TATA STEEL PROCESSING AND DISTRIBUTION LIMITED

GreenCo Journey

Service Centers addresses the service gap

Producers of Steel

Direct to Consumer

Value Addition Need in Intermediate Services

Supply Chain Mgt	Procurement
Strategic Alliances	Technical Services
Stocking	Processing
Customization	Just - In - Time Delivery

Service Centers provide this expertise

Final Consumer

Network and Reach

TSPDL Vision

Our Vision is to be a Benchmark in the Steel Service Centre Industry for Service Excellence.

We will achieve this through:

- **Our Approach to the Market**

  Leading the industry in service levels , addressing a wide basket of customer needs, and actively engaging in developing and expanding our chosen markets.

- **Our Product & Service Quality**

  Offering manufacturing flexibility & desired quality at competitive cost by setting up Best in Class infrastructure and processing facilities.

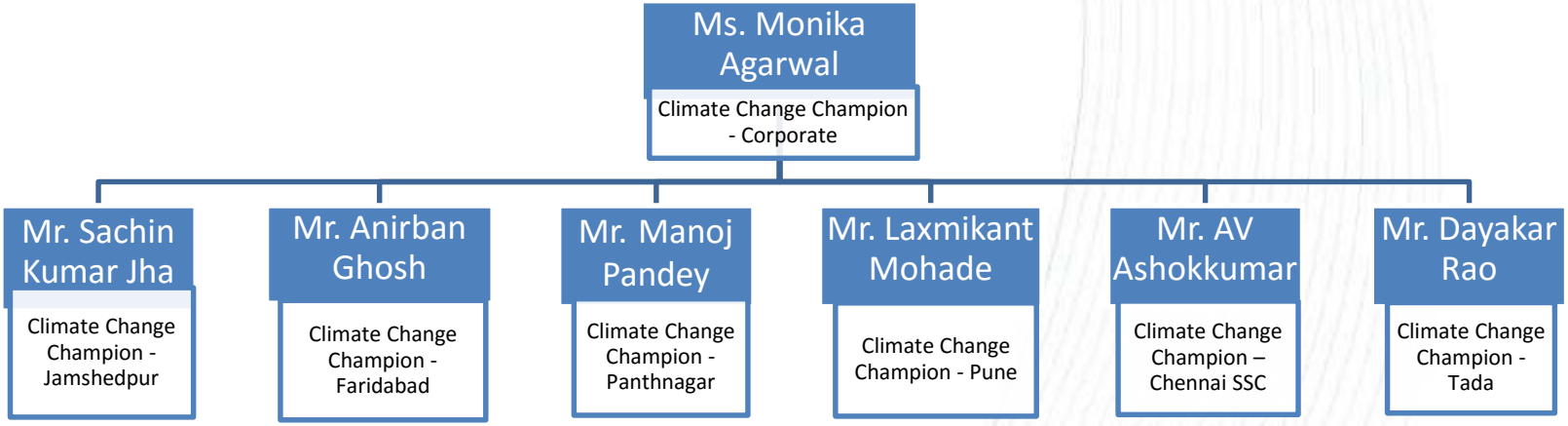
- **Our Partnerships**

  Value creating partnerships with key stakeholders for achieving sustainable competitive advantage.

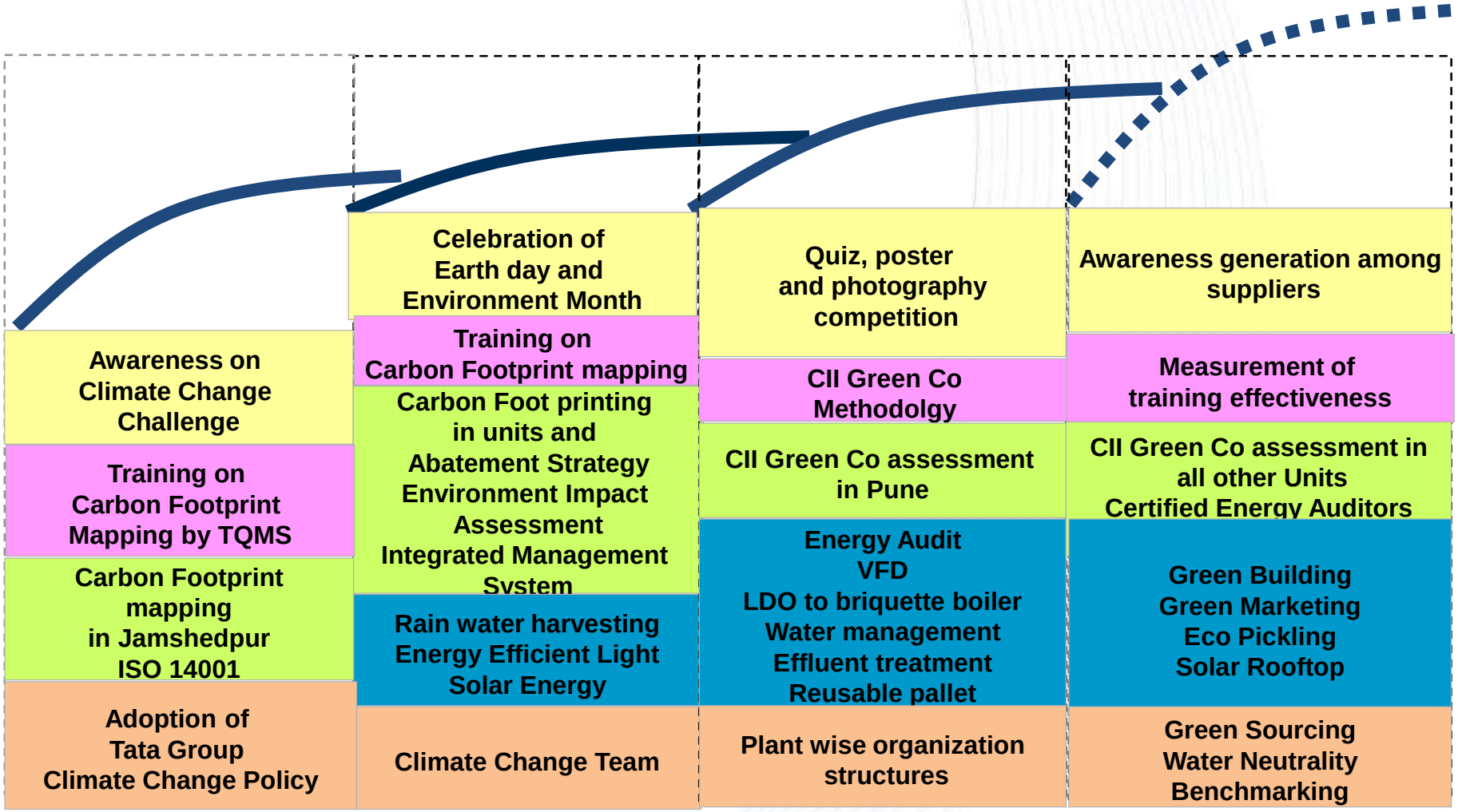
- **Our Conduct**

  By providing a safe workplace, fostering people excellence, encouraging innovation and agility, **respecting the environment**, caring for our communities and demonstrating high ethical standards.

