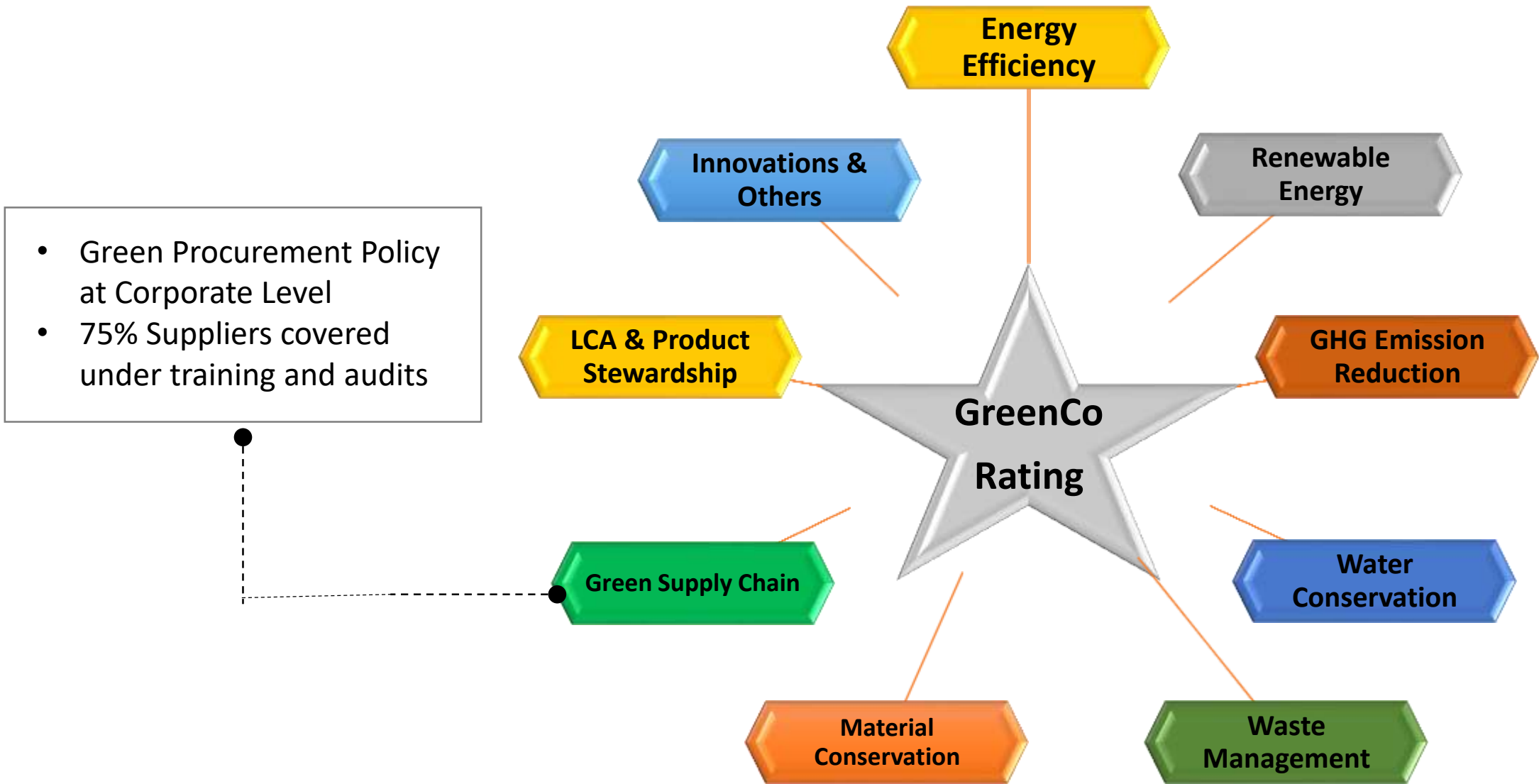


GreenCo Focus Areas

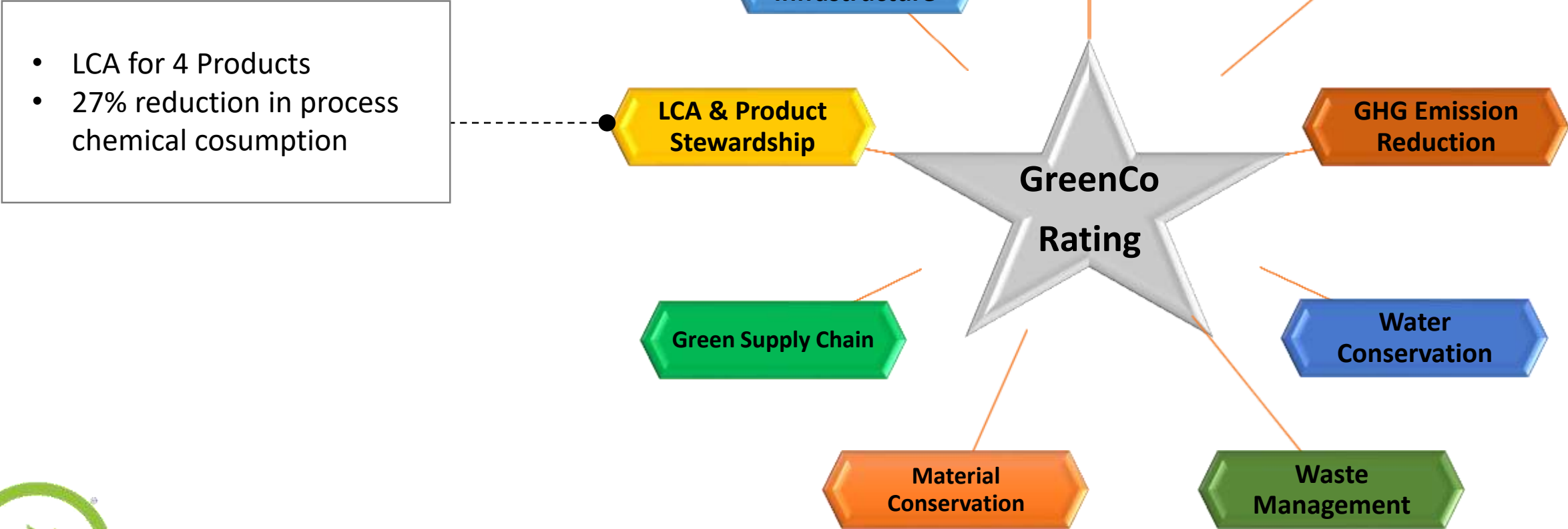
- Implementation of MFCA Principles
- 14.5% reduction Sp. Raw Material Consumption
- 50% reduction in Consumables
- 100% recycled content in packaging paper



GreenCo Focus Areas



GreenCo Focus Areas



- 72% employee commute through public transport, Cycle, Walk
