

**TATA STEEL PROCESSING AND DISTRIBUTION LIMITED  
PUNE BUSINESS UNIT**

Trusted and irreplaceable bridge between  
steel customers and suppliers

**Welcomes All Delegates from CII  
GreenCo Forum Meeting  
28<sup>th</sup> April, 2017**





**B-18 MIDC Ranjangaon, Pune, Maharashtra**

**Established.- Fy.98-99**

**Total Premises area : 21 acre**

**Total constructed area : 4 acre (16187 sq.mtr)**

**Nearest Railway Station – Pune Railway Station (55.3 Km)**

**Nearest Airport – Pune International Airport (50.7 Km)**



- ★ Head Office
- Distribution Centres
- Steel Service Centres
- CR, GP, GA
- CRF Component
- HR, HRPO
- Plate Burning & Fabrication

**Distribution Centers (12)**  
 Faridabad, Ludhiana, Pantnagar, Jammu (New), Jamshedpur, Kanpur, Bhubaneswar, Kolkata, **Pune**, Bangalore, Chennai

**Service Centers (11)**  
 Faridabad, Jamshedpur, Pantnagar, **Pune**, Tada, Chennai

**Upcoming Service Centre (1)**  
 Kalinga Nagar

PRODUCERS OF STEEL

Direct to  
Consumer

**Value Addition**

Steel Processing  
Customized Sizes in Small & Big lots  
Supply Chain Management  
Technical Assistance  
Stocking                      Just - In - Time Delivery

FINAL CONSUMER

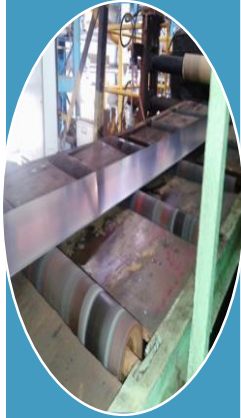


**Product basket**  
HR/HRPO/HRSP0/CR  
/GP Slit Coils &  
Blanks.



**HR Slitter**

: 1.6 - 8mm,  
: 1680 mm,  
:94 KT p.a.



**P & O**

:1.6 - 8 mm  
: 800 mm  
: 55 KT p.a.



**HRNCTL**

:1.6 - 8 mm,  
: 800 mm,  
: 40 KT p.a.



**HRWCTL**

:1.6 - 12 mm,  
: :1680mm,  
: 72 KT p.a.



**CR Slitter**

0.3-3.2mm  
: 1550 mm,  
: 66 KT p.a.



**CRWCTL**

: 0.3-3.2mm  
: 1600 mm,  
: 48 KT p.a.



**CRNCTL**

: 0.3-2.0  
mm  
: 1200mm,  
: 15KT p.a.

## Material Handling :

EOT Cranes (5 Ton to 35 Ton) – 9 no.  
10 Ton Forklift Truck – 1 no.

## Weighing Facility :

60 Ton Weigh Bridge – 1 no.  
Electronic Weigh scale (5 Ton to 40 Ton) – 7.

## Other Utilities :

- ETP
- STP
- Boiler (3 Ton/hr)
- 1.6 MVA Electrical Substation
- 1 MVA DG Set



# OUR CUSTOMERS

## Automobiles



## White Goods



## Yellow Goods



*Journey*

*Towards a Green Company*



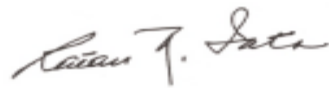


## Climate change policy for Tata companies

Tata companies will play a leadership role in climate change by being knowledgeable, responsive and trustworthy, and by adopting environment-friendly technologies, business practices and innovation, while pursuing their own growth aspirations and the enhancement of shareholder value.

Tata companies will measure their carbon footprint and will strive to:

- Be the benchmark in their segment of industry on the carbon footprint, for their plants and operations.
- Engage actively in climate change advocacy and the shaping of regulations in different business sectors.
- Incorporate 'green' perspective in all key organisational processes.



Ratan N Tata  
Chairman, Tata Sons

- *Environment-Friendly Technologies, Business Practices & Innovation*
- *Benchmark on Carbon Footprint*
- *Engage Actively*
- *Incorporate “Green” Perspective*





- *Monitor, Control & Minimize Impact*
- *Reduce, Reuse, Recycle*
- *Exceed Legislative & Regulatory Requirements*
- *Enhance Awareness*







## ENERGY POLICY

TSPDL's Environmental Policy states that we shall remain committed to sustainable development. As an integral part of this philosophy, we are committed to efficient energy management practices.

Towards this, we shall:

- Comply with the currently applicable regulation
- Continuously improve technology to enhance energy efficiency.
- Identify, prevent, control & minimize the energy losses continuously.
- Explore new sources of energy including renewable & alternate fuels.
- Create awareness amongst employees.



**Abraham G Stephanos**  
Managing Director  
7<sup>th</sup> July 2016

**TATA STEEL PROCESSING AND DISTRIBUTION LIMITED**

Tata Centre: 43, Jawaharlal Nehru Road, Kolkata 700 071, India  
Tel: 91 33 2286 2800 (D): 6613 0600 (D) Fax: 91 33 2286 2713 e-mail: abraham@tspdl.com  
CIN : U27109WB1997PLC084005



## WATER POLICY

TSPDL's Environmental Policy states that we shall remain committed to sustainable development. As an integral part of this philosophy, we are committed to efficient water management practices to conserve water.

Towards this, we shall:

- Reduce specific water consumption by engineering controls & ingenious ideas.
- Recycle & reuse the wastewater to ensure minimal discharge.
- Reduce generation of effluents & water pollution.
- Create awareness amongst employees.
- Provide clean & hygienic drinking water to all people working in our Plants & Offices.



**Abraham G Stephanos**  
Managing Director  
7<sup>th</sup> July 2016

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CIN : U27109WB1997PLC084005

- *Efficient Energy Management*
- *Renewable Energy*
- *Reduce specific consumption of water & generation of effluents*
- *Provide Clean & Hygienic Drinking Water*





**March '16**  
Registration  
for GreenCo  
Assessment

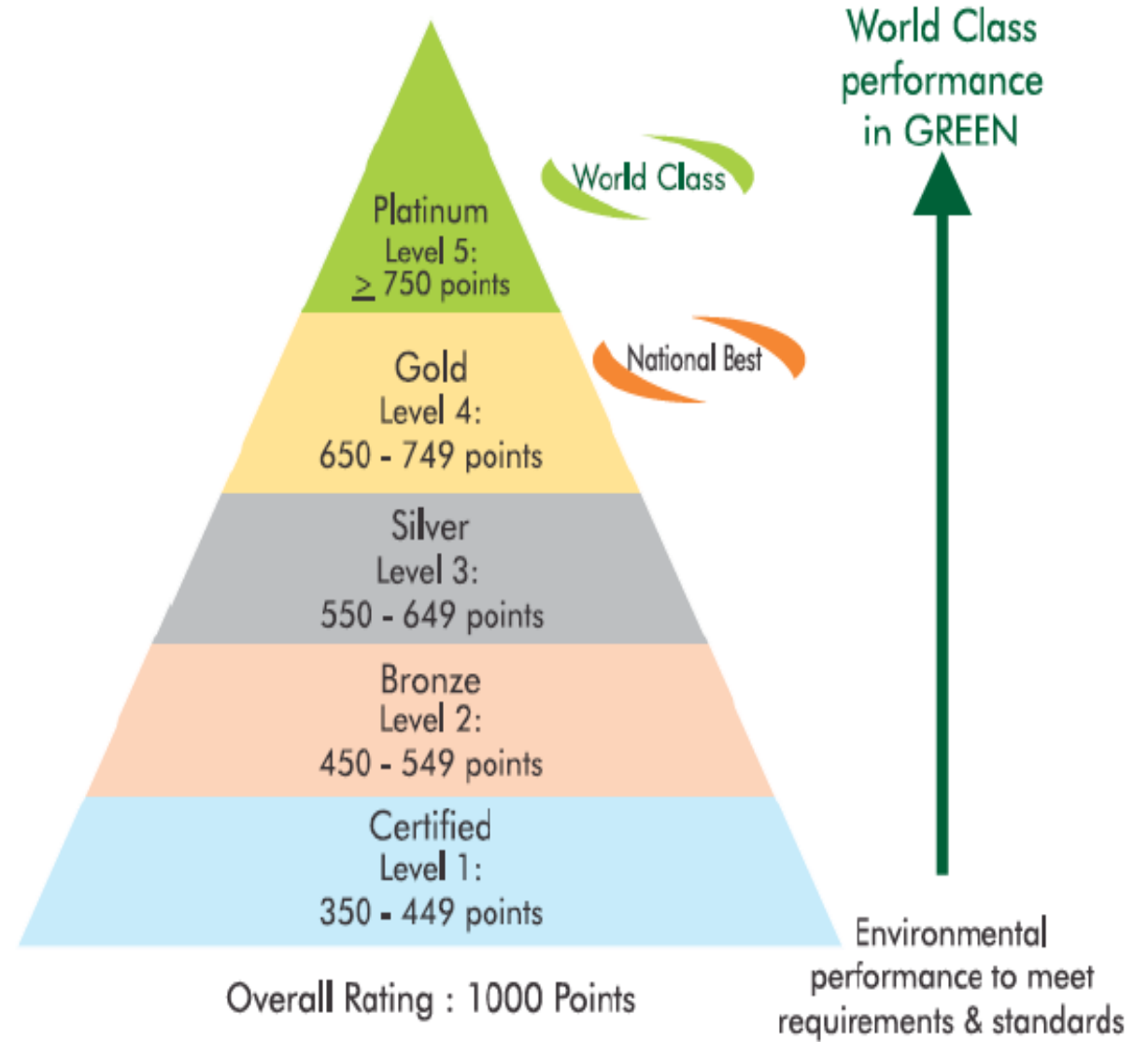
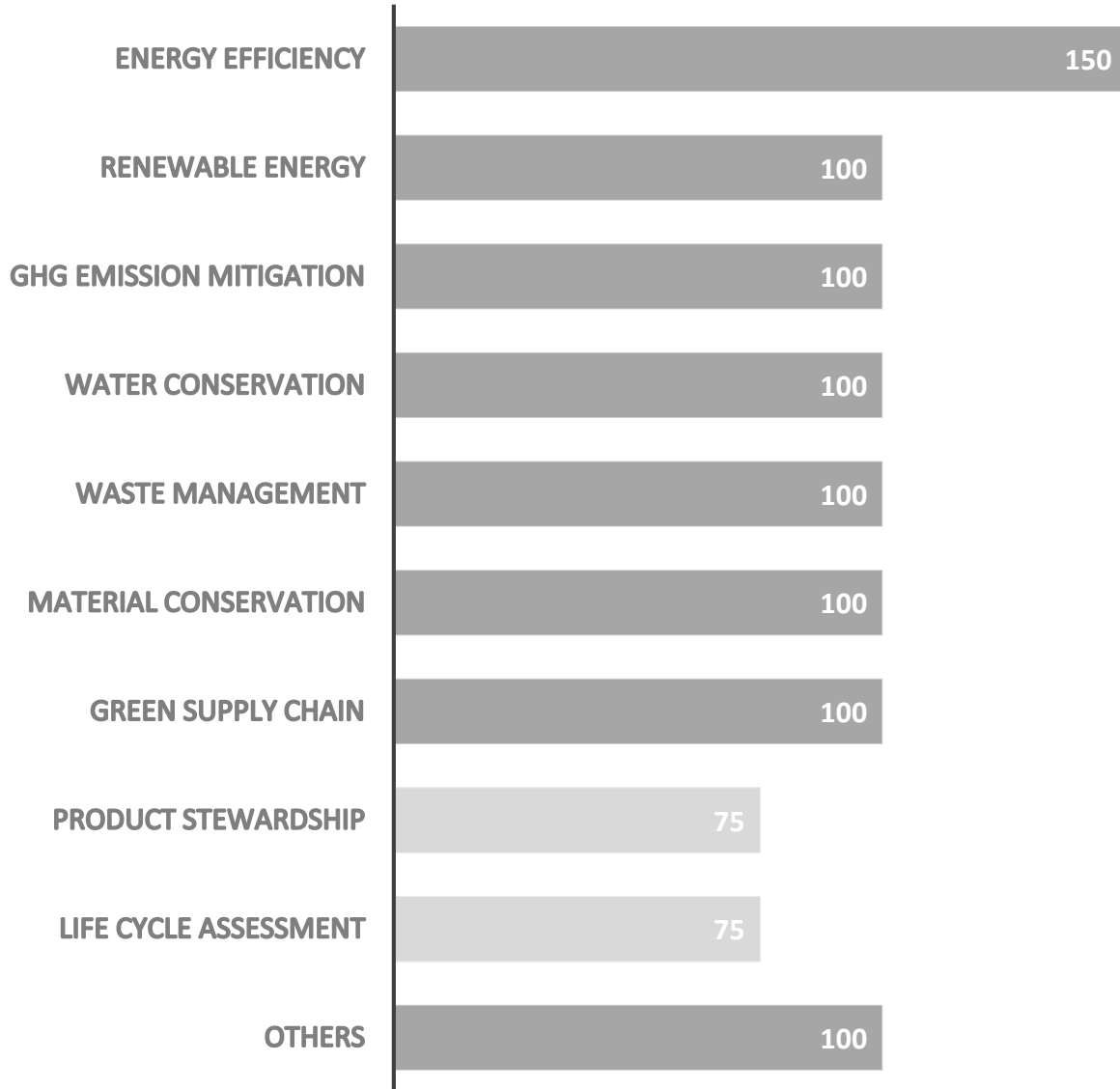
**May '16**  
2 days Training  
by CII GreenCo