Climate Change Organization in TSPDL

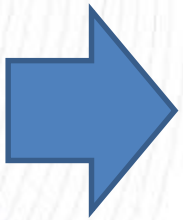


TSPDL's Green Journey



CII Greenco Parameters

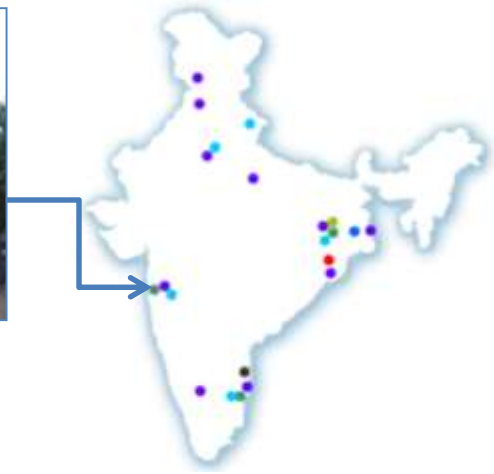
- Energy Efficiency
- Water Conservation
- Renewable Energy
- GHG Reduction
- Waste Management
- Material Conservation, Recycling & Recyclables
- Green Supply Chain
- Product Stewardship
- Life Cycle Assessment
- Others



Greenco Rating Levels

Level	Points	GreenCo Rating
Level 1	350 - 449 points	Certified
Level 2	450 - 549 points	Bronze
Level 3	550 - 649 Points	Silver
Level 4	650 - 749 Points	Gold
Level 5	> 750 points	Platinum

TSPDL Ranjangaon Plant

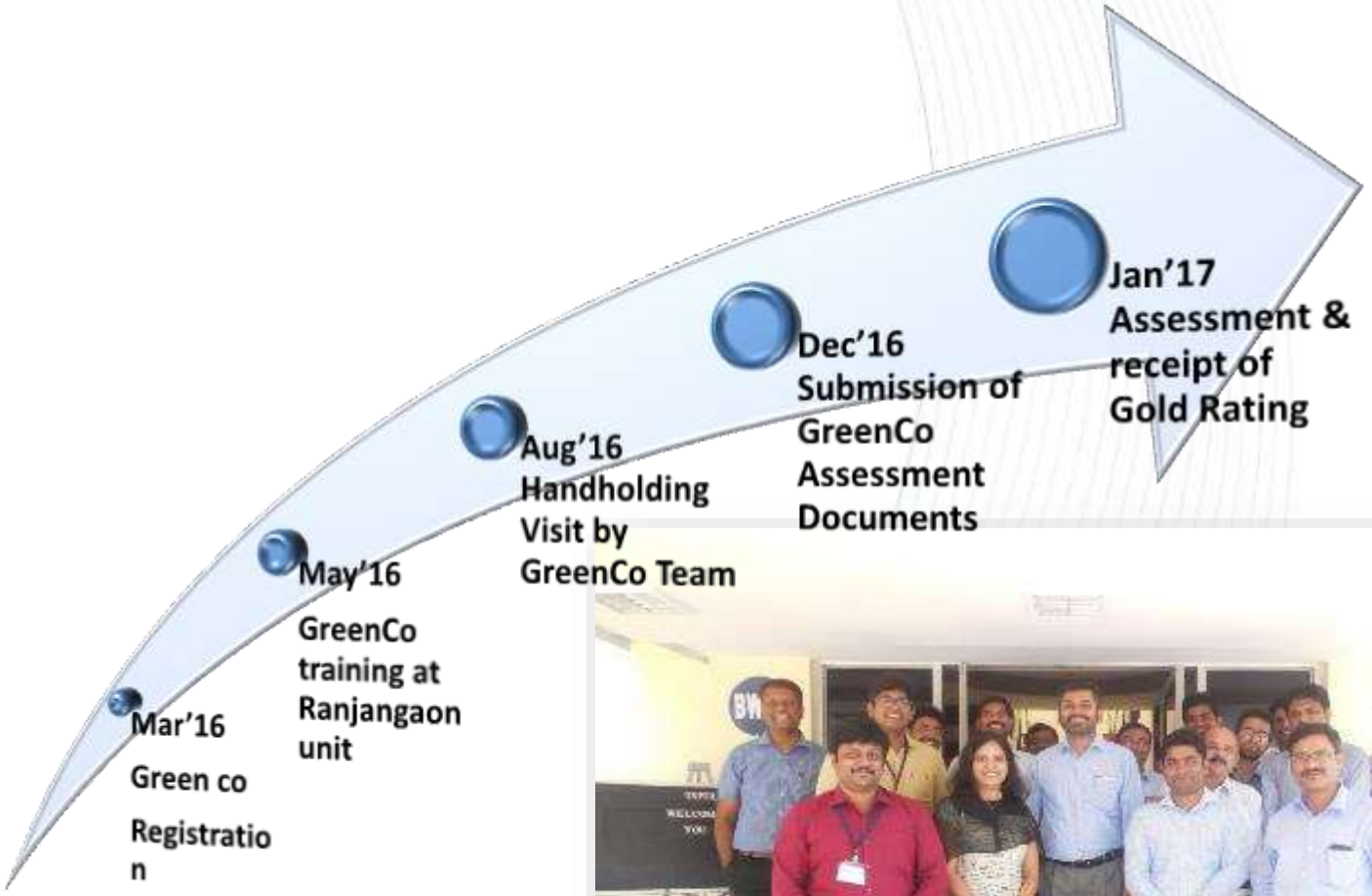


B-18 MIDC Ranjangaon, Pune, Maharashtra

Major Customers

- Second unit of TSPDL established in FY 98-99
- Equipments
  - HR Slitter, HR NCTL, HR WCTL
  - Pickling & Oiling
  - CRS, CRWCTL, CRNCTL
- A volume of 151 KT under Tolling business and 46 KT under distribution business handled by the unit
- Workforce numbers
  - 49 Officers
  - 36 Associates
  - 138 Contract Workers