- Green Cover
- Use of GreenPro certified House Keeping chemical & Paints



Initiatives Taken for Energy Conservation



Demand Energy Management System

Initiative :-

To reduce Energy Demand in KVA for New Machines

Description-

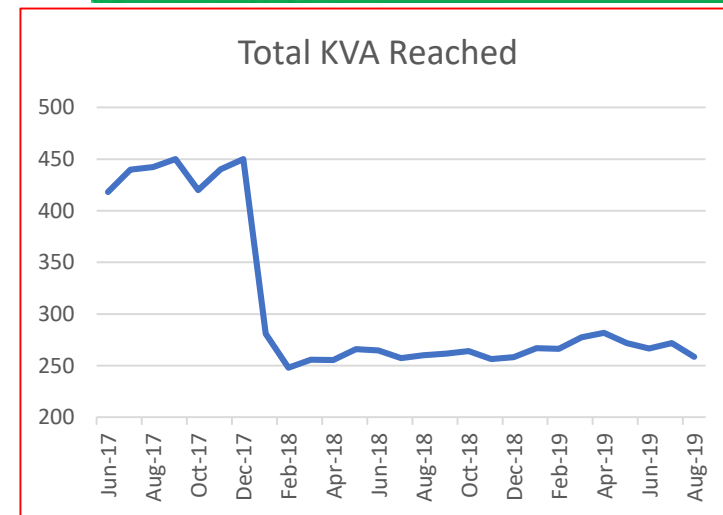
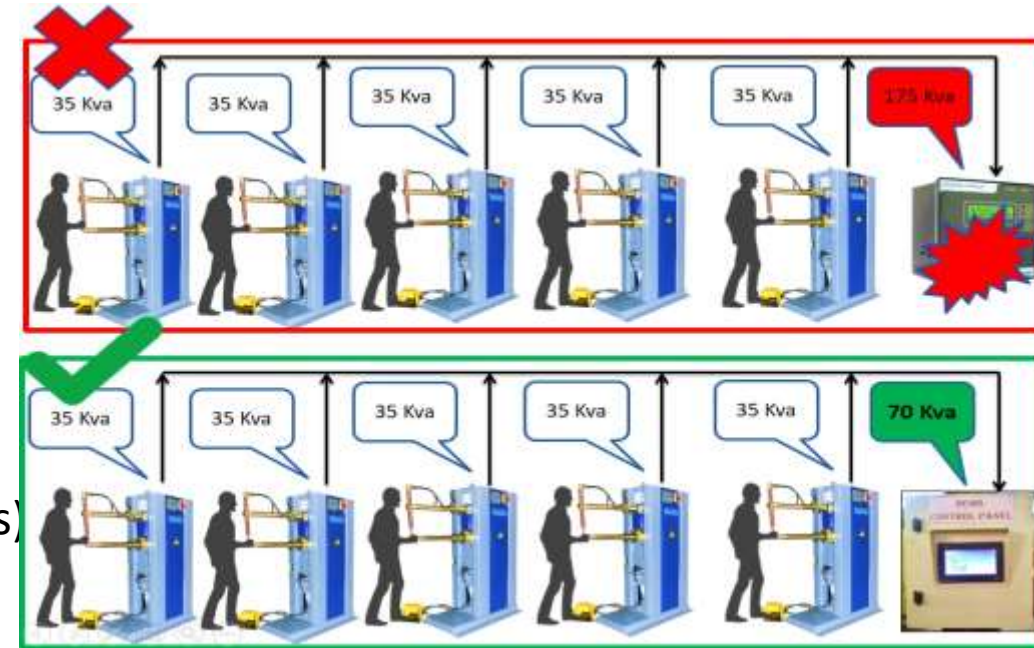
Sanctioned Demand : 500 Kva.