**August '16**  
Handholding Visit  
by CII GreenCo

**December '16**  
Presentations  
Submission

**January '17**  
Final Assessment





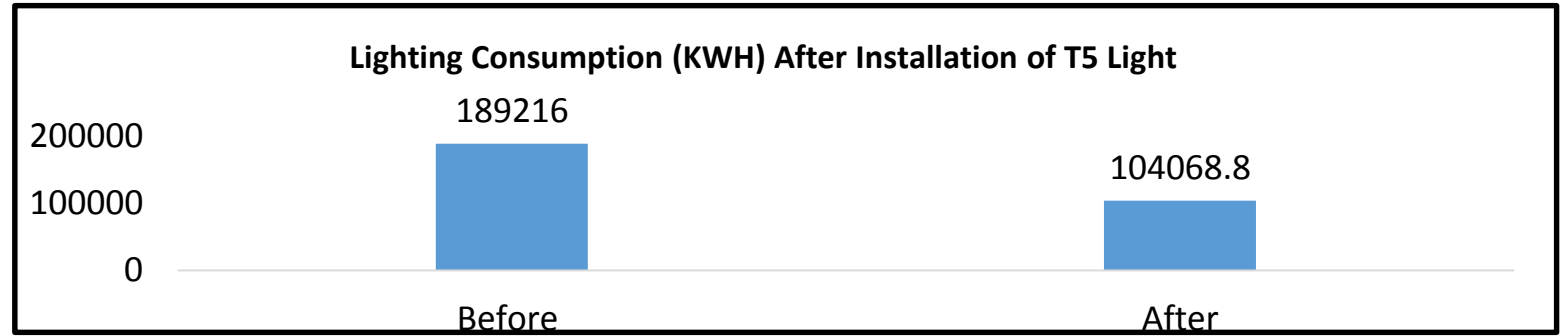
- **Energy Efficiency**
- Renewable Energy
- GHG Emission Mitigation
- Water Conservation
- Waste Management
- Material Conservation
- Green Supply Chain
- Others



## BEFORE



## AFTER



Previous System	Power Consumption	Installed System	Power Consumption
Wattage of each lamp fitting	400	Wattage of each lamp fitting	220
No. of lamps changed both CR and HR Plant	108	No. of lamps proposed to change	108
Working hours of each lamp/day	12	Working hours of each lamp/day	12
Total KWH consumption per day	518.4	Total KWH consumption per day	285.12
Approx. Price / KWH(in Rs)	7.5	Approx. Price / KWH(in Rs)	7.5
Amount Spent per Day	3888	Amount Spent per Day	2138.4
Amount Spent per year	1419120	Amount Spent per year	780516

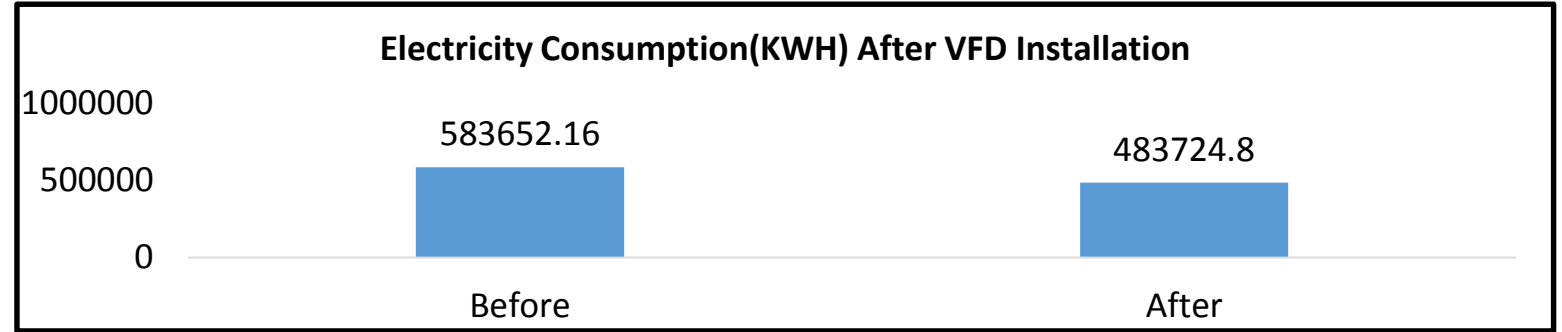
### ❑ **T5 Light Installation Replacing HPSV Lamp**

- Total 108 no T5 Fitting Installed in HR and CR Plant
- Total MWH consumption yearly saving **85 MWH (45 % reduction in Plant Lighting consumption)**
- Annual Saving Rs **6,38,604.**

**BEFORE**



**AFTER**



Details	Power Consumption/Savings
KWH consumption in a year before VFD installation	583652.16
KWH consumption in a year After VFD installation	483724.8
Yearly saving in KWH	99927.36
Yearly saving in Rs(@Rs. 7.5/KWH)	749455.2

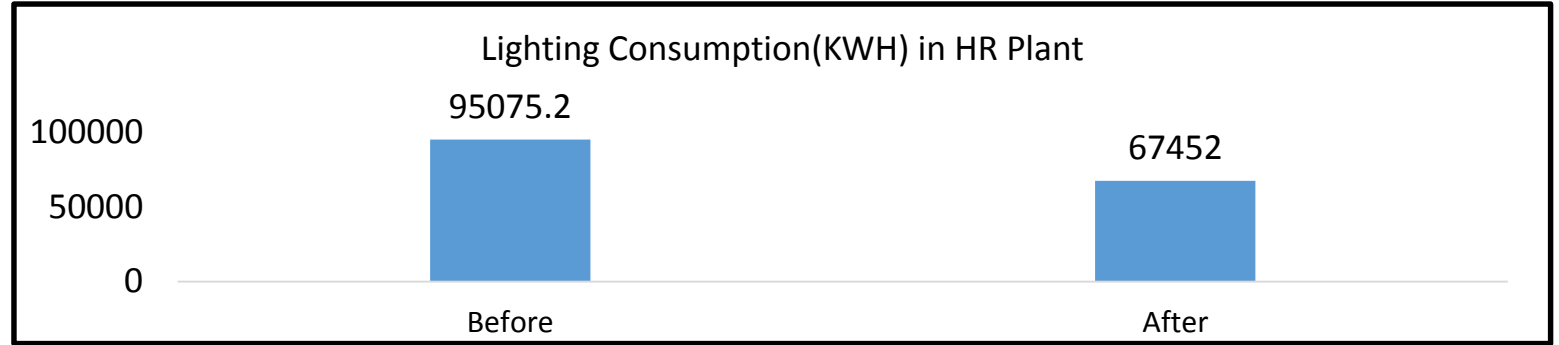
**❑ VFD Installation in Processing Lines**

- VFD Installed in Water Pumps and Hydraulic Power Pack
- Total MWH consumption saving per Year **99 MWH**
- Annual Saving Rs **7,49,455 .**

**BEFORE**



**AFTER**



HR Plant Shed Light Details before Transparent sheets	Power Consumption	HR Plant Shed Light Details after Transparent sheets	Power Consumption
Wattage of each lamp fitting	220	Wattage of each lamp fitting	220
No. of lamps HR Plant(Exp PKL)	54	No. of lamps HR Plant(Exp PKL)	54
Working hours of each lamp/day	16	Working hours of each lamp/day	12
Total KWH cons. per day in HR plant (Except PKL)	190.08	Total KWH cons. per day in HR plant(Except PKL)	142.56
No. of lamps in PKL	16	No. of lamps in PKL	16
Working hours of each lamp/day	20	Working hours of each lamp/day	12
Total KWH cons. per day in PKL	70.4	Total KWH cons.per day in PKL	42.24
<b>Total KWH cons. in HR Plant per Day</b>	<b>260.48</b>	<b>Total KWH cons.in HR Plant per Day</b>	<b>184.8</b>

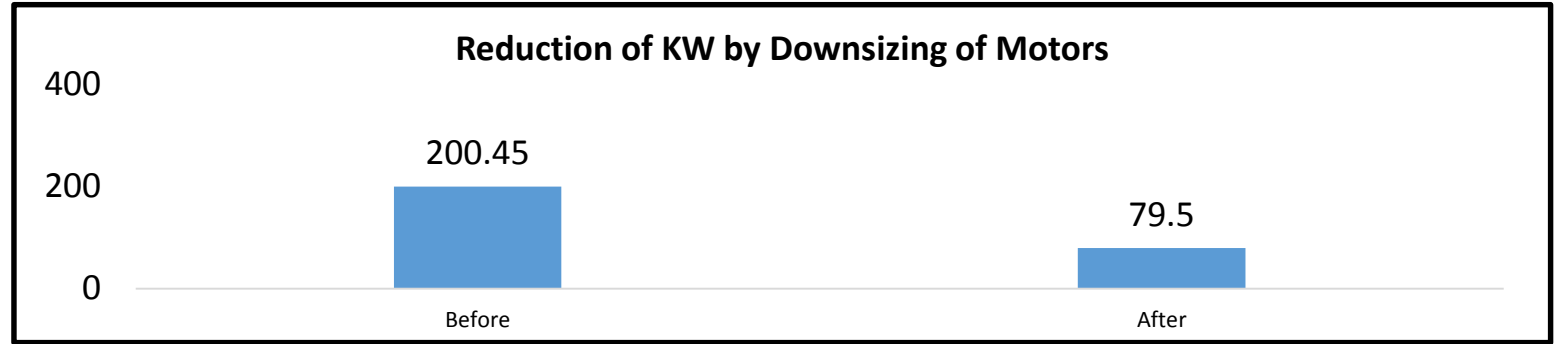
**❑ Poly Carbonate Transparent Sheets Installed for Day Light Harvesting in HR Plant**

- Transparent Sheets installed in HR Plant for Day-Light Harvesting
- Total **MWH** consumption saving per Year **27 MWH (29 % Reduction in HR Plant Shed Light Cons.)**
- Annual Saving **Rs 2,07,174**