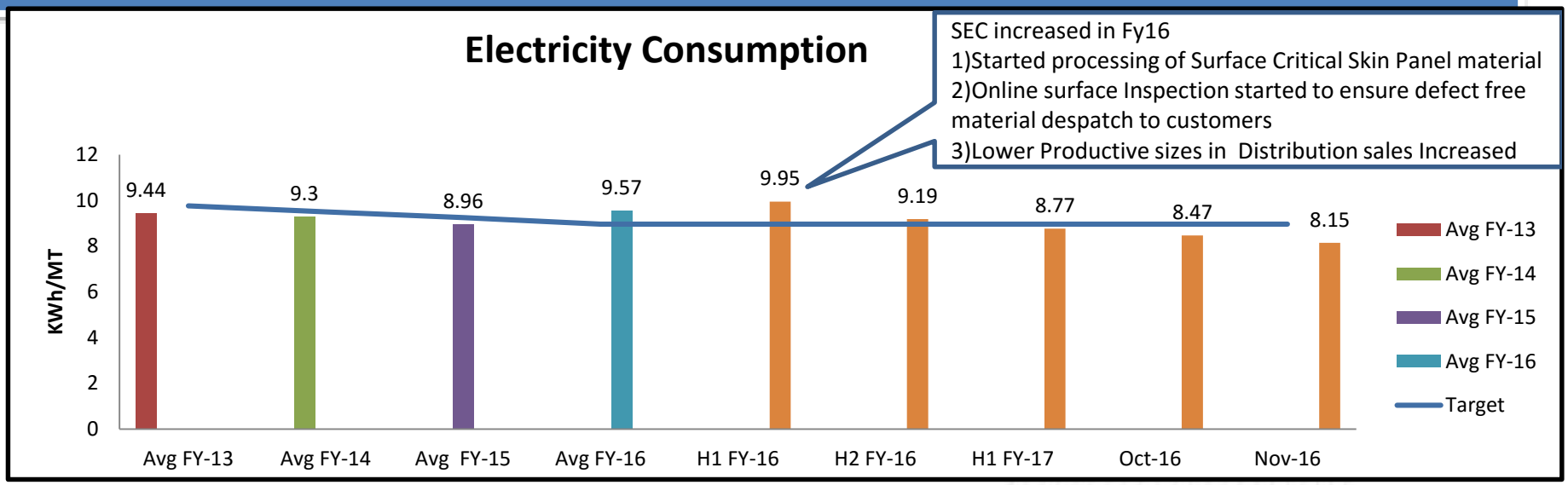
Greenco – Journey



Improvements in the last 9 months

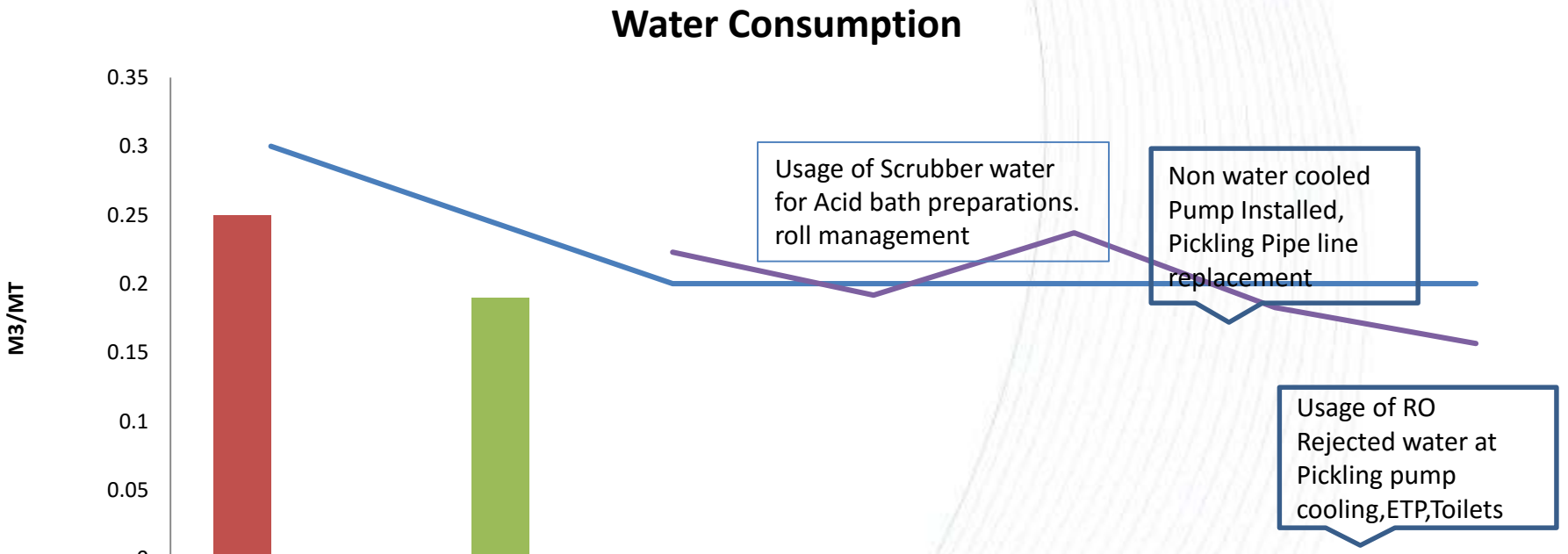
- Direction from the top –Policies
- Creating Organisation Structure to support GreenCo
- Long Term Target setting
- Having a hard look at action plans to achieve them.
- Micromanagement- recording & analysing at point of consumption- creating scorecards. Creating accountability. (Electricity, Boiler Fuel, Water, DG running time etc)
- Internal Benchmarking- amongst TSPDL plants.
- More awareness building for workforce, vendors, truck drivers.

Reduction in specific energy consumption



Year	SEC (KWH/MT)	Change in SEC from Previous Year	Major Actions Taken to reduce energy consumption
FY 12-13	9.44		
FY 13-14	9.3	-3.62%	➢ Replacing Sodium vapour lamp with energy efficient T5 Lamp ➢ Down Sizing of High Consumption Motors
FY 14-15	8.96	-3.65%	➢ Installation of VFD in Pickling Line (Variable Frequency Drive is a type of motor controller that drives an electric motor by varying the frequency and voltage supplied to the electric motor. ➢ Replacement of conventional Motors with Energy Efficient Motors
FY 15-16	9.57	+6.37%	
FY 16-17 (H1)	8.77	-7.73%	➢ Stoppage of Idle Running of Motor in Processing Line ➢ Increase in campaign size by Daily Meeting with Cam

Water conservation and management



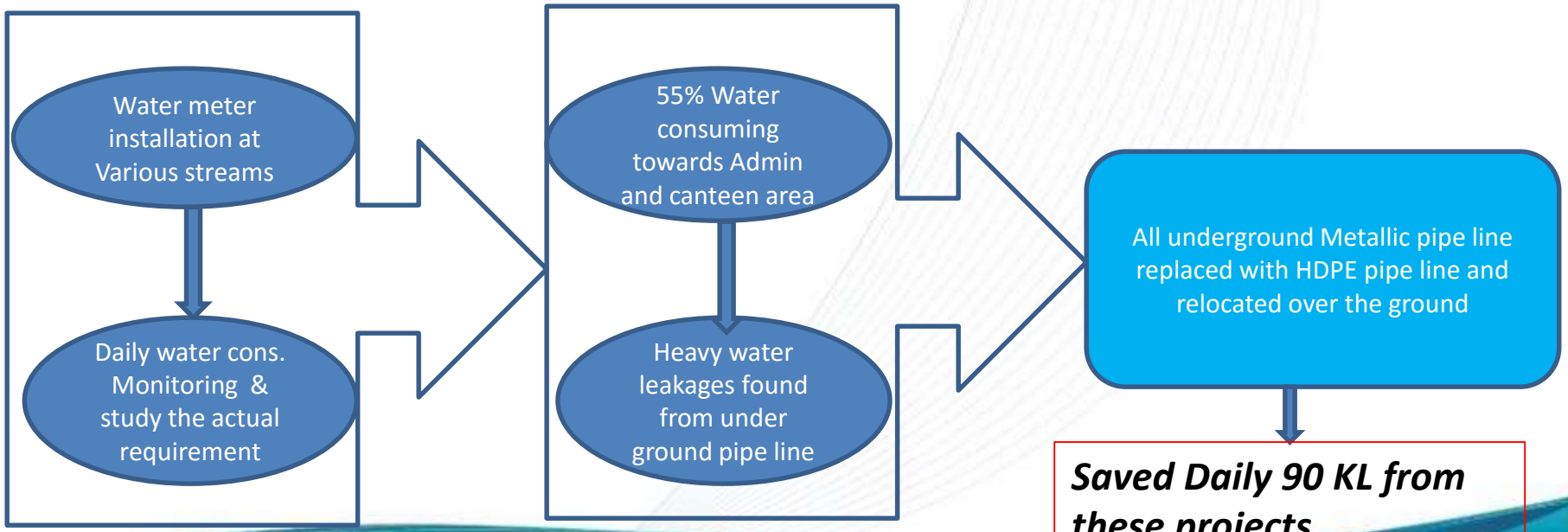
	Avg.14-15	Avg.15-16	Apr.16	May.16	June.16	July.16	Aug,16
Avg.14-15	0.25						
Avg.15-16		0.19					
Target	0.30	0.25	0.20	0.20	0.20	0.20	0.20
FY 16-17			0.22	0.19	0.24	0.18	0.16

Monthly Water consumption reviewed in Monthly BRM

Reduction in specific water consumption

Year	Project Taken	Water Consumption Before	Water Consumption After	Benefit
Fy-14	Identification of water wastage through Water Balancing	250KL/Day	160KL/Day	90 KL/Day
FY-15	Zero Liquid discharge	160 KL/Day	155 KL/Day	5 KL/Day
		155KL/Day	150KL/Day	5 KL/Day
FY-16	Reuse of ETP Treated water	150KL/Day	140KL/Day	10KL/Day
FY-17	Reuse of RO Rejected water	140 KL/Day	100 KL/Day	40 KL/Day
		Water saving in Last 4 Years- 150KL/Day		

Major Projects to reduce daily water consumption: 1) Installation of Water meter at Various locations, 2) Water Balancing, 3) Replacement of Under ground pipe line & Relocate over the ground



