

CII 18th National Award for Excellence in Energy Management 2017
1 September 2017, HICC , Hyderabad CII - Sohrabji Godrej Green Business Centre
Reduction in Energy Consumption & Usage of Renewable Energy.

Khutale Engineering Pvt. Ltd.

WELCOMES

You

Location : Satara (115 Kms away from Pune)
Manpower-75+ (29 Females + 46 Males)
Floor area 10700 sq ft. (+2800 Sq. Ft Expansion)



Garden Green Outside & Hospital Clean Inside...!

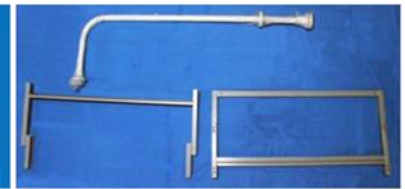
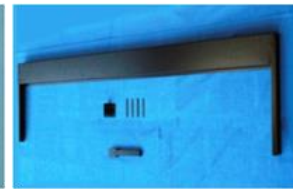
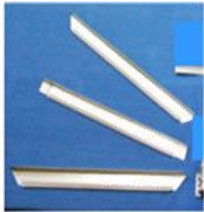
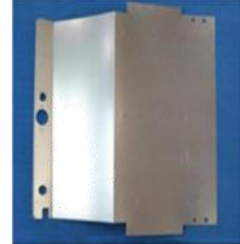
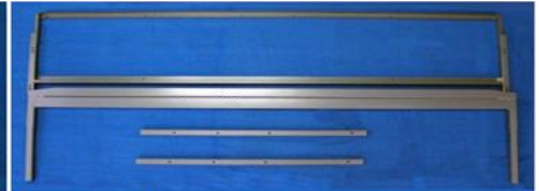


- Manufacturer of Sheet Metal press components ,
- Tubular fabrication, Assemblies with ConveyORIZED Powder Coating, ROHS Zinc Plating, Inspection – Testing, ETP and allied facilities
- An ISO 9001:2015 QMS & ISO 14001:2015 EMS certified company
- Business Excellence Manufacturing Organization
- CRISIL rated SE1B company
- CII GreenCo Platinum Rated Company.