## BEFORE



## AFTER



Sr no	Location	Previous Motor Ratings (in KW)	New Motor Ratings (in KW)
1	CRWCTL Feed Roll	59.45	13.5
2	CRWCTL Pinch Roll	30	0
3	CRNCTL Feed Roll	22	13.5
4	CRS Hydraulic Power Pack	22	11
5	CRNCTL Stacker	4	0
6	HRNCTL Hydraulic Power Pack	22	11
7	CRWCTL Uncoiler	30	25
8	Boiler Modulation Blower	11	5.5

### Right - Sizing of Motor in Processing Lines

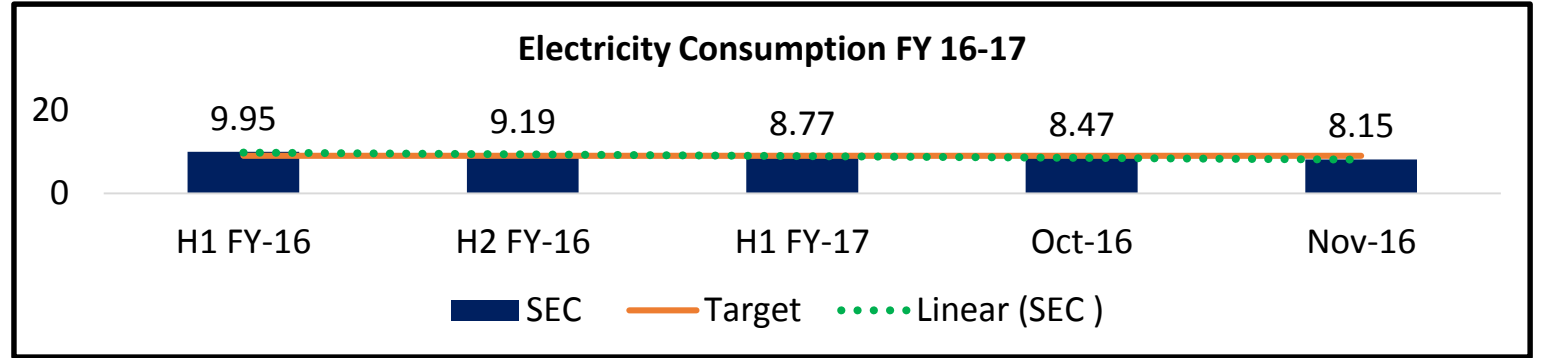
- Motor Downsizing from Higher kw to lower kw in Processing lines.
- Total KW Reduced in Plant **120 KW.**



**BEFORE**



**AFTER**



Details	Power Consumption
Avg KWH from Apr 15- Dec15(KWH/MT)	9.88
Avg KWH from Jan 16- Nov16(KWH/MT)-(Project Stared in Jan-16)	8.65
KWH Saving per MT	1.23
Avg Monthly Production	19498.23
Monthly KWH Saving	23982.82
Expected Yearly KWH Saving in FY17	287793.87

**☐ Reduction in Idle running of Motors in Processing Lines**

- PLC Program Modification done to Reduce Idle Running of Motor. Also Energy Saving Hooter/Temperature controller installed in Processing Lines and Utility.
- Total **MWH** consumption saving per Year **288 MWH (12.5% Reduction in Plant Specific Energy Consumption)**
- Annual Saving **Rs 21,58,454.**

- Energy Efficiency
- **Renewable Energy**
- GHG Emission Mitigation
- Water Conservation
- Waste Management
- Material Conservation
- Green Supply Chain
- Others





Energy Substitution Implementing Solar Water Heater		
Details	Consumption / Savings	UOM
Monthly LDO Saved due to Solar Water Heater(Installed in Dec-13)	4081	Ltr
Yearly Mega Joules Saved	2089968.25	Mega Joules
Total Energy Consumed In FY15	17305577.14	Mega Joules
Total Energy Consumed In FY15 if Solar Heater Not Installed	19395545.39	Mega Joules
<b>Energy Substitution Implementing Solar Water Heater</b>	<b>10.78</b>	<b>%</b>

Reduction of Boiler fuel consumption through use of Solar water Heater		
Details	Rate	UOM
LDO saving after installation of Solar preheater	1.14	Lt/MT
Pickling Avg Production Monthly	3580	MT
LDO saving Monthly	4081.2	Ltr
Monthly LDO saving after installation of Solar preheater	204060	Rs

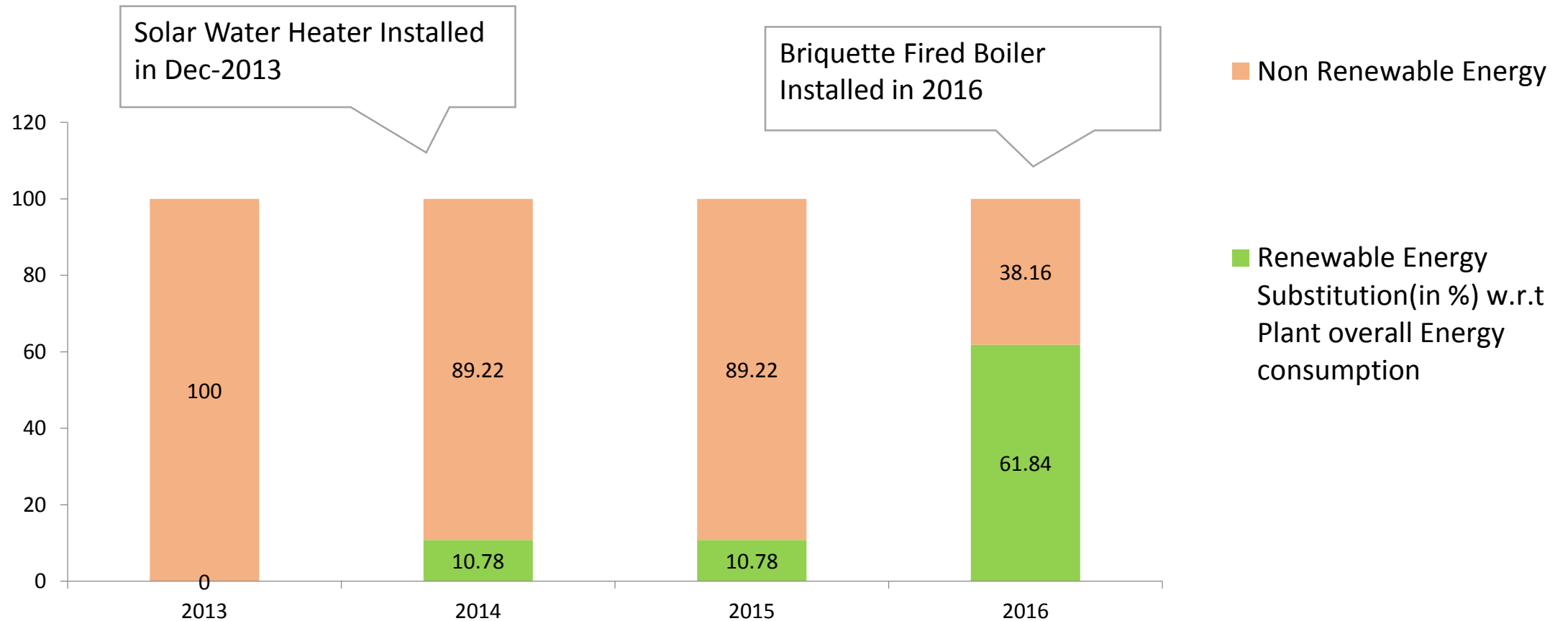
- Boiler Fuel consumption Reduced by 14 % through usage of Solar Water Heater
- 10.78% of Overall Plant Energy Substitution Through Solar Water Heater



Energy Substitution Implementing Briquette Fired Boiler		
Details	Consumption/ Savings	UOM
Yearly Mega Joules Saved in Thermal Energy after Implementing Briquette Fired Boiler	10702061.14	Mega Joules
Overall Plant Electricity Consumption in FY15	1834310	KWH
Overall Plant Electricity Consumption in FY15 in Mega Joules	6603516	Mega Joules
Total Energy Consumed In FY15	17305577.14	Mega Joules
<b>Energy Substitution Implementing Briquette Fired Boiler</b>	<b>61.84</b>	<b>%</b>