Major Projects to reduce daily water consumption: Reuse RO Rejected water

Direction From Innovation Council

Overhead Storage tank for RO Rejected water

Auto Control Valve Station

- To reduce daily water cons.
- To use RO rejected water
- To find out Usage location
- Map and study water circuit
- Make proposal
- Implement the usage

Saved Daily 40 KL from this projects

Reduction of boiler fuel consumption through use of solar water heater

Energy Substitution Implementing Solar Water Heater		
Details	**Consumption / Savings**	**UOM**
Monthly LDO Saved due to Solar Water Heater(Installed in Dec-13)	4081	Ltr
Energy Substitution Implementing Solar Water Heater	**10.78**	**%**
Monthly LDO saving after installation of Solar preheater	204060	Rs

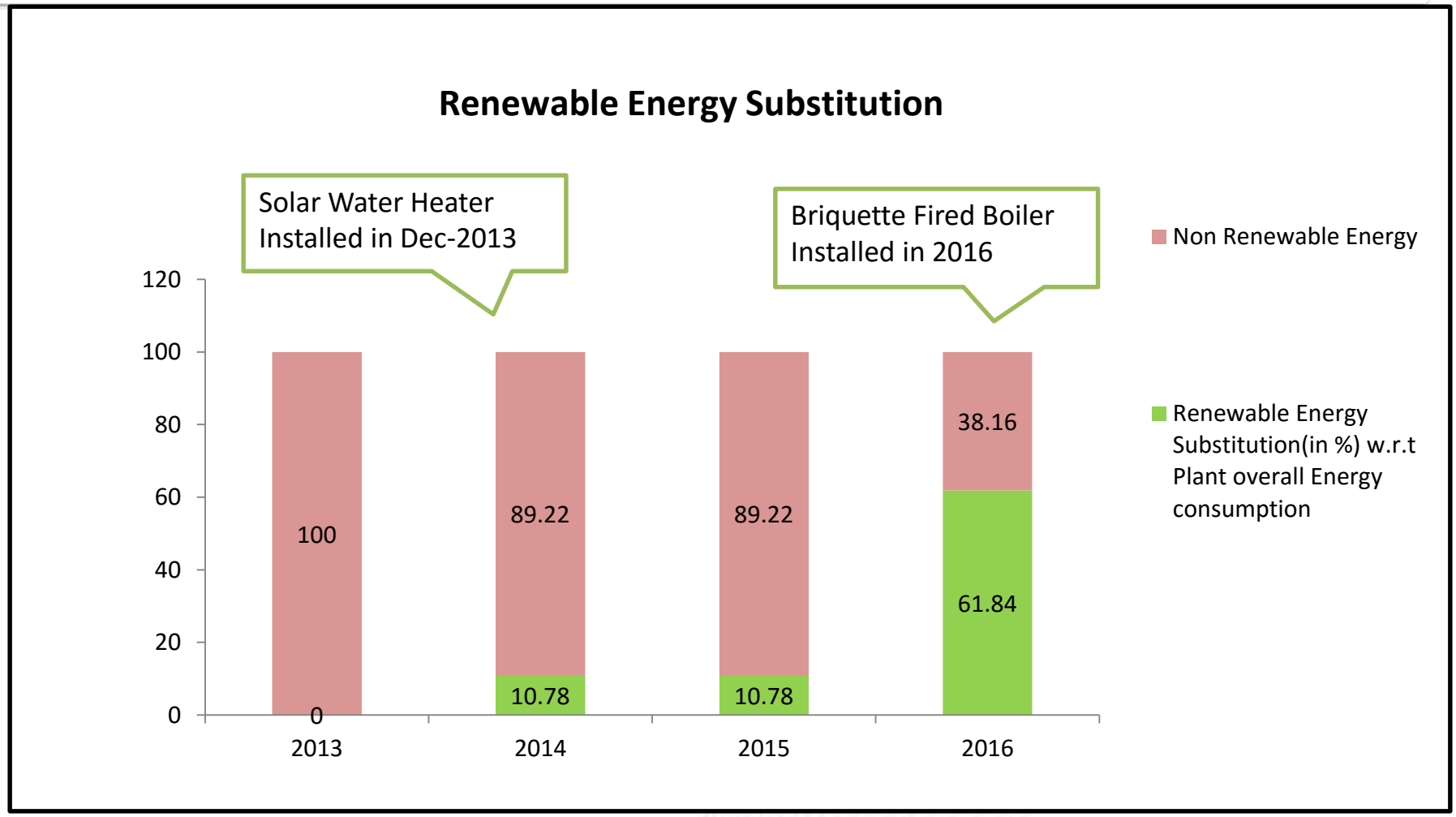
- **10.78% of Overall Plant Energy Substitution Through Solar Water Heater**
- **Boiler Fuel consumption Reduced by 14 % through usage of Solar water heater**

Conversion of LDO fired boiler into briquette fired boiler

Energy Substitution Implementing Briquette Fired Boiler		
Details	**Consumption/ Savings**	**UOM**
Energy Substitution Implementing Briquette Fired Boiler	61.84	%

100% substitution of Fossil Fuel to Renewable Energy Bio-mass Fuel for Boiler.
61.84% of Overall Plant Energy Substitution Through Briquette Fired Boiler

Year To Year reduction in energy consumption through renewable energy



Co2 neutrality approach : Trees in premises

Total no of trees : 2822

182 Tons of CO2 Sequestered every year

Total Plot area sqm (A)	Total Build up area sqm (B)	Open Area sqm (C=A-B)	Green Belt (D)	Actual Green Belt (D/C *100)	MPCB Norms (Required)	Additional Green Belt
81076	18939	61849	27059	43.75 %	33% of open area	**42.75%**

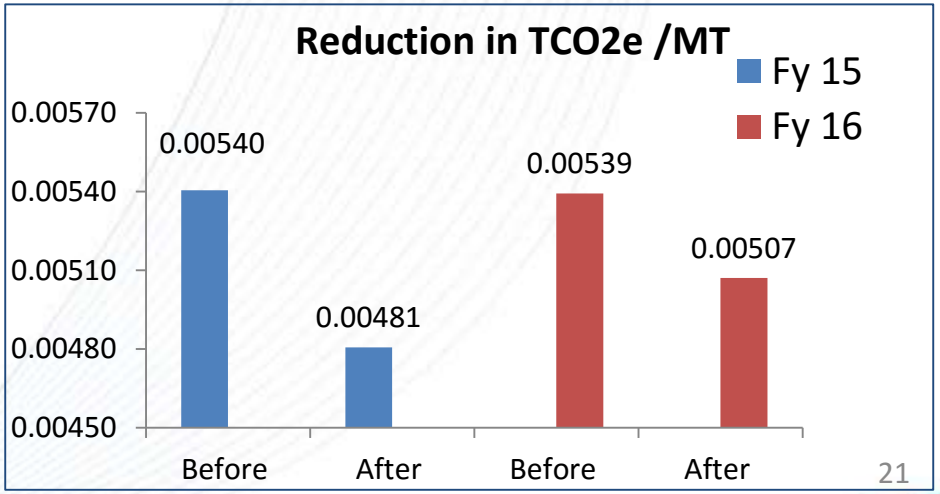
Reduction in emission intensity in supply chain management

Two / Three customers of same destination , material sent in same vehicle to control carbon emission (Tco2e)

.