Godrej | APPLIANCES

Godrej interio®

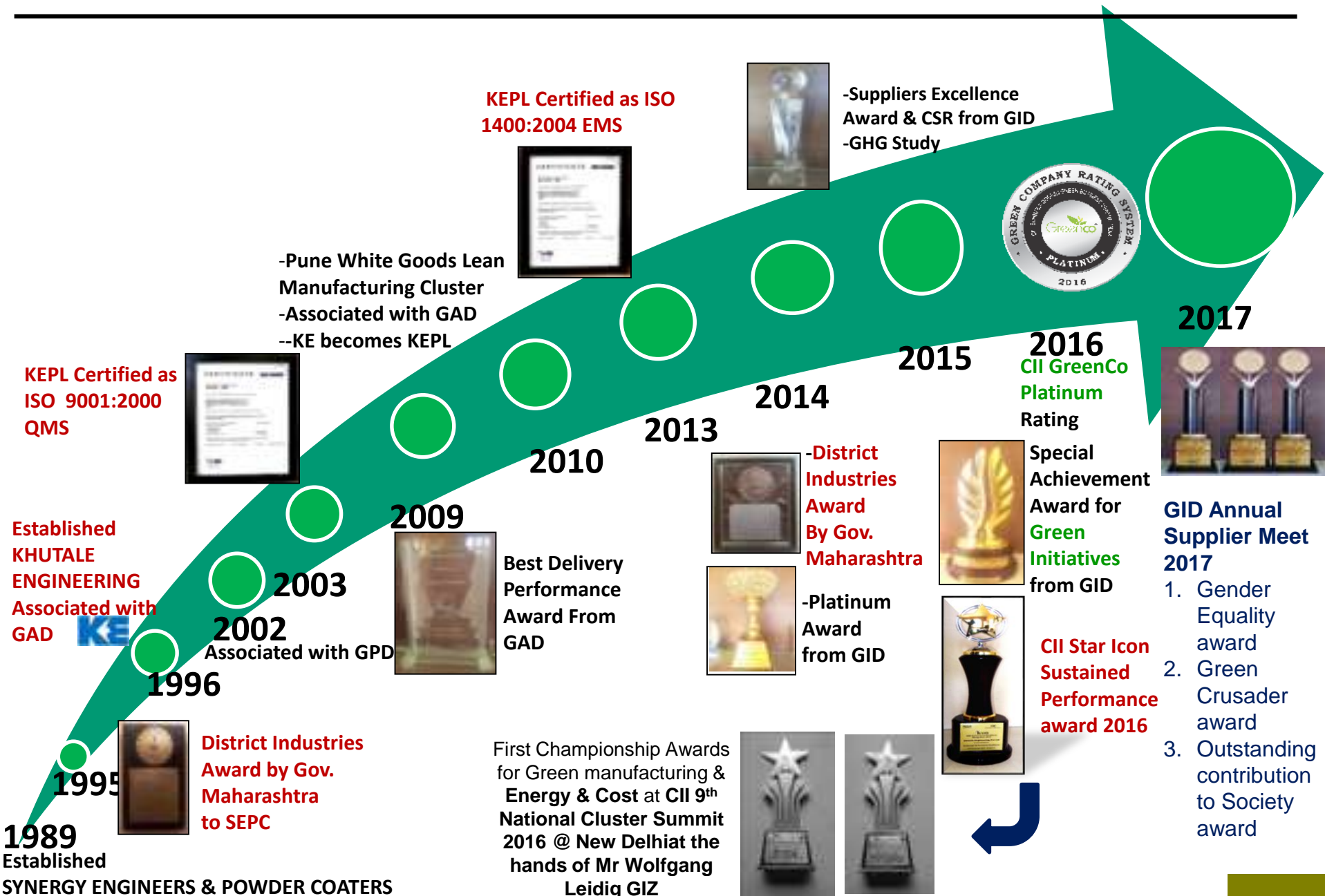


Medical Refrigerator Cabinets

Godrej | VENDING



Exteriors



1989
Established
SYNERGY ENGINEERS & POWDER COATERS



1995
District Industries
Award by Gov.
Maharashtra
to SEPC

Established
KHUTALE
ENGINEERING
Associated with
GAD



1996

2002
Associated with GPD

2003

2009



Best Delivery
Performance
Award From
GAD



KEPL Certified as
ISO 9001:2000
QMS

-Pune White Goods Lean
Manufacturing Cluster
-Associated with GAD
--KE becomes KEPL



KEPL Certified as ISO
1400:2004 EMS

2010

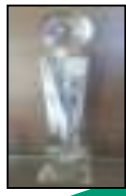
2013



-Platinum
Award
from GID



-District
Industries
Award
By Gov.
Maharashtra



-Suppliers Excellence
Award & CSR from GID
-GHG Study

2014

2015



Special
Achievement
Award for
Green
Initiatives
from GID



CII Star Icon
Sustained
Performance
award 2016



2016
CII GreenCo
Platinum
Rating



**GID Annual
Supplier Meet
2017**

1. Gender Equality award
2. Green Crusader award
3. Outstanding contribution to Society award

2017



First Championship Awards
for Green manufacturing &
Energy & Cost at CII 9th
National Cluster Summit
2016 @ New Delhi at the
hands of Mr Wolfgang
Leidiq GIZ



Green Vision

**Environment
Friendly
Products,
Processes &
Operations**

**Energy
Conservation**

**Water
Conservation**

**Material
Conservation**

**Waste
Reduction**

**RoHS Compliant
products &
processes, GHG
emission
reduction, Green
Supply Chain &
CSR**

**Reduction in
Energy
consumption YoY
100% Green
Power by 2020.**

**Reduction in
Water
consumption
YoY**

**Improvement
in RM yield
YoY**

**Zero Waste to
Land Fill**

Commitment

- **Concerned about Environment**
- **Inspiration from Gandhiji's thoughts on Environment**
- **Motivation of Customer Godrej Appliance & Godrej Interio**
- **Compliance of ISO 14001:2004 EMS Certification**
- **Learning of CII Lean Clusters Journey**

Green Policy

KE KHUTALE Engineering Pvt. Ltd.

is committed to Environment and conserve Natural Resources.
The guiding principle of our Green Policy is ,

5 R - Reduce, Reuse, Recycle, Renew and Respect .

We are committed to continually improve the Green performance in our Activities ,
Products and Services.