Before : Maximum Demand : 450 Kva

Present : Maximum Demand – 280 Kva (Including 150 KVA New Machines)

Benefits-

- Reduction in Kva consumption by 22%
- Addition of 150Kva of New Machines without Higher Demand



22% kVa
Reduction in TNEB Bill

7.5 Lakhs
Annual cost saving

Initiative taken to eliminate Diesel utilization



Hot Water Generator
used for PT Line

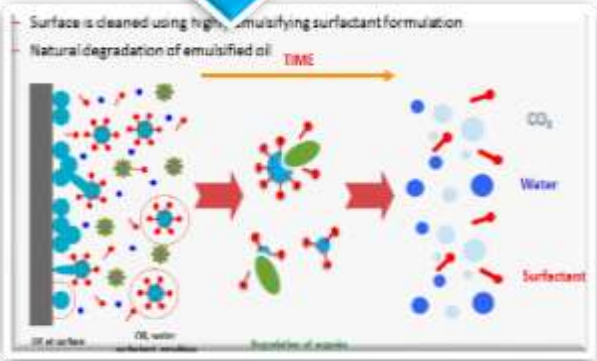
Elimination of HWG by
Room Temperature
Chemical

Fork Lift used for
Material Handling



Elimination of Fork Lift
By EOT, Dock less
Conveyor, Hand Pallet

Diesel
Elimination
By 2022



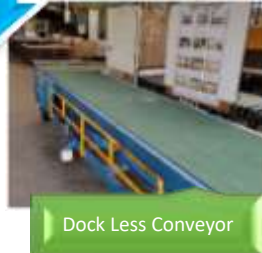
By Green Solvent



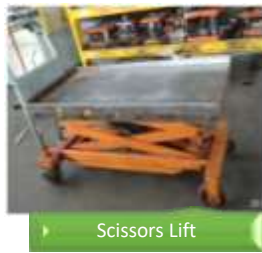
Conversion From
Diesel to LPG Burners



EOT



Dock Less Conveyor



Scissors Lift



Pallet Table for Finished
Goods

Energy Saving projects implemented in last three years

EXPLORING ALTERNATIVE PROCESS

Piston
Compressor
to Screw
Compressor,
Compressor
VFD

Elimination
of Cooling
Tower with
Inhouse
Automation

Elimination
of Water
through Air
Cooled PAC

71100 KWh
Annual saving

REDUCING CONSUMPTION

Auto
Switching off
for Utilities
And Machines

BETTER CAPACITY UTILIZATION

Intermediate
Load
2160 kWh /
Day

Policy not to
Switch on
Paint Shop
without Full
load.

Full Load
1620 kWh/
Day

Decision of
Natural
Lighting
during day
time.