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

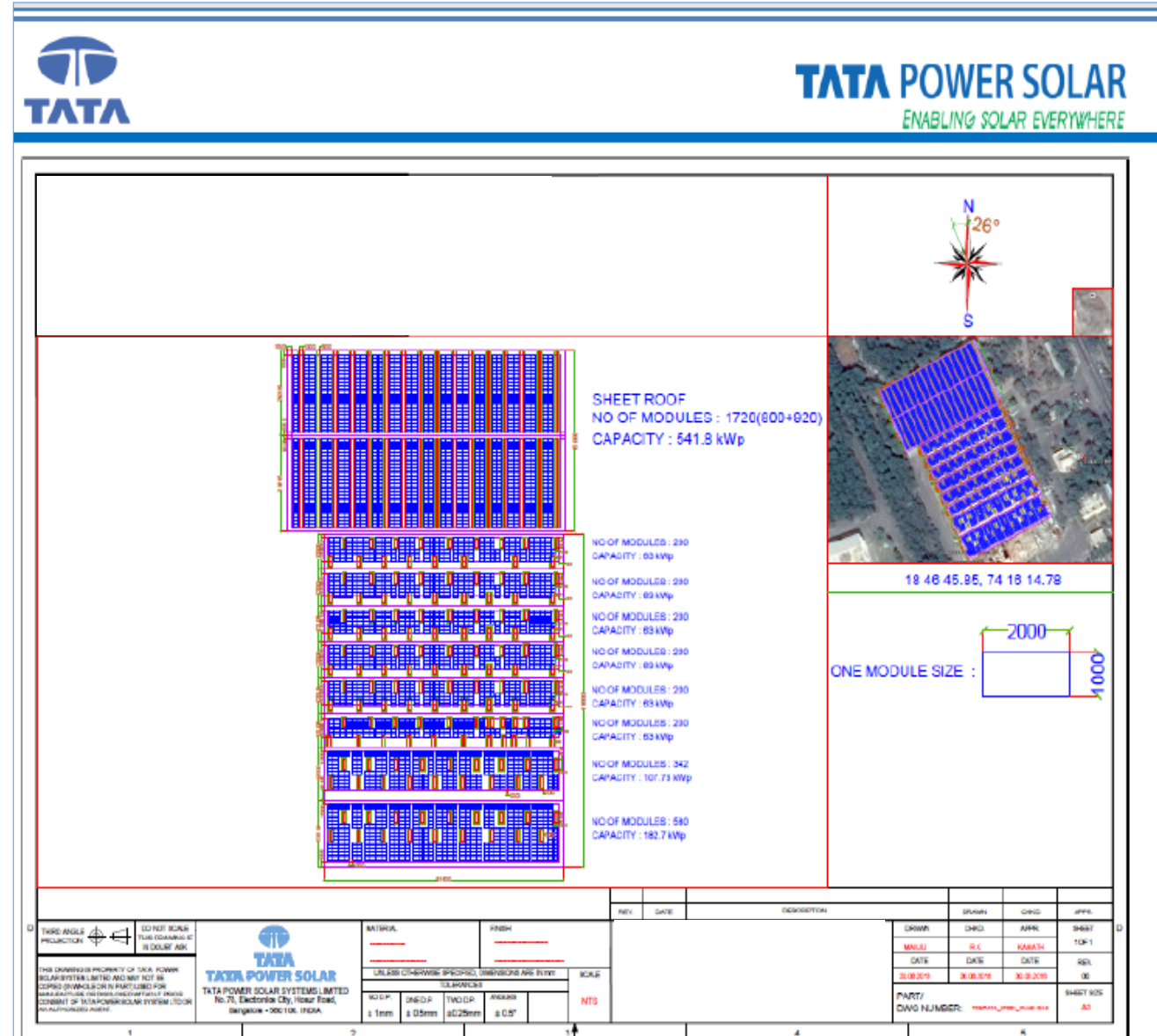
## Renewable Energy Substitution



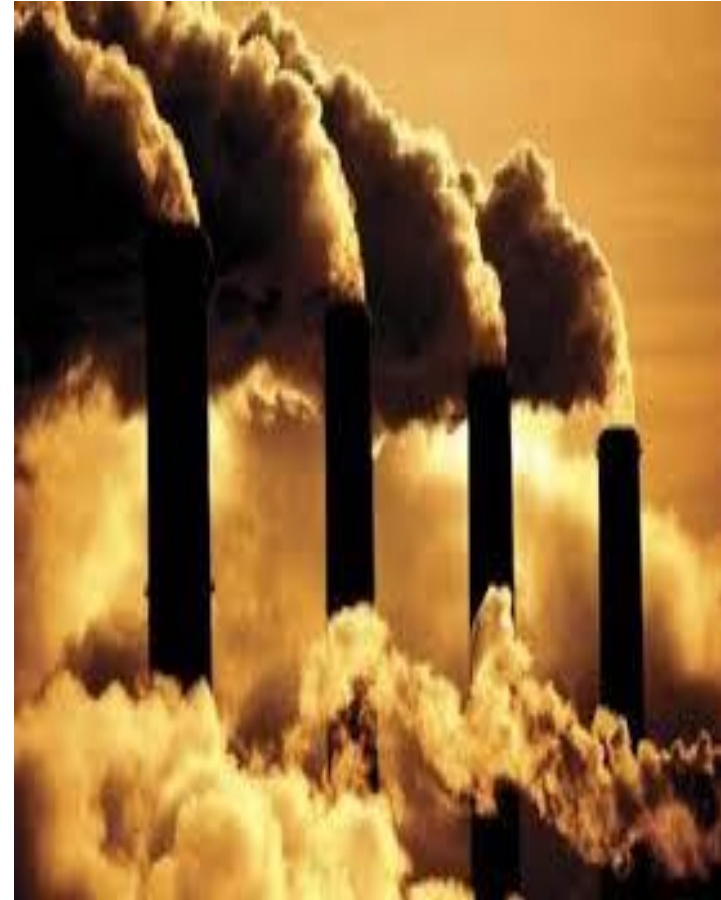
## Project Status

Site Survey Completed by Proposed Vendors

- Total System Capacity Proposed– **500 KWp**
- Substitution of 30% of Electricity consumption through Renewable Energy.
- After completion of this project 75% of Overall Energy Consumption will be obtained from Renewable Energy.



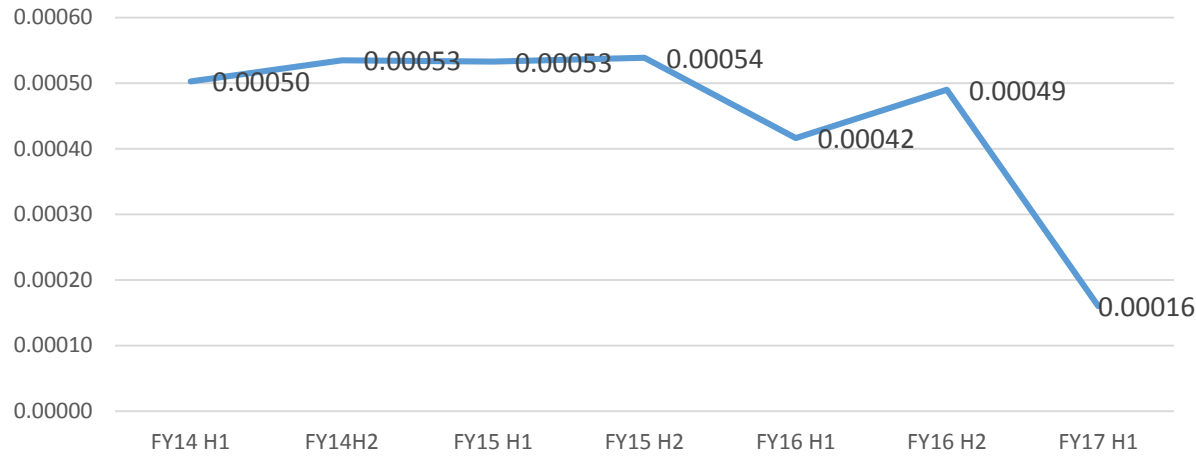
- Energy Efficiency
- Renewable Energy
- **GHG Emission Mitigation**
- Water Conservation
- Waste Management
- Material Conservation
- Green Supply Chain
- Others



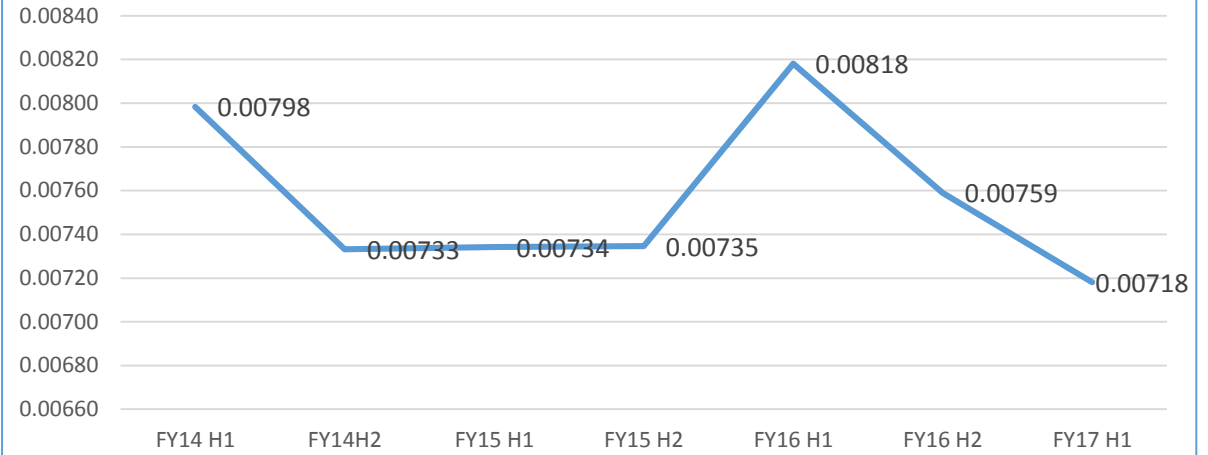


# INVENTORISATION OF SCOPE 1,2,3 EMISSIONS

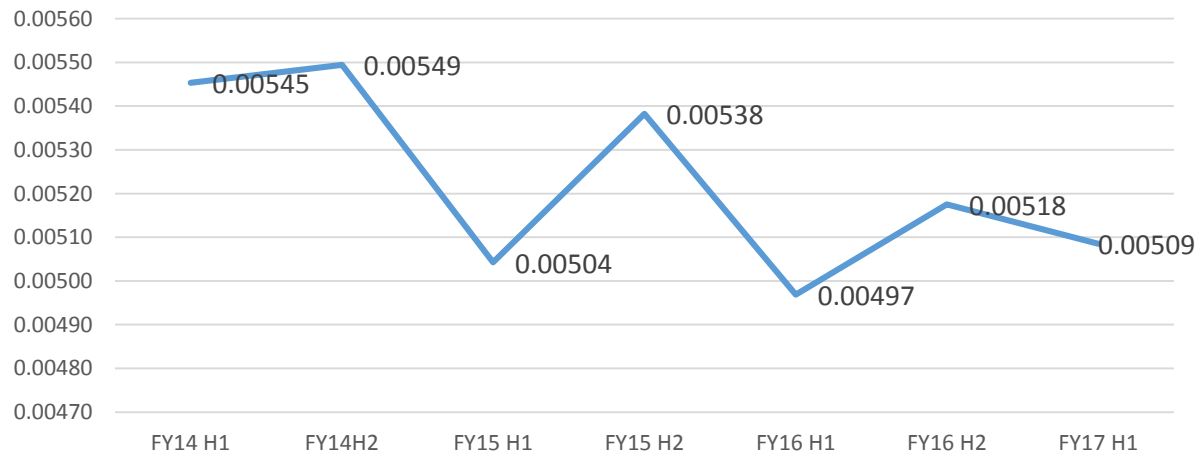
Specific Emissions (CO2 Scope -1) tCO2e/t



Specific Emissions (CO2 Scope-2) tCO2e/t



Specific Emissions (CO2 Scope-3) tCO2e/t



		UOM	Reduction %
Scope 1	Fuel	TCO2e/MT	68.2%
Scope 2	Electricity	TCO2e/MT	10.1%
Scope 3	Logistics	TCO2e/MT	6.8%





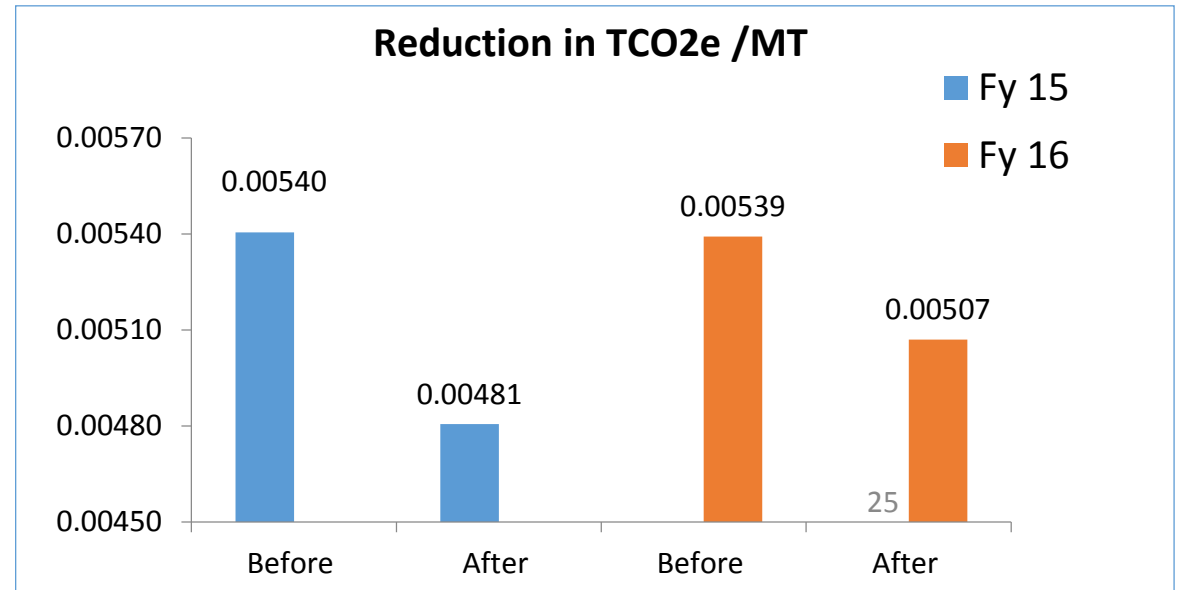
# VEHICLE POOLING FOR TRANSPORTATION

Two / Three customers of same destination , material sent in same vehicle to control carbon emission (TCO<sub>2</sub>e)

Year	TCO <sub>2</sub> e - before clubbing	TCO <sub>2</sub> e - after clubbing	Reduction in emission of TCO <sub>2</sub> e
FY 15	231.62	215.322	16.298
FY16	241.58	227.15	14.43