We will strive to :

- Conserve Natural resources such as Energy, Water, RM by optimization of their usage.
- Ensure the use of energy efficient Processes , Products & Technologies to benefit all our stakeholders.
- Adopt measures to prevent pollution by monitoring & controlling Process Water discharge, Air emission , Waste generation & Zero Landfill.
- Recognize and reward the efforts of our employees in conservation of natural resources. Share and enrich our experiences in resource conservation within the company.
- Promote use of Renewable Energy resources and 100% Green Power by 2020.
- Abide by the legal requirements.

We will continue to ensure that our operations comply with all local ,state and central statutory Rules Regulations and standards, relating to environment & conservation of natural resources.

This policy is made available to all employees & our stakeholders.

Place: Satara

Date : 5th June 2015 (World Environment Day)

Shirish P. Khutale

CMD

Drivers -

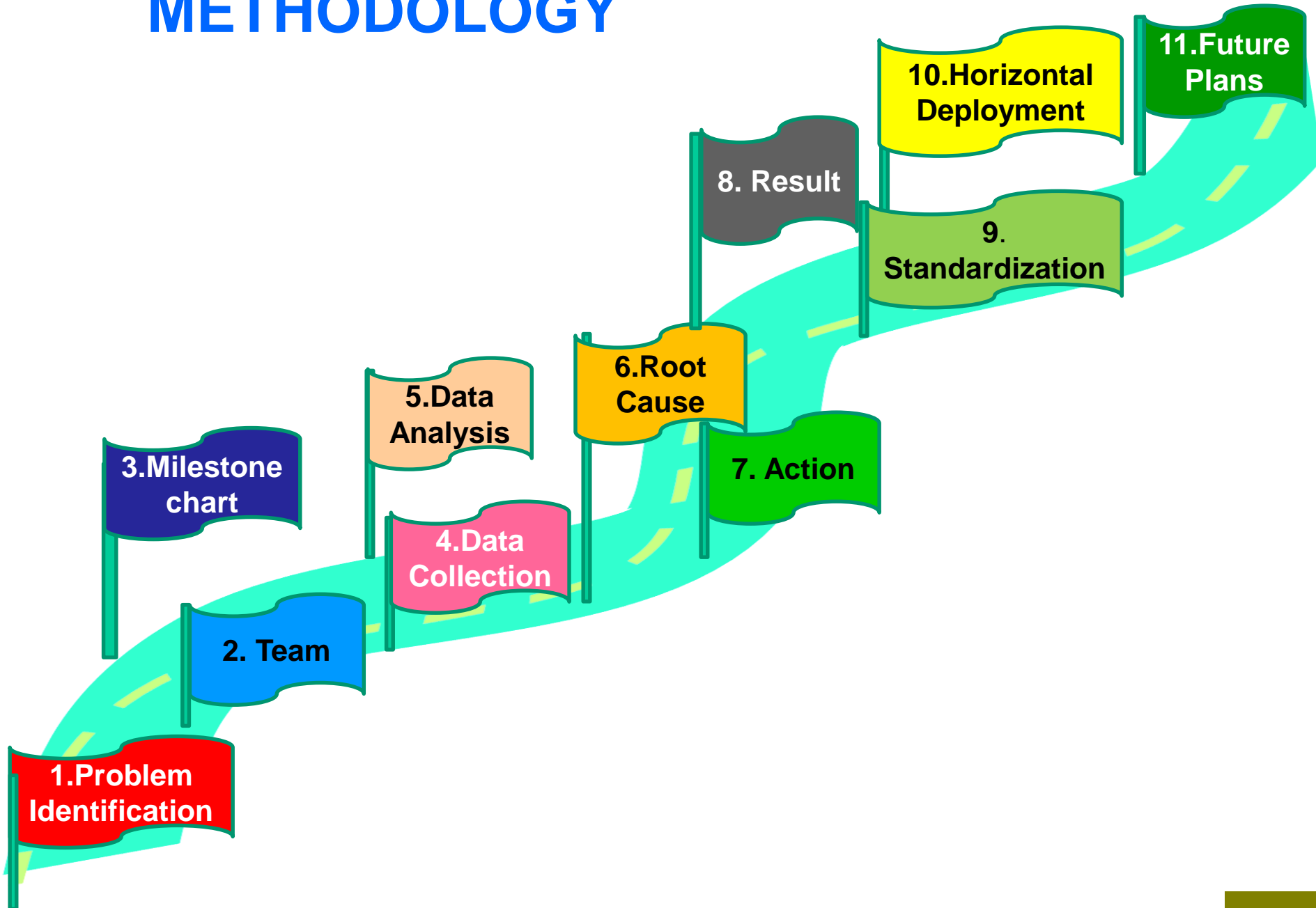
- High Energy Cost
- High GHG Emission in scope 2
- Green Manufacturing
- Compliance of ISO 14001:2015