Year	TCO2 e - before clubbing	TCO2 e - after clubbing	Reduction in emission of TCo2e
FY 15	231.62	215.322	37.743
FY16	241.58	227.15	14.43

Average 0.00046 TCO2e /MT reduction achieved



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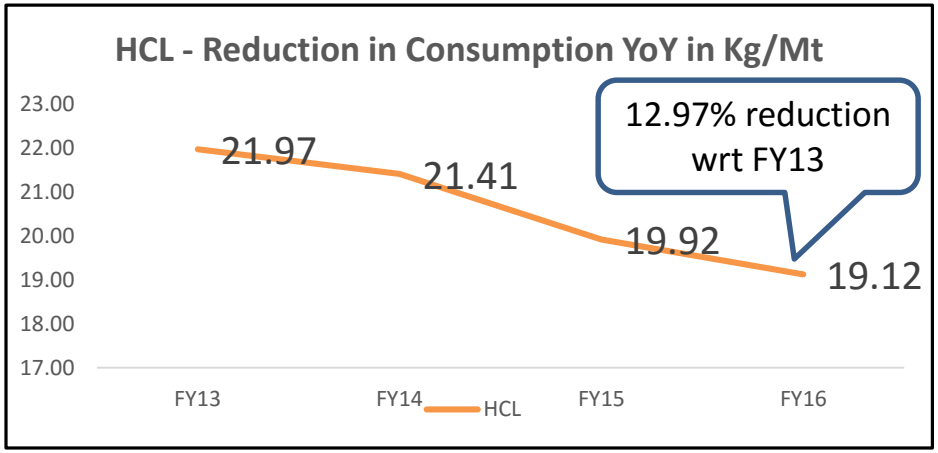
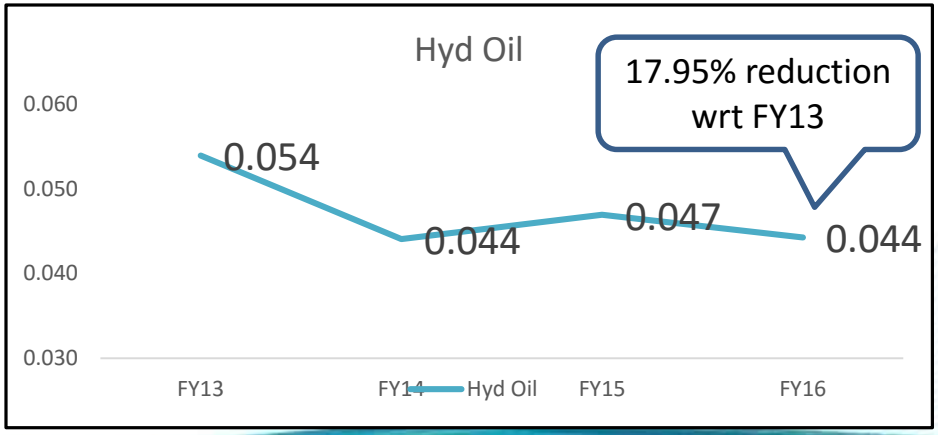
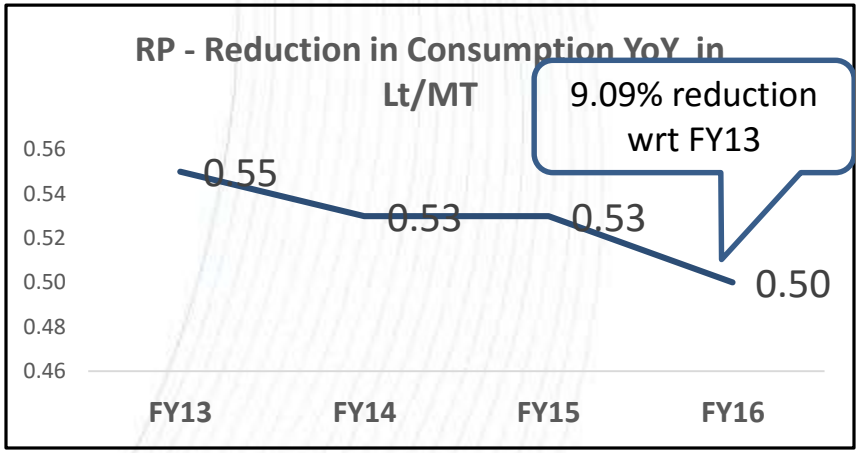
Percentage reduction in consumption

- Reduction in Consumption of Hydrochloric Acid



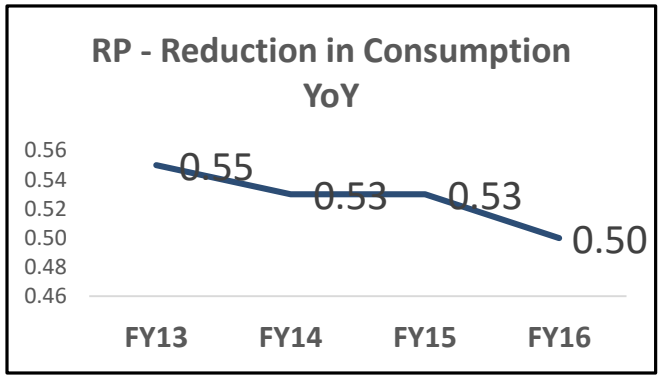


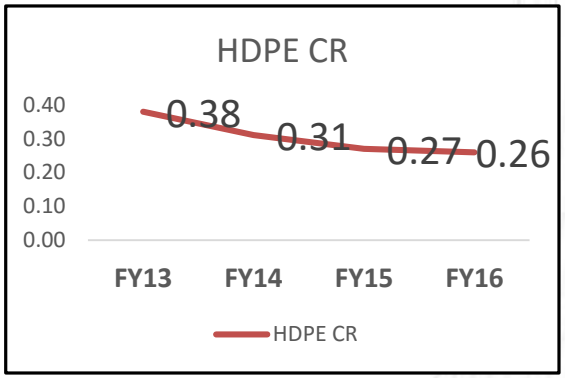
- Reduction in Consumption of RP oil

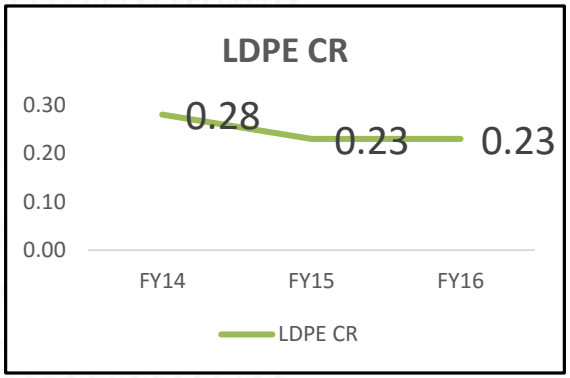


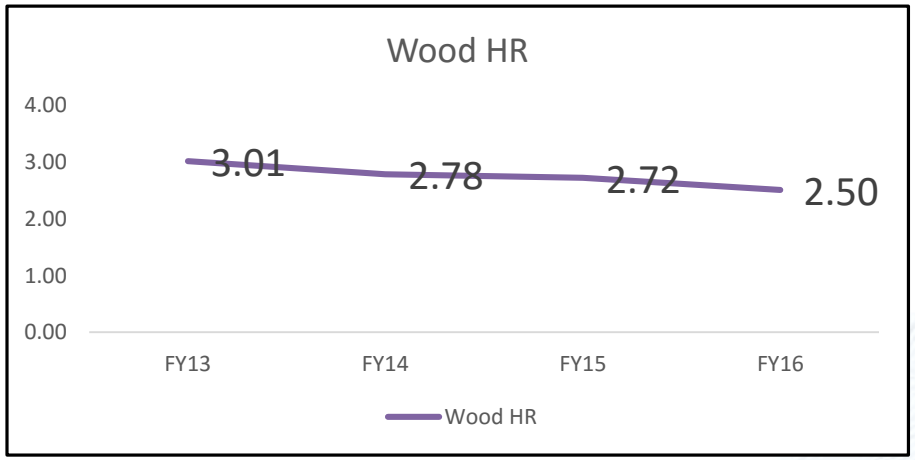
Reduction in packaging material

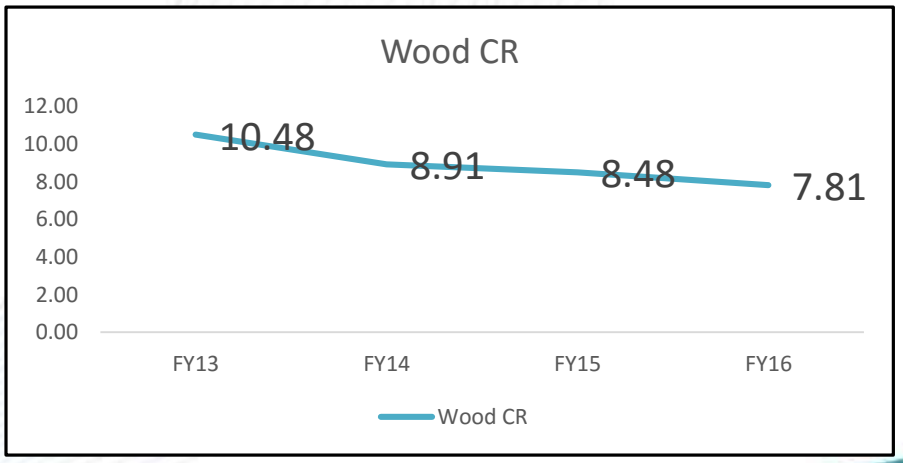
Reduction in packaging material :- Trend showing reduction in consumption YOY in Unit/Mt