Average 0.00046 TCO<sub>2</sub>e /MT reduction achieved





- PUC Certificate mandatory
- Awareness Creation among truck drivers



**TATA STEEL PROCESSING AND DISTRIBUTION LIMITED**  
 Ranjangaon, Pune

3LA No. ①

**VEHICLE CONDITION CHECK SHEET FOR LOADING/UNLOADING**  
 Doc No: TSPDL/OHS/VC-Rev0.1

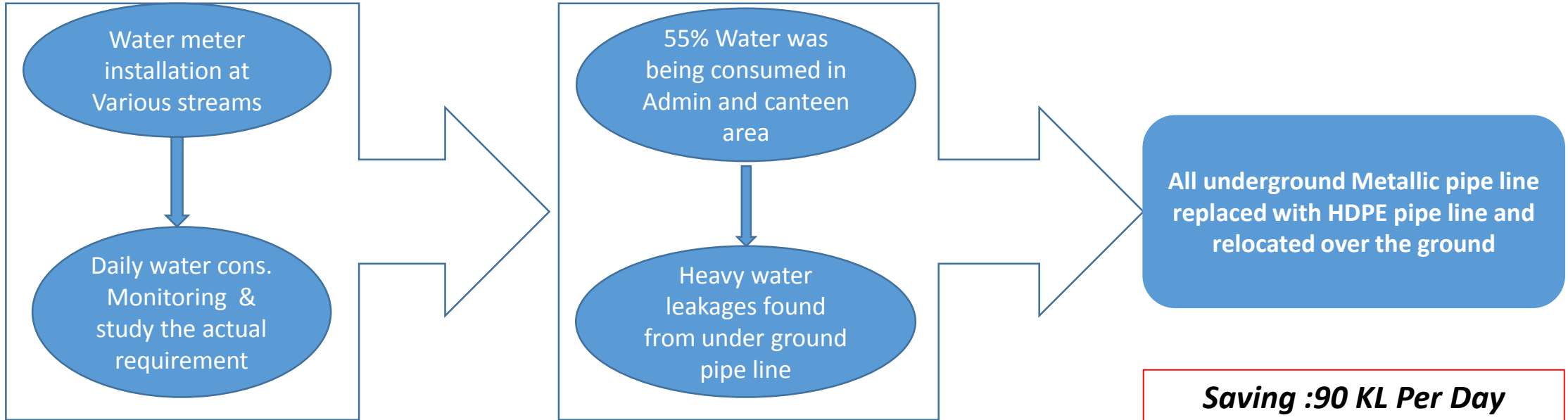
Vehicle Reg No. MH 49 Q380 Date 05/06/16  
 Name of Driver Suresh Name of Transporter Dexcel

Sl. No.	Equipments	Parameter / Standard	Status		Remarks
			OK	NOT OK	
1	Registration	All vehicle should be registered vehicle inspection system	✓		
2	Rear view mirror	3 piece minor (Good Physical condition)	✓		2
3	Horn	Horn Audible	✓		
4	Reversing Hooter	Horn Audible	✓		
7	Body condition	No major damages in load carrying members-Bed	✓		
8	Trailer Bed	No major damages in load carrying members-Bed	✓		
9	Brake condition A. Foot Brake	Shall stop within 2meters	✓		
10	B. Hand Brake	Effectively Working. (Brake at parking place)	✓		
11	Emission Check	PUC Certificate (Shall be valid in the period of visit in TSPDL)	✓		H-16
12	Head Light	Slights onment	✓		
	Blinker Light	Slights onment	✓		



- Energy Efficiency
- Renewable Energy
- GHG Emission Mitigation
- **Water Conservation**
- Waste Management
- Material Conservation
- Green Supply Chain
- Others



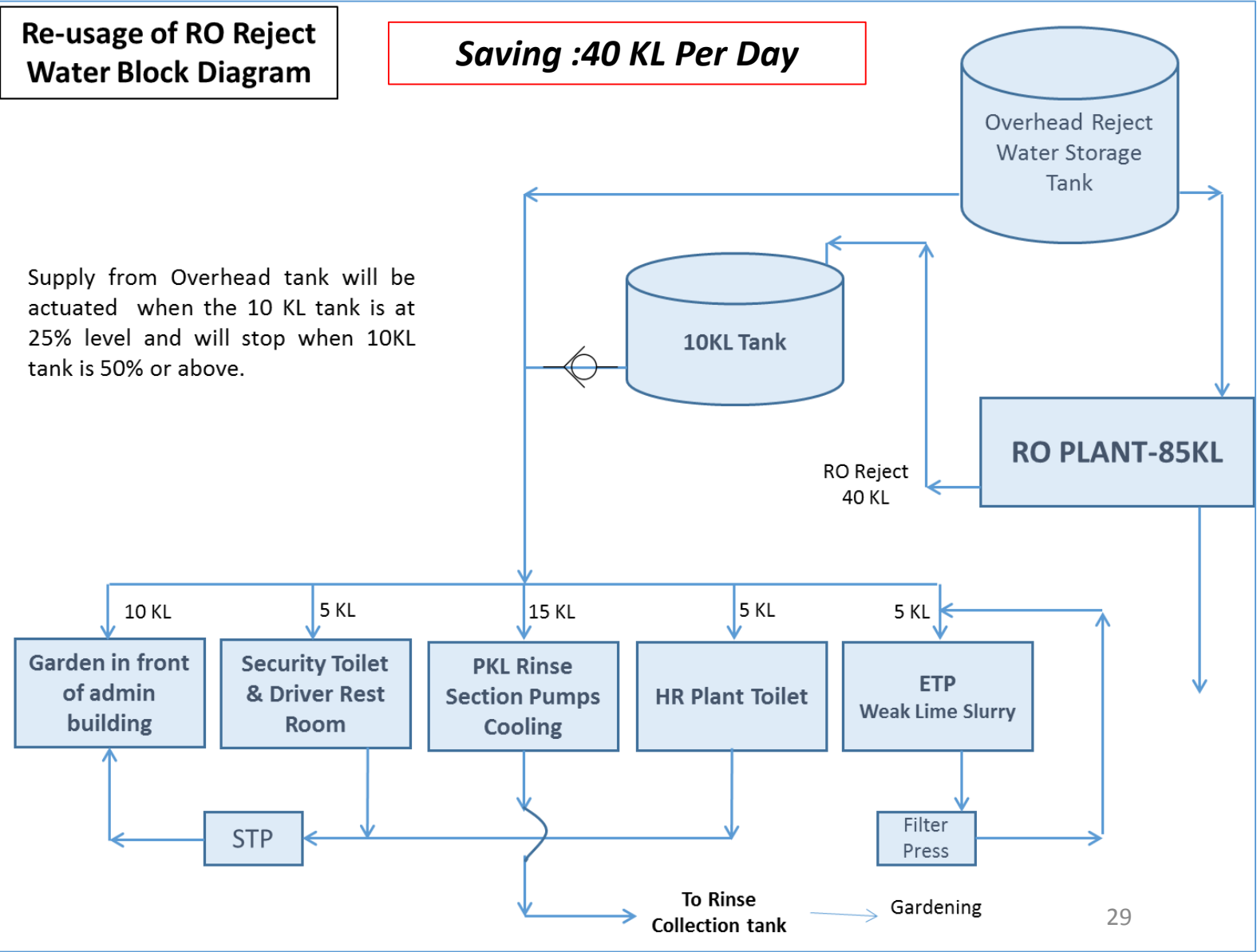




Overhead Storage tank for RO Rejected water



Auto Control Valve Station





Reduction of water consumption by using self-cooling pumps



Replacement of FRPV Pipe line with PPR Pipe line- Stopped frequent water leakages