**Reduction in Energy
Consumption &
Usage of Renewable Energy.
Journey towards Excellence
in Energy management....**

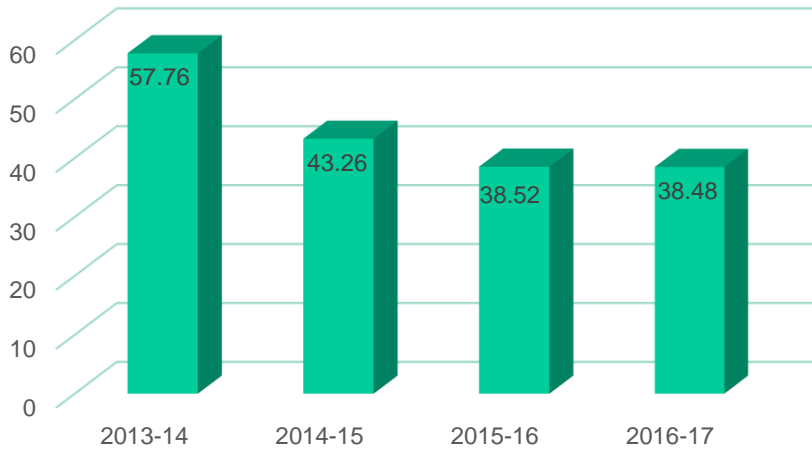
**Journey towards Excellence
in Energy Management....**

METHODOLOGY

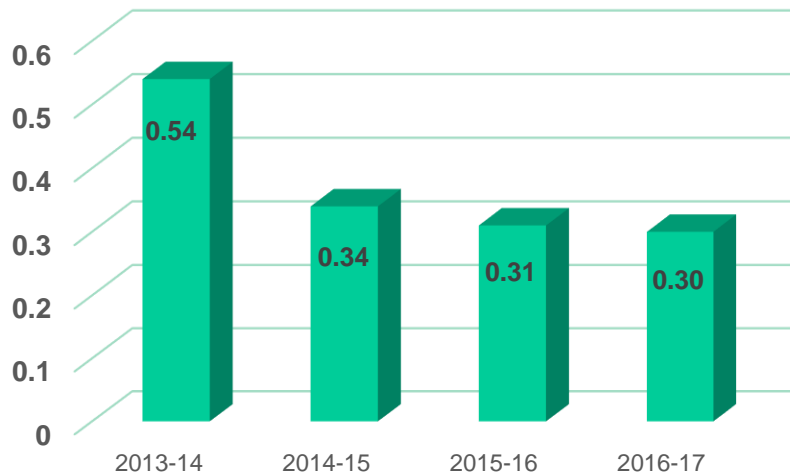


High energy cost per MT material processed

Electricity per MT.



Energy Cost to Sale % graph



Pledge For Energy Conservation

Supplier's Energy Conservation Pledge 2015

I, the undersigned, solemnly affirm that I will endeavor myself for the cause of Energy Conservation, both at factories and at offices, I will do my best to observe rules, procedures, regulations, and driving attitude & habits to implement the energy efficiency initiatives in the course of running my business.

I pledge to reduce the energy consumption through overall usage of machines, fixtures, appliances & systems requiring electricity, and to application of Energy Conservation & sustainability principles, as well as use the knowledge & skills that I have learned in the context of running my business.