6 Lakhs
Annual cost saving

Initiatives Taken for Water Conservation



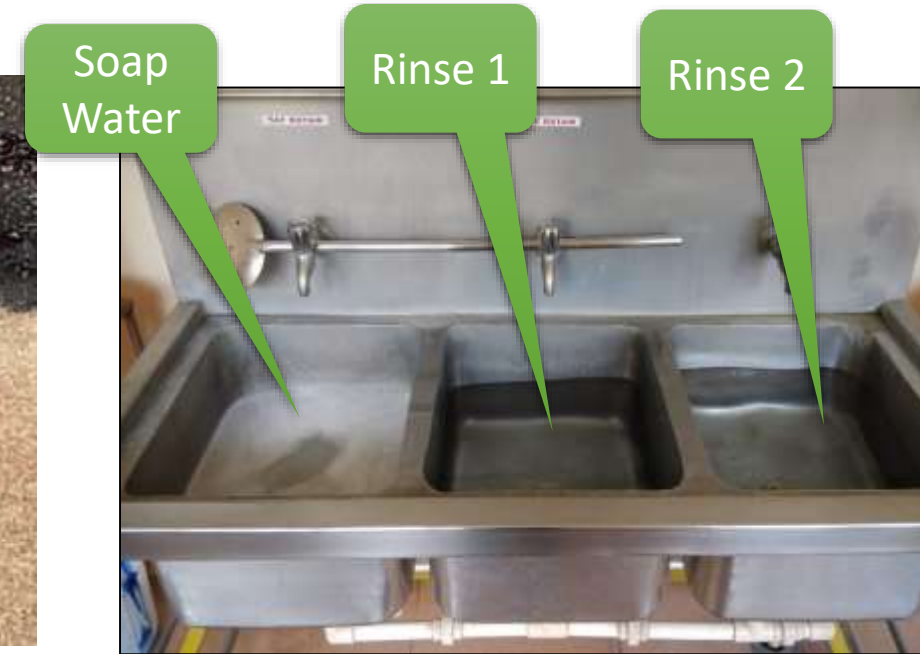
Initiatives Taken for Water Conservation



Number of Clay pots- 53
Water Saving expected- 20 KL / year



Sprinkler System
Water Saving expected- 20 KL / year



From Running Tap Water Washing to Three Stage dish washing tubs we save 900 liters per shift on daily basis.

Activities Taken for Water Conservation



Addition of 3rd stage in RO to reduce reject water and increase the Yield of process water.

Savings : 300 kl/year



Activity : Use water efficient gadgets in washrooms. (water less Urinals) Introduction of ECO 365.
Saving : 187 KL / Year



Introduced Sensor based Taps for Office Rest Room.

Initiatives Taken for Waste Management



Waste Management Area



- New Waste Management Area is build to segregate and store both Hazardous and Non-Hazardous waste
- Without authorized requisition slip, material will not be allowed in scrap yard



Reduction in Hazardous Waste through Green Chemical

Initiative :-

Innovation Through Introduction of Advanced Technology in PT Process from Atotech USA.
Eliminating phosphate totally and Implementing Zirconium coating.

Description-

Introduction of Ambient Temperature ECO Friendly Process chemicals from Atotech USA. in our PT Line Leading to ambient Temperature Operation with Reduction of Hazardous Waste leading to Reduction in Chemical Sludge Disposal.

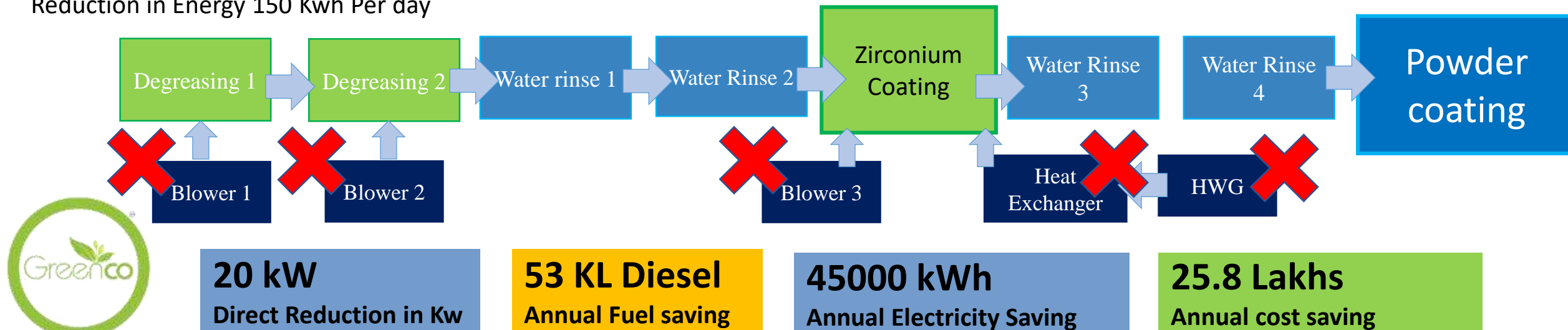
Benefits-

Reduction in Chemical Sludge Disposal.