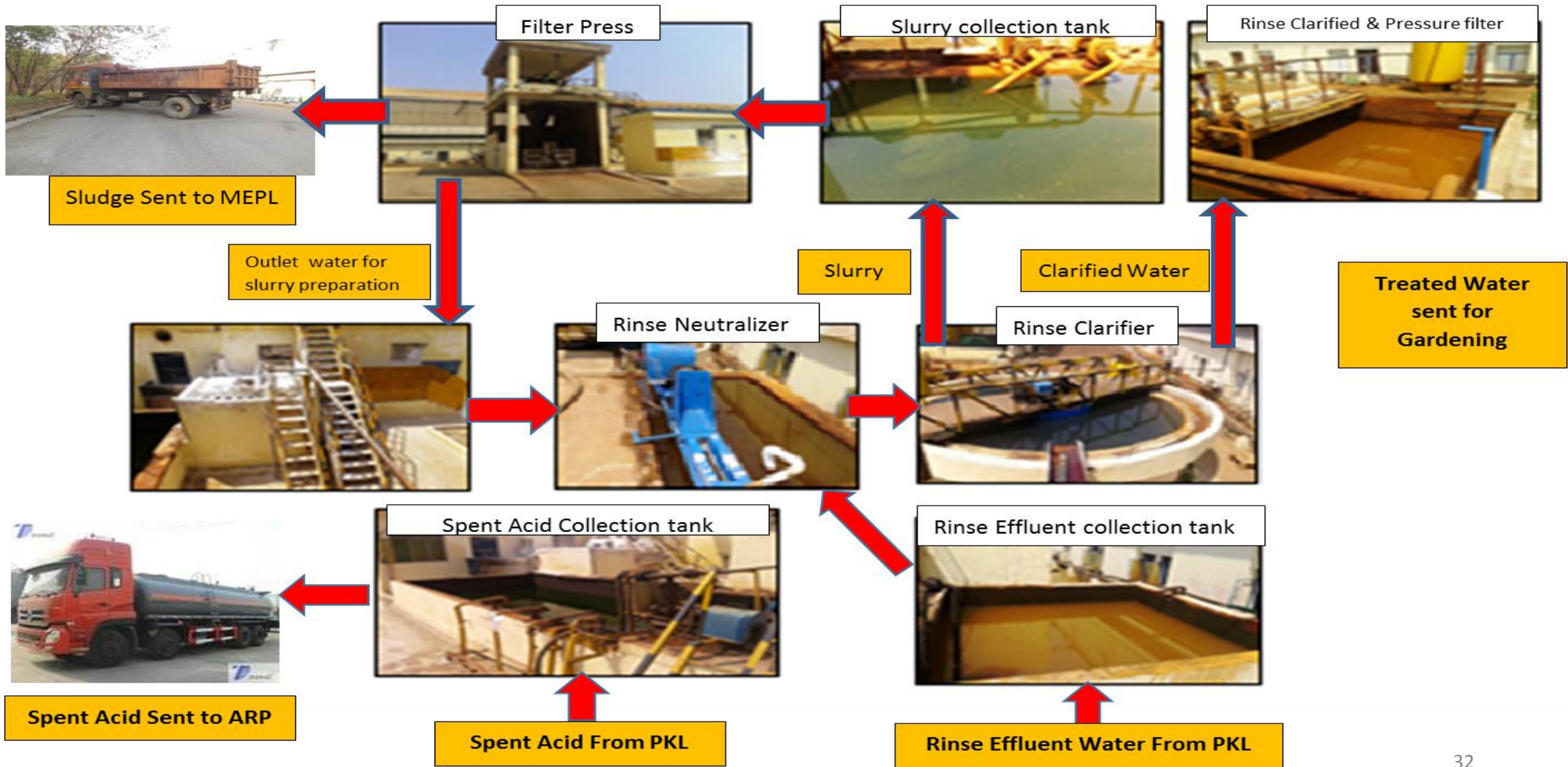


Automatic level Control for overhead water tank to avoid overflow

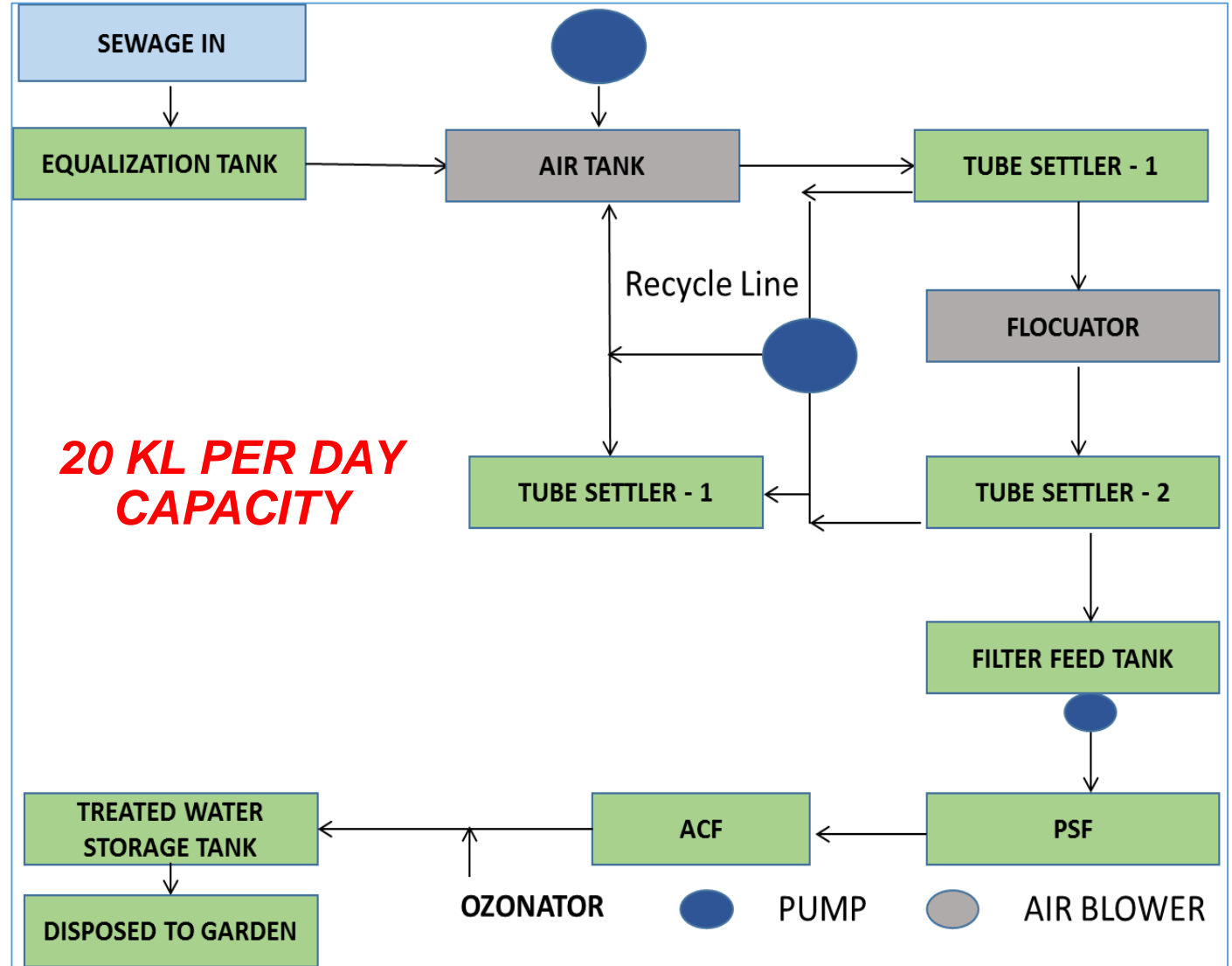
- *In a span of 4 years water consumption brought down from 250 KL/Day to 150 KL/Day.*
- *Specific Water Consumption Reduced from 0.36 m<sup>3</sup>/MT to 0.19 m<sup>3</sup>/MT*

- Energy Efficiency
- Renewable Energy
- GHG Emission Mitigation
- Water Conservation
- **Waste Management**
- Material Conservation
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- *Contaminated Rust Preventive Oil Filtration Twice a year*
- *Contaminated Hydraulic Oil Filtration Twice a Year*

- Energy Efficiency
- Renewable Energy
- GHG Emission Mitigation
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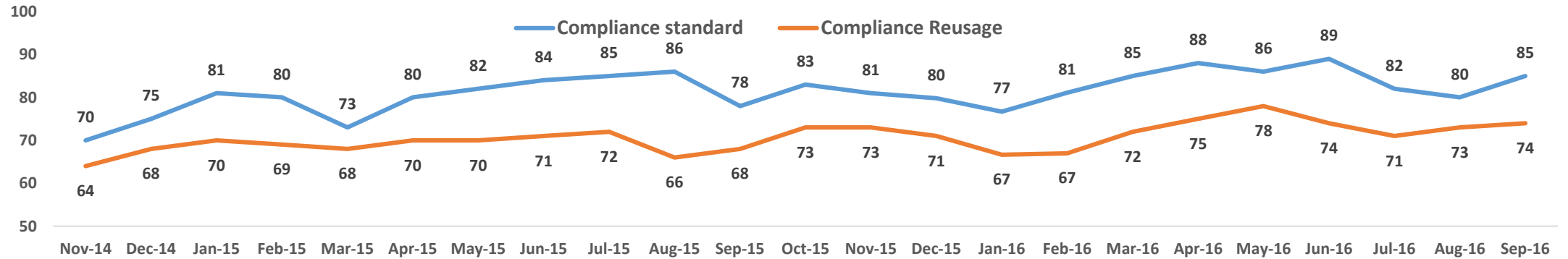
# PACKAGING MATERIAL CONSERVATION

## Packaging Audit

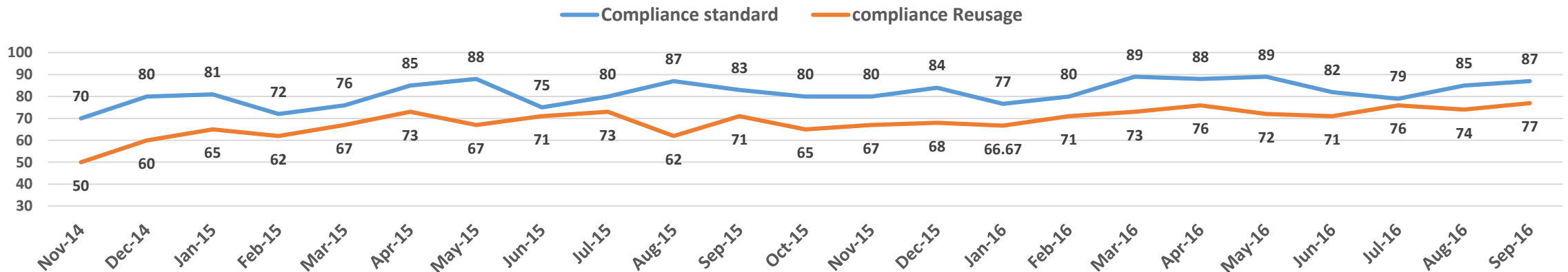
Standard Compliance Target - 85%

Re-usage Target- 75%

### CR Monthly Packaging Audit score



### HR Plant Monthly Packaging Audit Score





# USE OF STEEL PALLETS



Steel Pallet is one option to eliminate wood completely. TSPDL Pune has initiated to use it for packing FG material which goes to customer and is returned back to TSPDL.

**These pallets has a life of around 20 cycles compared to around 2 cycles of wood**

- Energy Efficiency
- Renewable Energy
- GHG Emission Mitigation
- Water Conservation
- Waste Management
- Material Conservation
- **Green Supply Chain**
- Others





## Green Supply Chain – Guideline

Tata Steel Processing And Distribution Limited, Pune shall remain committed to sustainable development through eco-friendliness of all its products, activities and services.

Following Guidelines considered while purchasing materials:

- Procure Energy Efficient equipment
- Look at Total Cost of Ownership (TCO) or Life Cycle Costing (LCC) for equipment/Machine at the time of purchase.
- Procure high Shelf life material.
- Develop competencies amongst suppliers, transporters, dealers in areas such as resource conservation, energy conservation, sustainable development training programs, sharing of good practices, education and communication.
- Procure material which has low environmental impact.

  
Ashwani Kumar  
GM – West  
14<sup>th</sup> June 2016

**TATA** STEEL PROCESSING AND DISTRIBUTION LIMITED

- *Total Cost of Ownership (TCO) or Life Cycle Cost (LCC)*
- *High Shelf Life*
- *Develop competency*
- *Eco – Friendly material*









# SUPPLIER AUDITS

TATA SUPPLIER AUDITCHECK SHEET	
Supplier Informations FY-14	
Supplier Name & Location :	SVS chemical corporation
Address :	910 New Rasta Peth pune 411011
Phone :	020-26067098
Fax :	020-26067063
Email :	Marketing@svschemical.com
Contact Person (Name, Phone, Email) :	Ramesh Nangare 9765405647
Managing Director :	Sunil Shah
Turnover :	200 cr.
No. of Employees :	20
System Complaine	

IX Green/Environmental Initiatives					
1	Does plan and depoyement of initiatives demonstrated?				✓
2	Are all the legal requirements identified and fulfilled?				
3	Are you disposing the waste generated from your plant in an environmentally friendly		✓		
4	Are Environmental Harzardous material identified.		✓		
5	Are you disposing the waste/Harzardous generated from your plant in an environmentally friendly		✓		
6	Are Kaizens related to green/environment being done and demonstrated?	✓			

Guidelines for Scoring : 0 - No evidences; 1 - Minimum evidences; 2 - Evidences that demonstrates compliance more than 75%; 3 - Demonstration with complete evidences; N/A - Not applicable

Prepared by : Purchase Incharge Sign: _____	DOC. NO. : TPNQ/QMS/PUR/17
Approved by : Functional Head Sign: _____	REV. NO. : 01 REV. DATE : 10.05.13 PAGE NO. : 4 OF 4



TATA SUPPLIER AUDITCHECK SHEET	
Supplier Informations FY-16	
Supplier Name & Location :	S.P. Enterprises Kandoli, Post-Shirur Pune.
Address :	967393939
Phone :	
Fax :	
Email :	
Contact Person (Name, Phone, Email) :	
Managing Director :	
Turnover :	
No. of Employees :	
System Complaine	

**SAMPLE AUDIT SHEET**

IX Green/Environmental Initiatives					
1	Does plan and depoyement of initiatives demonstrated?				✓
2	Are all the legal requirements identified and fulfilled?				
3	Are you disposing the waste generated from your plant in an environmentally friendly		✓		
4	Are Environmental Harzardous material identified.		✓		
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Guidelines for Scoring : 0 - No evidences; 1 - Minimum evidences; 2 - Evidences that demonstrates compliance more than 75%; 3 - Demonstration with complete evidences; N/A - Not applicable

TATA SUPPLIER AUDITCHECK SHEET	
Supplier Informations FY-16	
Supplier Name & Location :	ECO LOGS Nanded.
Address :	
Phone :	
Fax :	
Email :	
Contact Person (Name, Phone, Email) :	
Managing Director :	
Turnover :	
No. of Employees :	
System Complaine	

VIII Continuous Improvement :		Sub-total			
1	Are Kaizens being done regularly ?				✓
2	Are Kaizens recorded ?		✓		
3	Are Kaizens demonstrated in the Shop Floor ?		✓		
		Sub-total			
		2 6			

IX Green/Environmental Initiatives					
1	Does plan and depoyement of initiatives demonstrated?				✓
2	Are all the legal requirements identified and fulfilled?				
3	Are you disposing the waste generated from your plant in an environmentally friendly		✓		
4	Are Environmental Harzardous material identified.		✓		
5	Are you disposing the waste/Harzardous generated from your plant in an environmentally friendly		✓		
6	Are Kaizens related to green/environment being done and demonstrated?				✓



## FY15

M/s SP Enterprises being awarded for deploying initiative of using 100% used/second wood.

## FY16

M/s Rajmudra Transport being awarded for deploying initiative of double delivery to our customer.