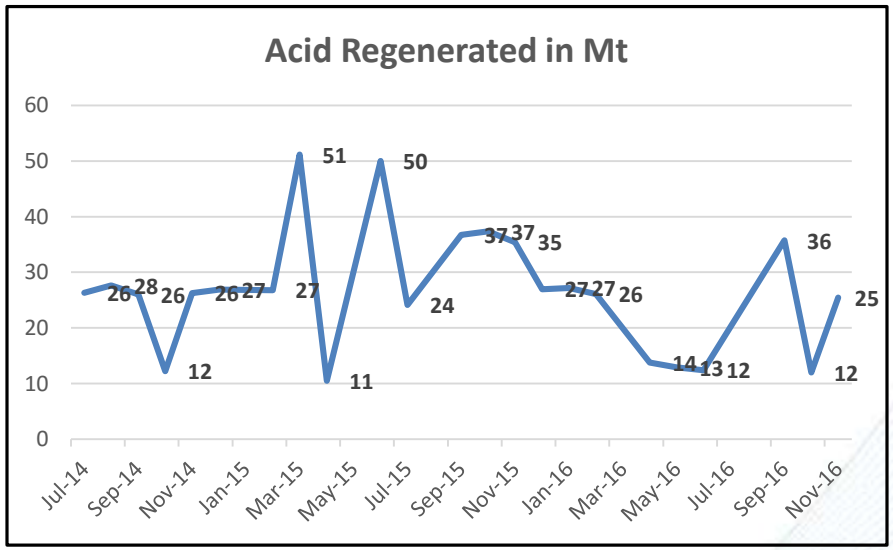


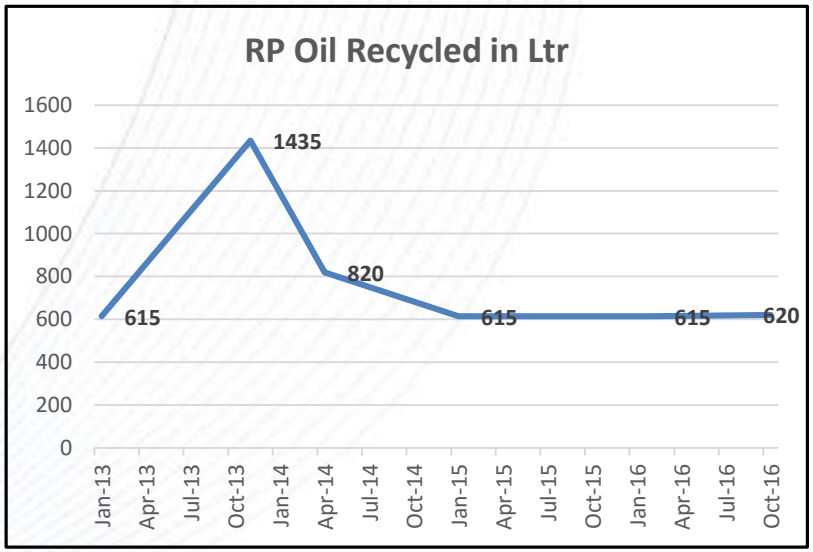
Recycled content in packaging material

Recycled content in packaging material:-

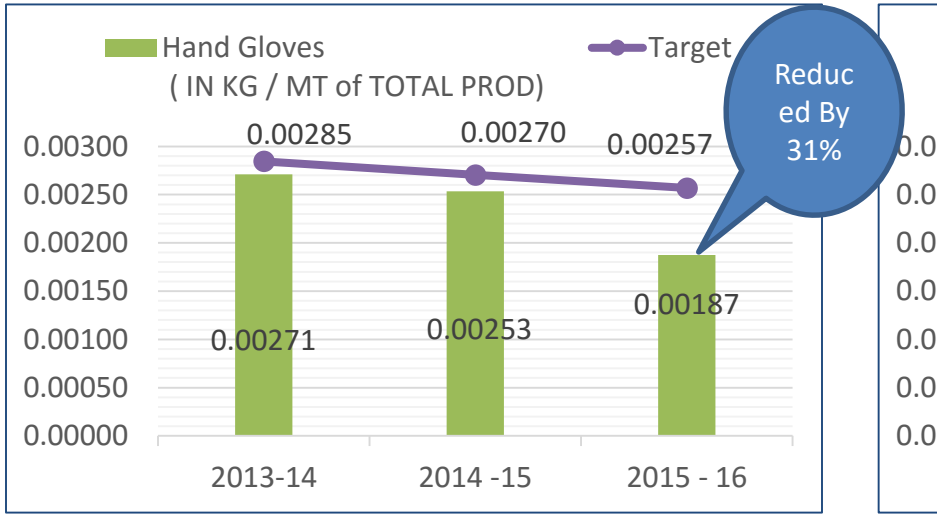
- Used Hydrochloric Acid (Spent Acid) is sent to Acid Regeneration plant to recover Acid and is reused at pickling process.

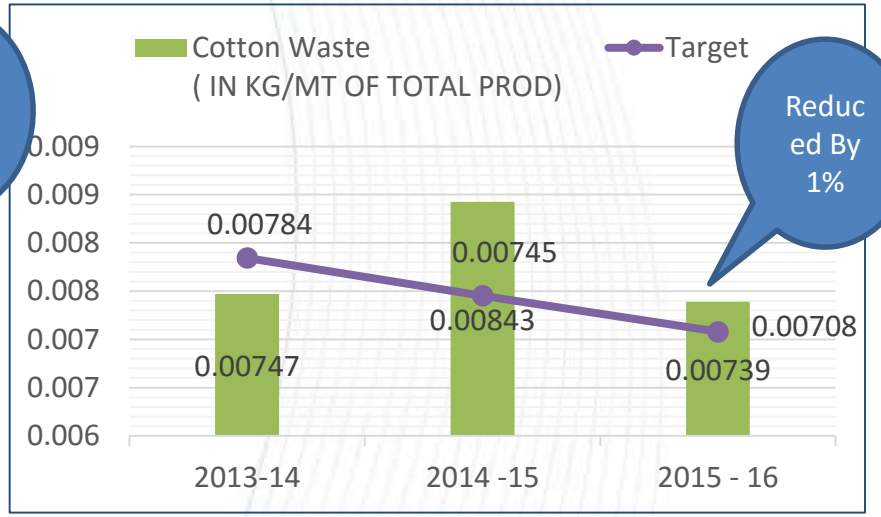
- Excess Spread RP oil is collected filtered and supercleaned with low vacuum dehydration unit and electrostatic liquid cleaning machine.