Reduction in Fuel 175 Litters per Day.

Reduction in Energy 150 Kwh Per day

**This product is free from phosphate & chrome Phosphorus, APE, Boron*



Initiatives Taken for Material Conservation



Internal performance improvement for reducing material consumption during manufacturing

Reduce In Process Rejection

- Smart butting sensors used to reduce in process rejection
- It makes sure there is no miss butting of part
- About 50kg of steel are getting scrapped because of miss butting every day
- Out of 834 kg steel totally produced per day the above 50 kg can be reduced directly by installation of these sensors
- About 6% of material is saved



BEFORE : WITHOUT
SENSORS INSTALLED



AFTER : INSTALLATION
OF SENSORS

Internal performance improvement for reducing material consumption during manufacturing

REUSE IN ALTERNATE PRODUCTS

- Scrap generated as a byproduct in various production process are used in counter weights



- Of 20 tons of scrap produced monthly ,about 2.2 tons of scrap is reused as counter weight in Lateral Filing Cabinets

Initiatives Taken for Green Supply Chain



75% SME suppliers covered through various training & Audits



Training and awareness visits conducted at 3 suppliers explaining following points-

1. Importance of resource conservation
2. GreenCo Certification
3. Review of practices followed in the plants
4. Audit of processes for resource conservation
5. Suggestions given for energy and water saving
6. Set up of energy and water data inventorization



Sharing other SMEs' Best Practices -



Initiatives Taken for Product Stewardship & LCA



Life cycle Impact Reduction

LCA of 4DFCM & 4DFCM Lite

Actions Taken- Reduction of steel thickness, Increase in Material efficiency



	4DFCM	4DFCM - Lite	% Reduction	FY 18-19 Saving in Absolute Term
Weight of product (kg)	49.75	45.9	8%	2233
Global Warming Potential (kg CO2 eq.)	60.44	55.23	9%	3021
Acidification Potential (kgSO2-Eq)	0.31	0.27	13%	23.2
Eutrophication Potential (kg Phosphate-Eq)	0.05	0.0414	17%	5
Primary Energy (MJ)	1065.78	970.64	9%	55181

All the LCA studies are done based on ISO 14040 & ISO 14044

Green Infrastructure



Greening & Landscaping

Green Area in Tambaram Factory Campus	Area in Sq. Mt
Total Area (Wall to wall)	13066.49
Carpet Area	6240
Open Area	6826.49
Unused Area	6226.49
Green Area Inside The Wall	2029.55
Green Area Outside the Wall	628.16



Green Area 43% of Unused Site Area


The bio-diversity studies of the Chennai area have cited the following species diversity





Sr. No	Category	Suitable Habitat at locations
1.	Birds	Green patches, high flowering plants, availability of water, hilly area
2.	Butterfly	Green patches, high flowering plants
3.	Reptile	Vegetations, hilly area
4.	Mammals	Vegetations, hilly area, major upland habitat



OUR SCORECARD-







Paramters	Godrej Interio Chennai														
	0 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	81 to 90	91 to 100	101 to 110	111 to 120	121 to 130	131 to 140	140 to 150
Energy Efficiency															
Water Conservation											Out of 100				
Renewable Energy															
GHG Emission															
Waste Management															
MCR															
Green Supply Chain															
PS & LCA															Out of 125
Innovation						Out of 50									
Green Infrastructure									Out of 75						

Certification					
Levels	Points awarded				
	≥350 to 449	≥450 to 549	≥550 to 649	≥650 to 749	≥750
Certified					
Bronze					
Silver					
Gold					
Platinum					

GreenCo Certification



“EXCELLENT ENERGY EFFICIENT UNIT AWARD” At CII Energy Efficiency Summit 2019



After Greenco Silver- What next?



Our Focus Area for Greenco Platinum Rating:

- 1. Improvement in Energy Efficiency.**
- 2. Reduction in Domestic Water Usage.**
- 3. Gearing up roof top Solar Energy.**
- 4. Yield Improvements and reduction in packaging consumption**
- 5. Adopting Best practices from group companies on Green supply chain.**
- 6. Implementation of Design for environment principles towards stewardship and LCA.**



**GREEN MAKES BUSINESS SENSE.
GREEN IS SAVING..
THANK YOU...**