Result is reduction of CO<sub>2</sub>e by 0.0006 TCo<sub>2</sub>e/MT



- Energy Efficiency
- Renewable Energy
- GHG Emission Mitigation
- Water Conservation
- Waste Management
- Material Conservation
- Green Supply Chain
- **Others**





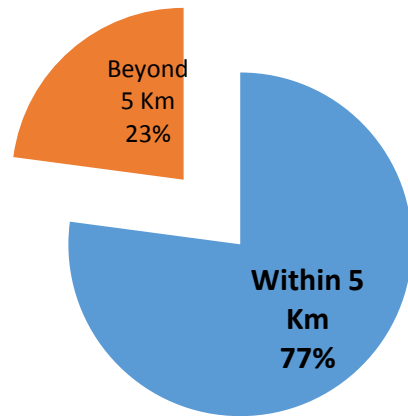
- House-keeping chemicals complying to GS-37 standard used
- List of approved house keeping chemicals along with MSDS maintained

## Employee Strength

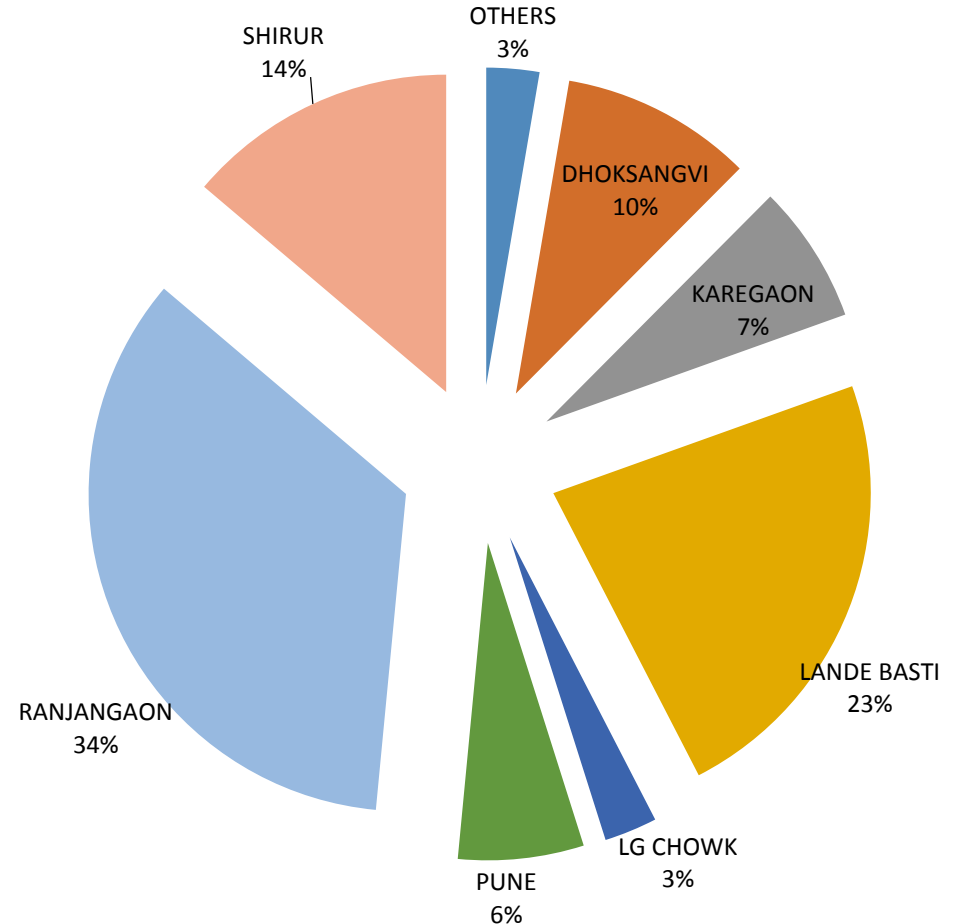
- No. of Officers – 43
- No. of Associates – 36
- No. of CWs – 218

**Total - 297**

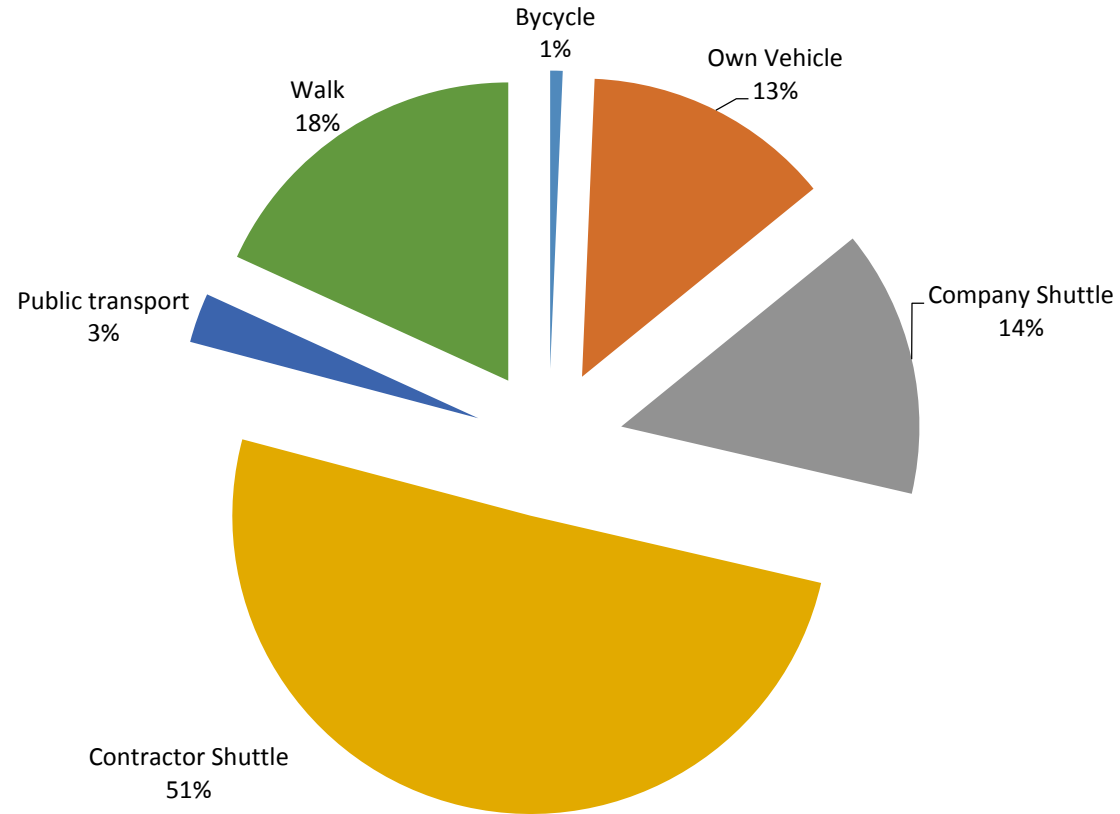
## Employees Staying Within 5 Km



## Location of Employee Residence



## Mode of Transport



## Shuttle Services

- Tempo Traveller for Pune employees – 1 No. in G shift.
- Tempo Traveller for Shirur employees – 1 No. in G & A,B,C shift
- Cab service for officers working till late.
- 3 Nos. Tata Magic vehicle in A,B,C shift for CWs



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	32.57%



Almond (badam)



Mask Tree (Ashoka)



Rose Mallow ( Jaswand )



Indian Catechu (Babul)



Sacred Fig ( Piple )



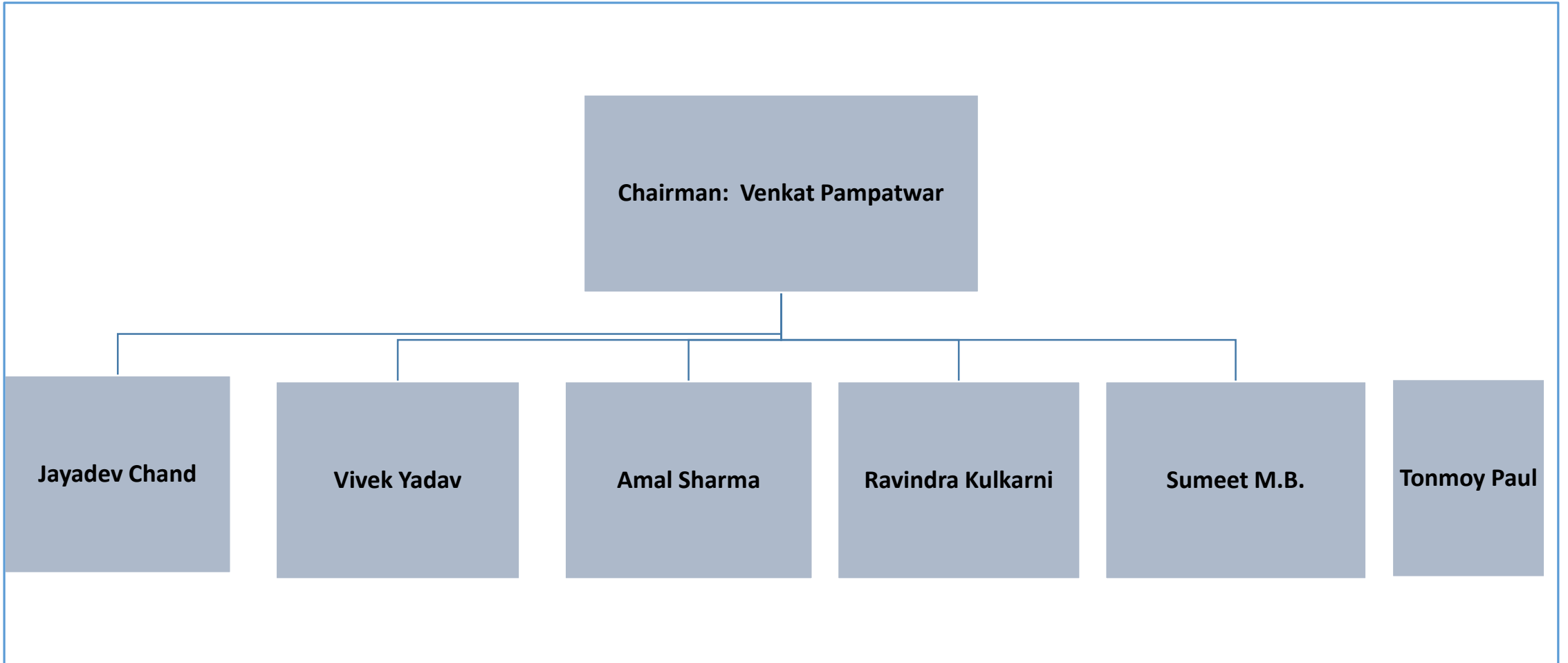
Oleander ( Kanher )