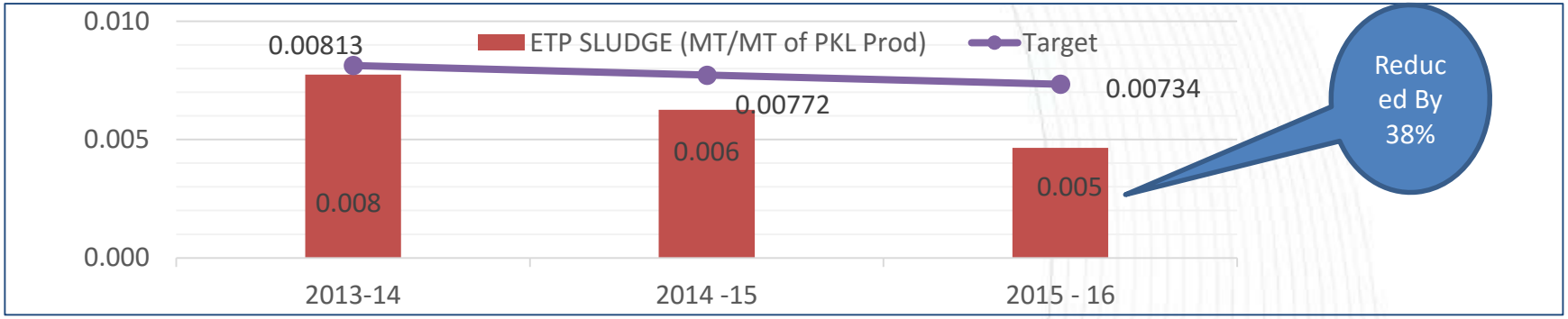
Specific cotton waste generation trends





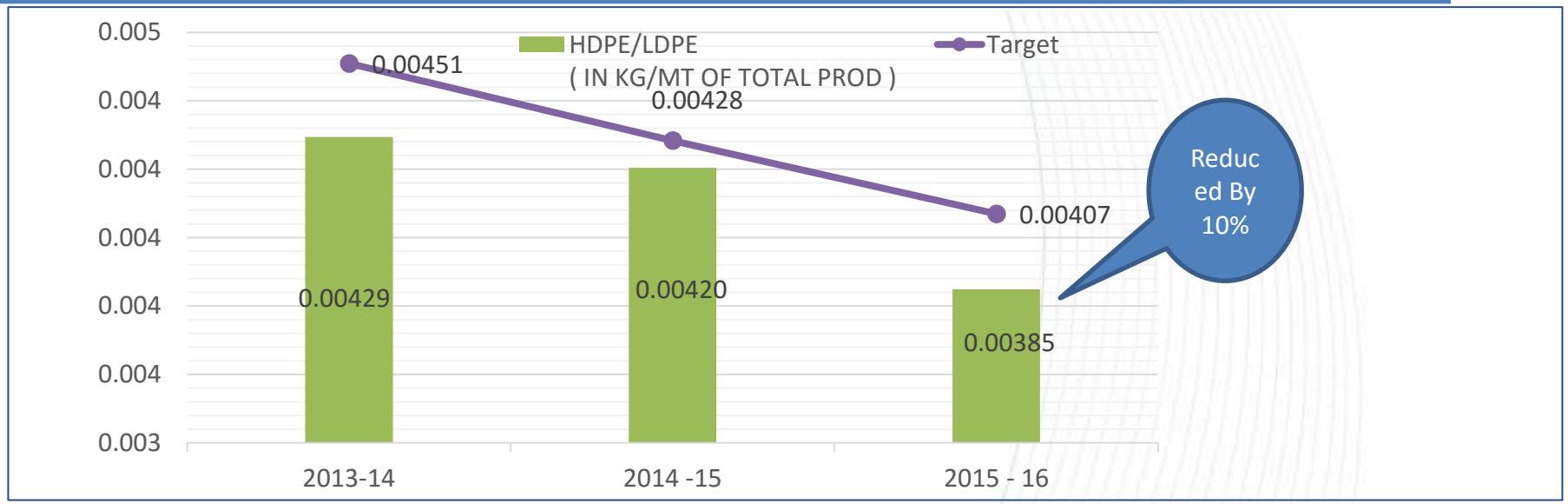
Year	Target	Action Taken/Planned	Status
Fy.2013-14	5% reduction WRT Fy13	Close the Oil leakages of machines	Implemented
Fy.2014-15	5% reduction WRT Fy14	Saddle & arrangement for oil accumulation of coil	Implemented
Fy.2015-16	5% reduction WRT Fy15	Target to be fix for cotton & hand gloves issuing	Implemented
Fy.2016-17	5% reduction WRT Fy16	Develop new type of gloves which lasts more in our type of works	Trials being taken with anti cut and other type of gloves

Specific ETP sludge generation trends



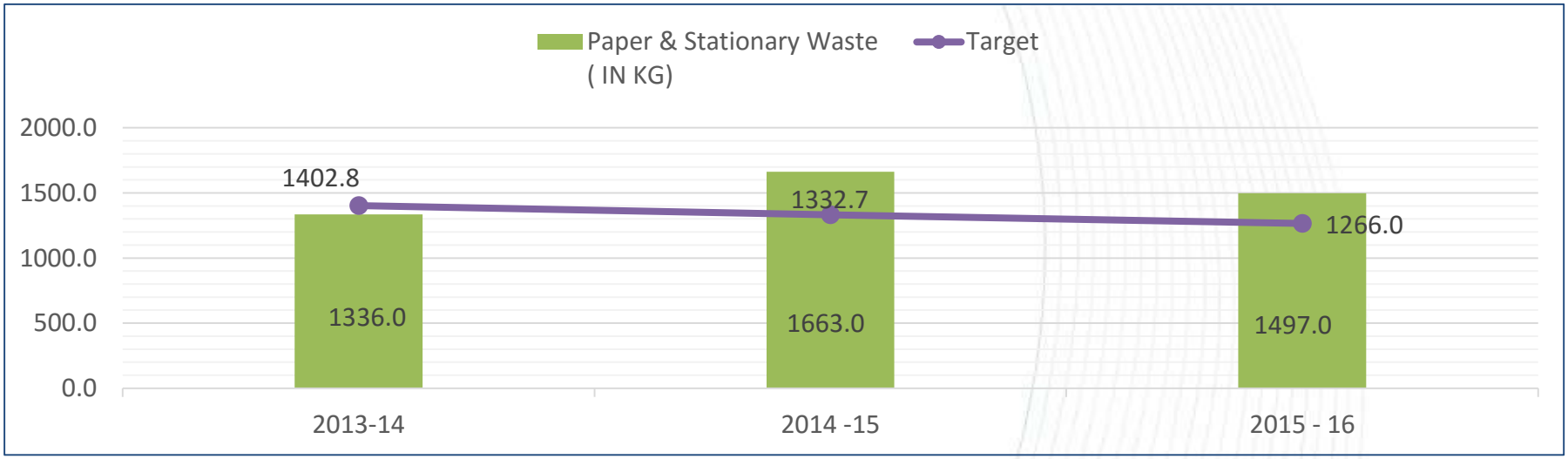
Year	Target	Action Taken/Planned	Status
Fy.2013-14	Reduction by 5% WRT FY 13	Revamping/ Improvement of ETP Line & Analysis of Raw Material Consumption	Implemented
Fy.2014-15	Reduction by 5% WRT FY 14	Develop Vendor for ARP which interim reduced generation of ETP Sludge	Implemented
Fy.2015-16	Reduction by 5% WRT FY 15	1) Maximise the Continuous P & O Operations by proper planning considering customer needs	Implemented
Fy.2016-17	Reduction by 5% WRT FY 16	1. Proper squeeze roll management. Do PM every week to check condition of squeeze roll and change if necessary. 2. Check chloride level of Rinse concentration tank 4 times a shift. 3. Continuous top up with fresh water to keep chloride level of rinse tanks low thereby lowering water change frequency.	Implemented