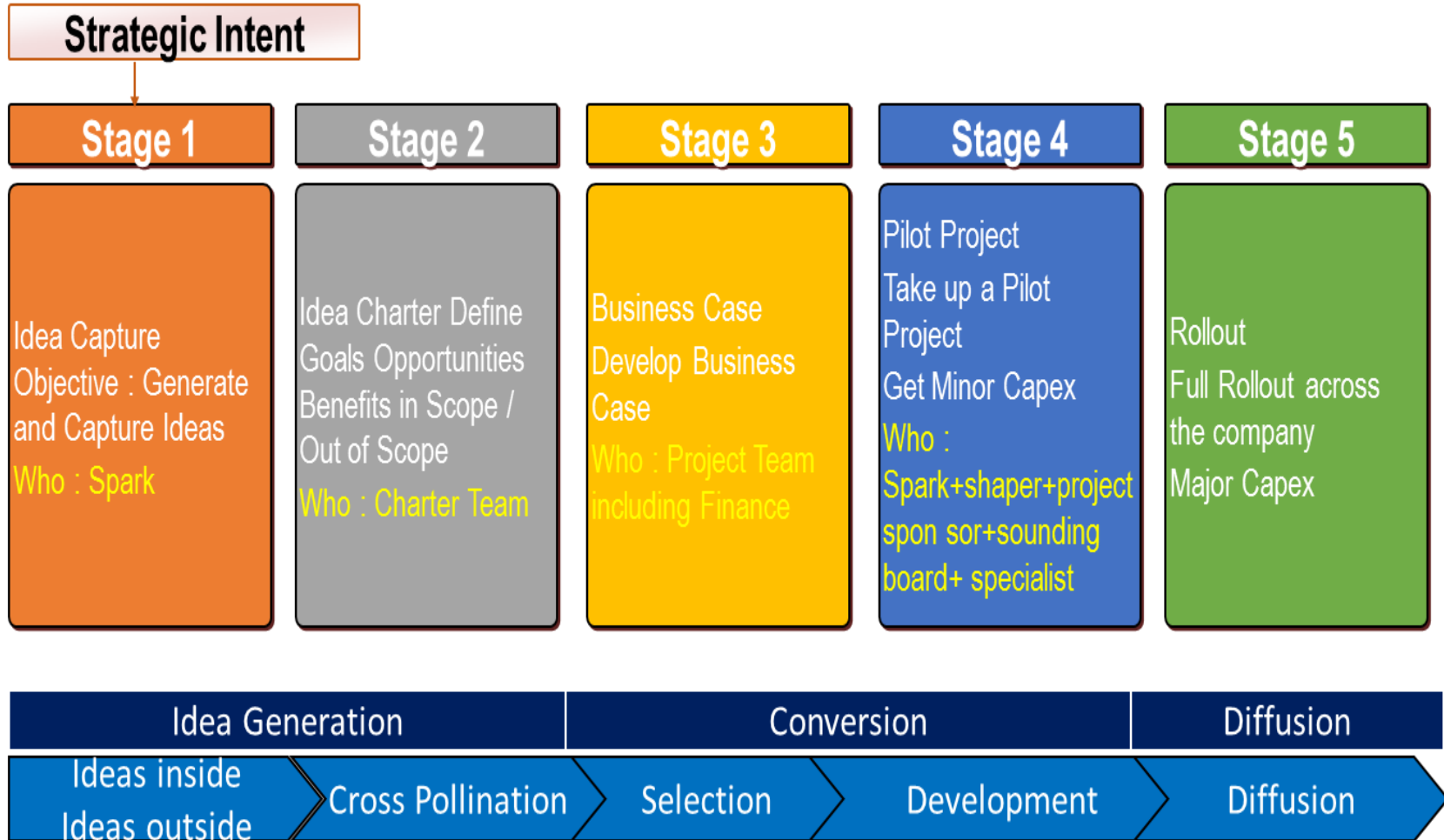


- Approx. 3000 trees of 20+ species
- 93 nos. planted in FY 17 with survival rate of 84%



## Innovation Sub-council - Pune





## Objective: Reduce Length Variation

### Background

During processing length variations observed +/- 3 to 10 mm against the set length at CR Wide Cut to length line.

### Problem: Length variation in process

- Why? Set length not measured properly on running sheet by Measuring wheel.
- Why? Measuring wheel got slipped.
- Why ? Frequent failure in setting alignment of measuring wheel.
- Why ? Uneven contact due to vibrations & shape of the processing material causes frequent failure issue of alignment

**Root cause:** Require Non- contact type Encoder.

**Goal statement:** Identify Non- contact type Length measuring device at the place of measuring wheel.



### Solution identified and implementation :

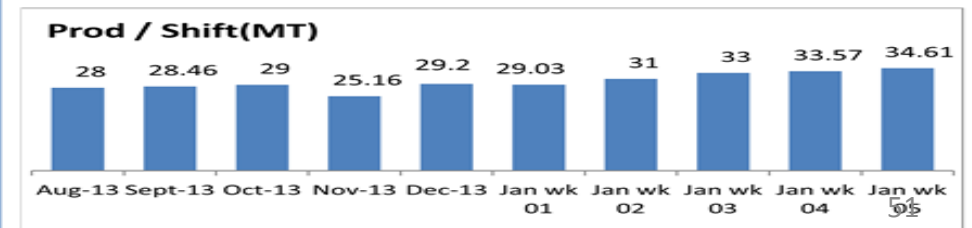
Identified Non-contact type Laser Encoder.

Supplier Beta laser Mike from USA.Installed the Laser Encoder successfully.

### Results achieved :

Length accuracy of + 1 mm achieved. Production increased.

### Reflection:



**Objective:** To improve productivity for >2 mm thick material.

**Background:** Line speed as low as 15 MPM for sheet thickness > 2 mm thick material. Processing > 2 mm thick material at higher speed was leading to bow in sheets.

**Problem: Low line speed for > 2mm thick material**

- **Why?** Loop pit dimension is 4.5 mtr x 2.25 mtr x 4 mtr suitable for processing upto 2 mm thick material only
- **Why?** Loop pit designed for different line.

**Root cause:** Require bigger loop 6.0 mtr x 2.25 mtr x 5 mtr

**Goal statement:** To create artificial loop radius by the use of analog sensor.

**Solution identified and implementation :**

Installation of Analog Laser Distance sensor on top of loop pit at a height 0.5 mtr. In this design loop depth is sensed from top whereas in conventional design, loop depth is sensed from side.



**Results achieved :**

1. Saving of Rs.75 Lac
2. In the present Product mix, monthly production increased by 800 MT and Rs.10 Lac revenue gain per month
3. Delivery compliance improved from 81% to 96%.
4. 90 Sq.Mtr shop floor area for FG/WIP storage which would have been consumed in enlarging loop pit and relocating half of the equipment.

**Objective:** To Avoid Acid Heat Exchanger (Steam – Acid) Jamming.

## Background:

- By design no filter acid return line leading to heat exchanger used to heat the recirculated acid ( at the temperature of 75 to 80 degree Celsius).
- Graphite block holes of heat exchanger gets chocked due to pebble like structure formed as a mixture of Fe (from material under process), Rubber (squeeze rolls) and sealant.
- Productivity of pickling line and line speed reduced by 40% due to low acid temperature.
- Cost of repairs / replacement of graphite heat exchanger block: Rs. 1,00,000
- Breakdown average 04 hours per month due to shutdown of heat exchanger



## Solution identified and implementation:

- Three layer FRPV (fiber reinforced polyester vinyl) filtration system installation in acid return line filter.
- Contaminated acid is filtered in three stages before it enters the heat exchanger.
- Accumulated dirt scale and rubber is taken out from filter during weekly maintenance of pickling line.

## Results Achieved:

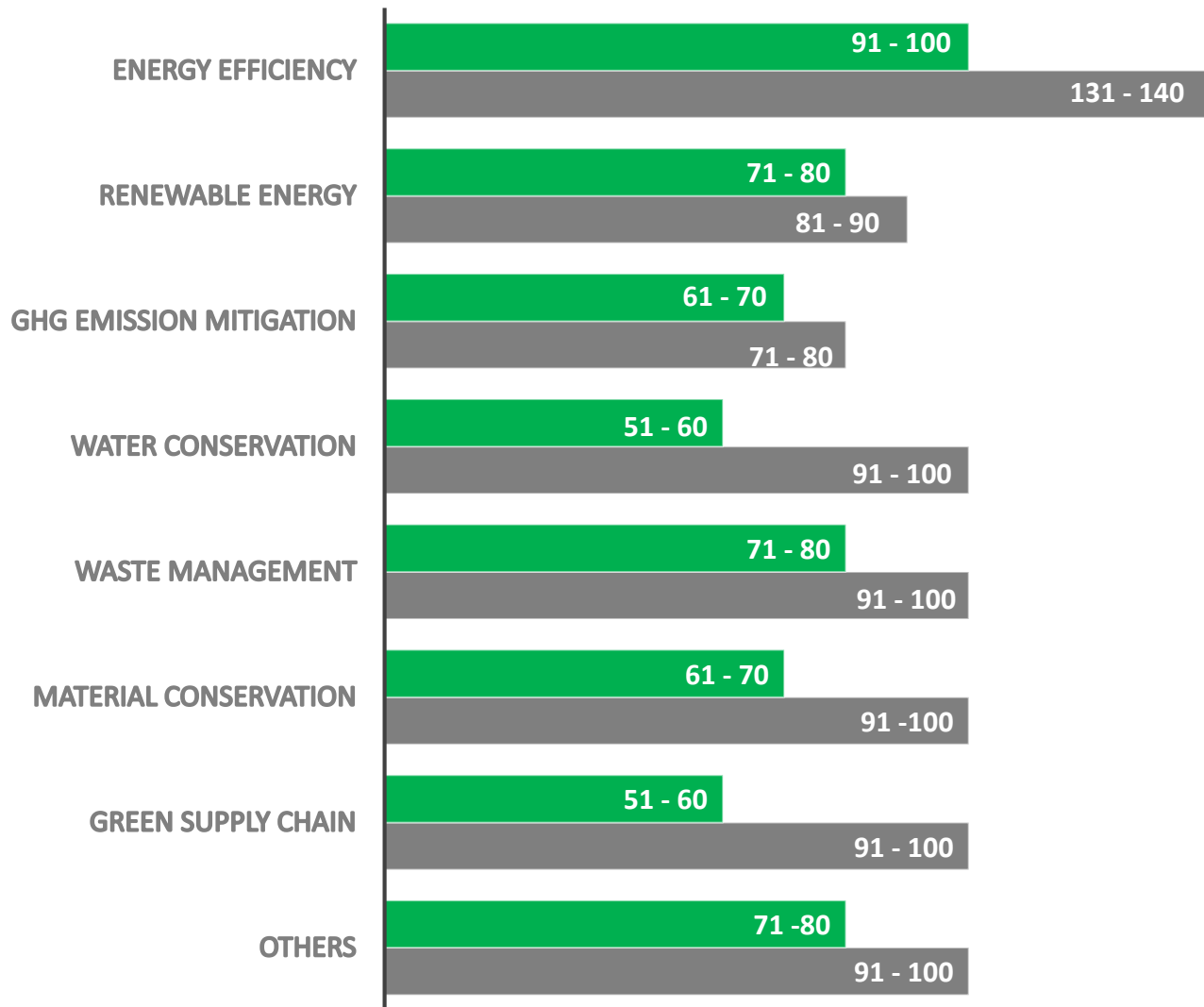
- Zero breakdown of heat exchanger, acid recirculation pump and pipelines.
- Better speed utilisation in line.
- Better Pickling quality.



where  
we  
stand



# GREENCO RATING – TSPDL PUNE SCORECARD VIS-A-VIS INDUSTRY BENCHMARK



## HIGHLIGHTS

Energy Policy, Energy Management Cell, VFDs, Stoppage of equip. idle running, T5 lamps, Natural Roof lighting, Right sizing of motors

61.84% Renewable Energy – Briquette Fired Boiler

Scope 1,2 & 3 Emissions Inventorisation, 63.5% Reduction in TCO<sub>2e</sub>

Water Policy, Water Management Cell, Water Balancing , 47% reduction in specific water consumption

ZLD Unit – ETP, STP, Acid Regeneration

Systematic Monitoring (SAP & Excel based tools), Specific Consumption Reduction – Reuse of Packaging Material

Green Procurement Guideline, Awareness Creation, Audit & Recognition Programme for suppliers

Innovation Framework & Innovations - Laser Encoder at CRWCTL, Analog Loop Sensor, Return Line Filter at PKL etc.



TSPDL Pune has been rated as – GreenCo Gold. It is the maximum points scored by any GreenCo rated company in the Building & Engineering Sector.



*Thank you!*