Specific HDPE/LDPE generation trends



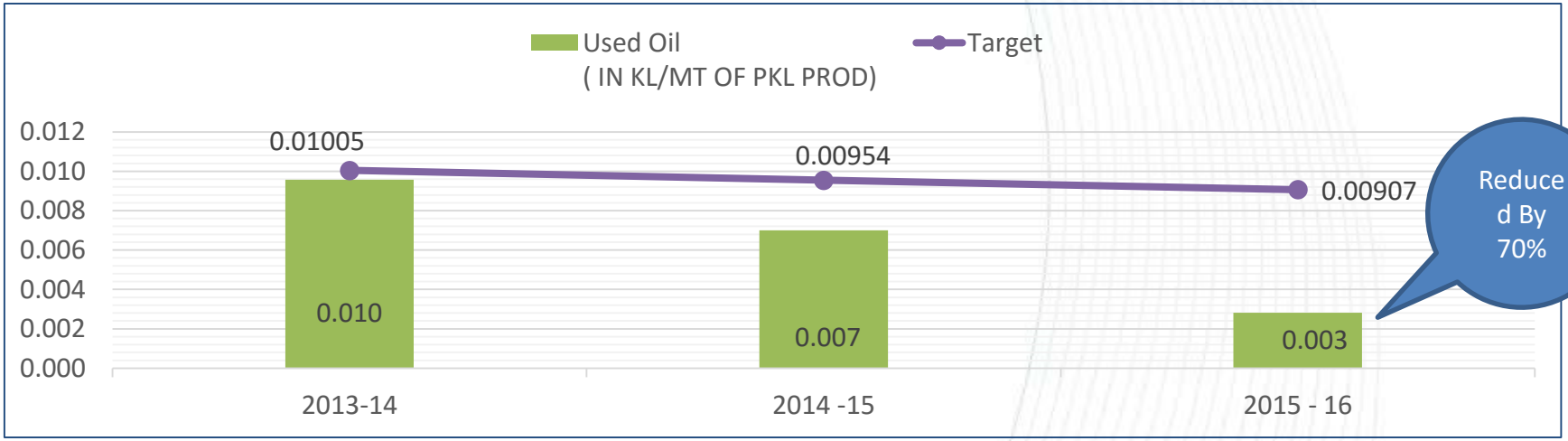
Year	Target	Action Taken/Planned	Status
Fy. 2013-14	Reduction by 5% WRT FY 13	Reused for CSR Purpose	Implemented
Fy. 2014-15	Reduction by 5% WRT FY 14	1. Training & Awareness Session on Usage & Reusage of HDPE. 2. Reuse of RM coil HDPE	1. Implemented 2.Partially being used
Fy. 2015-16	Reduction by 5% WRT FY 15	Packaging Audit for optimum utilisation	Implemented
Fy. 2016 -17	Reduction by 5% WRT FY 16	New configuration for packing to minimise HDPE/LDPE consumption.	Implemented

Specific paper & stationary waste generation trends



Year	Target	Action Taken/Planned	Status
Fy. 2013-14	Reduction by 5% WRT FY 13	Create Awareness among Employees	Done
Fy. 2014-15	Reduction by 5% WRT FY 14	All unit level approvals to be taken in mail.	Implemented
Fy. 2015-16	Reduction by 5% WRT FY 15	PO copies to be sent directly in mail in soft copies.	Implemented
Fy. 2016 -17	Reduction by 5% WRT FY 16	Digital Signature for Challan and Invoice so that copy can be kept in soft copy itself.	WIP

Specific spent (RP/Hydraulic) oil trends



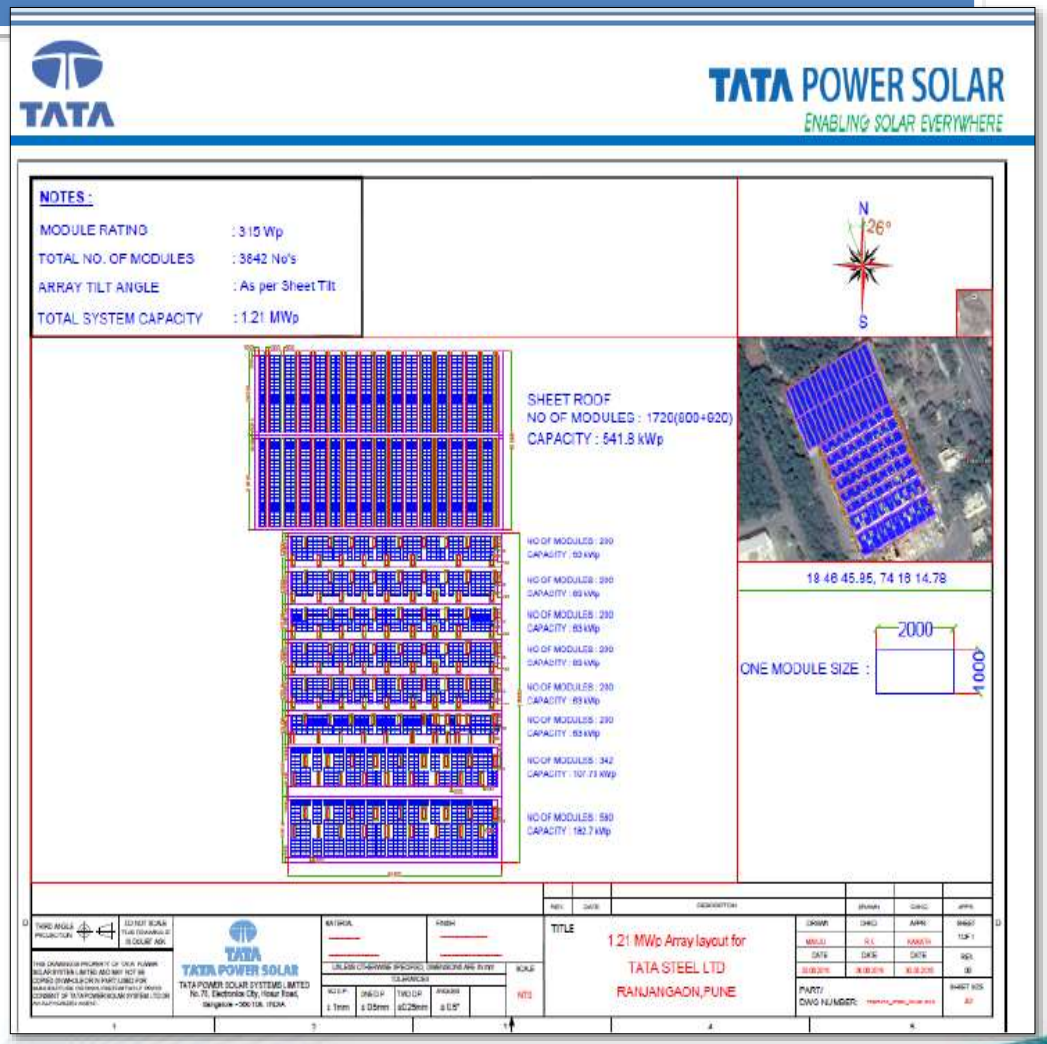
Year	Target	Action taken/planned	Status
Fy. 2013-14	Reduction by 5% WRT FY 13	Oil Filtration and reuse	Implemented
Fy. 2014-15	Reduction by 5% WRT FY 14	Oil Filtration and reuse	Implemented
Fy. 2015-16	Reduction by 5% WRT FY 15	Oil Filtration and reuse	Implemented
Fy. 2016 -17	Reduction by 5% WRT FY 16	RP Oil application mechanism to be modified.	Minor capex note sent to HO for approval.

Future Plan:
Usage of solar PV cells in plant roof top to generate 500 KWp onsite

❑ Project Status-

Site Survey Completed by Tata Solar Power

- Total No Modules to be Installed- 3842 nos
- Module Ratings-315 Wp
- Total System Capacity-1.21 MWp
- Initial Quotation Received from Tata Power Solar
- Expected cost of system- Rs. 6,70,13,121



Thank you !