In order to meet my pledge, I voluntarily commit to the following energy management program initiatives & targets for my organization:

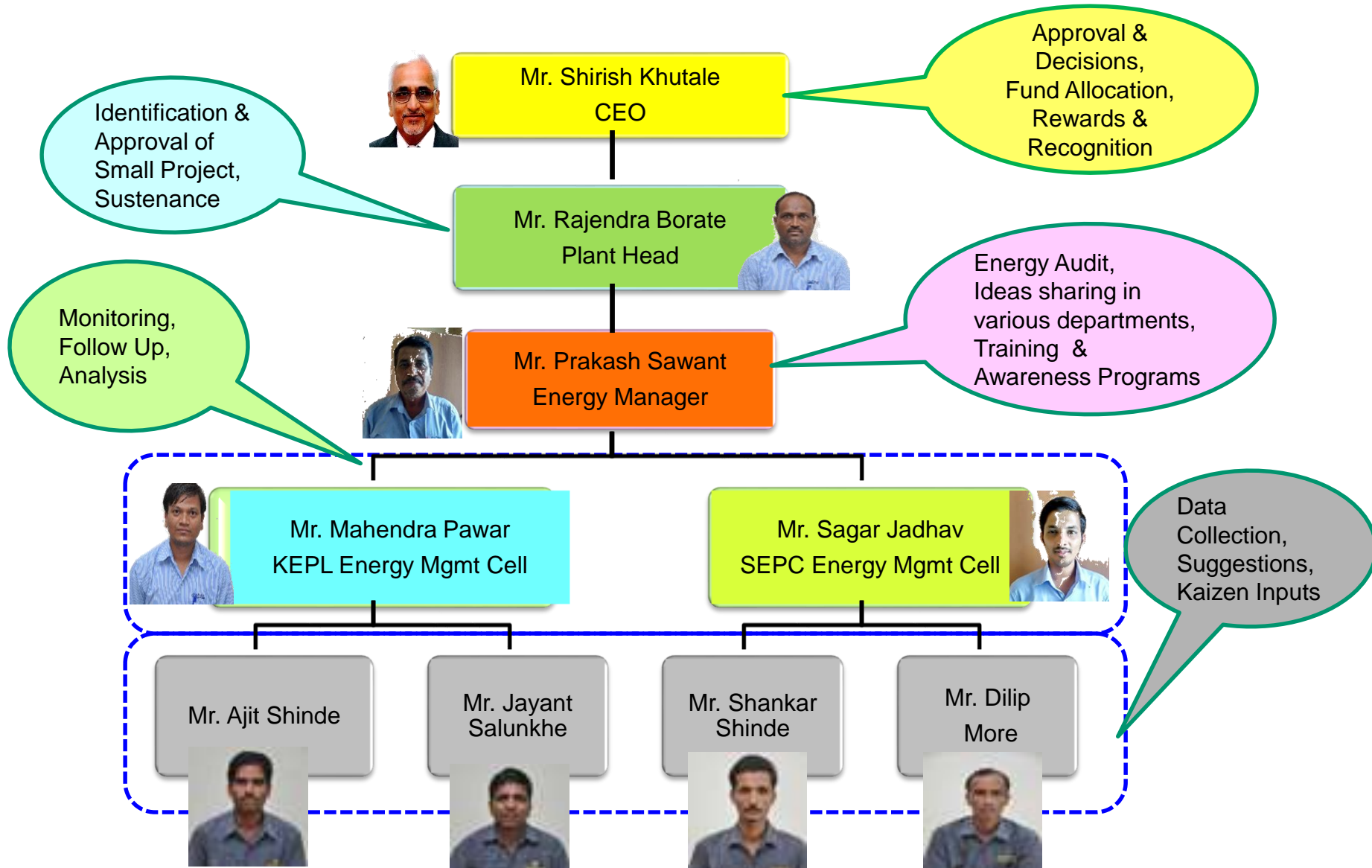
- 1) Effective endeavor to improve Energy performance by monitoring energy consumption & benchmarking against industry /IE standards.
- 2) Adopting all possible energy saving devices, improved systems wherever available, to improve productivity, reduce downtime & minimize environmental requirements - while continuously reducing energy consumption.
- 3) To achieve reduction in Energy Consumption by 8 to 10 % for my organization by March 2016, through all such energy management initiatives.

I also voluntarily commit to enhance change, training and employee engagement programmes for building awareness within my organization & with all my Employees, partners, clients, and working partners, about Energy Conservation, which is need of the hour. I will do everything possible for Energy Conservation of our services, operations and products, in the interest of self, my family, my community, my nation, and the planet at large.

And Madan (Chief Operating officer)	Suman Khatiwala (Sr VP & Head Product Support)	Asha Sahani (HRP & Head Strategic Sourcing)
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>	Company Name: <i>[Signature]</i>
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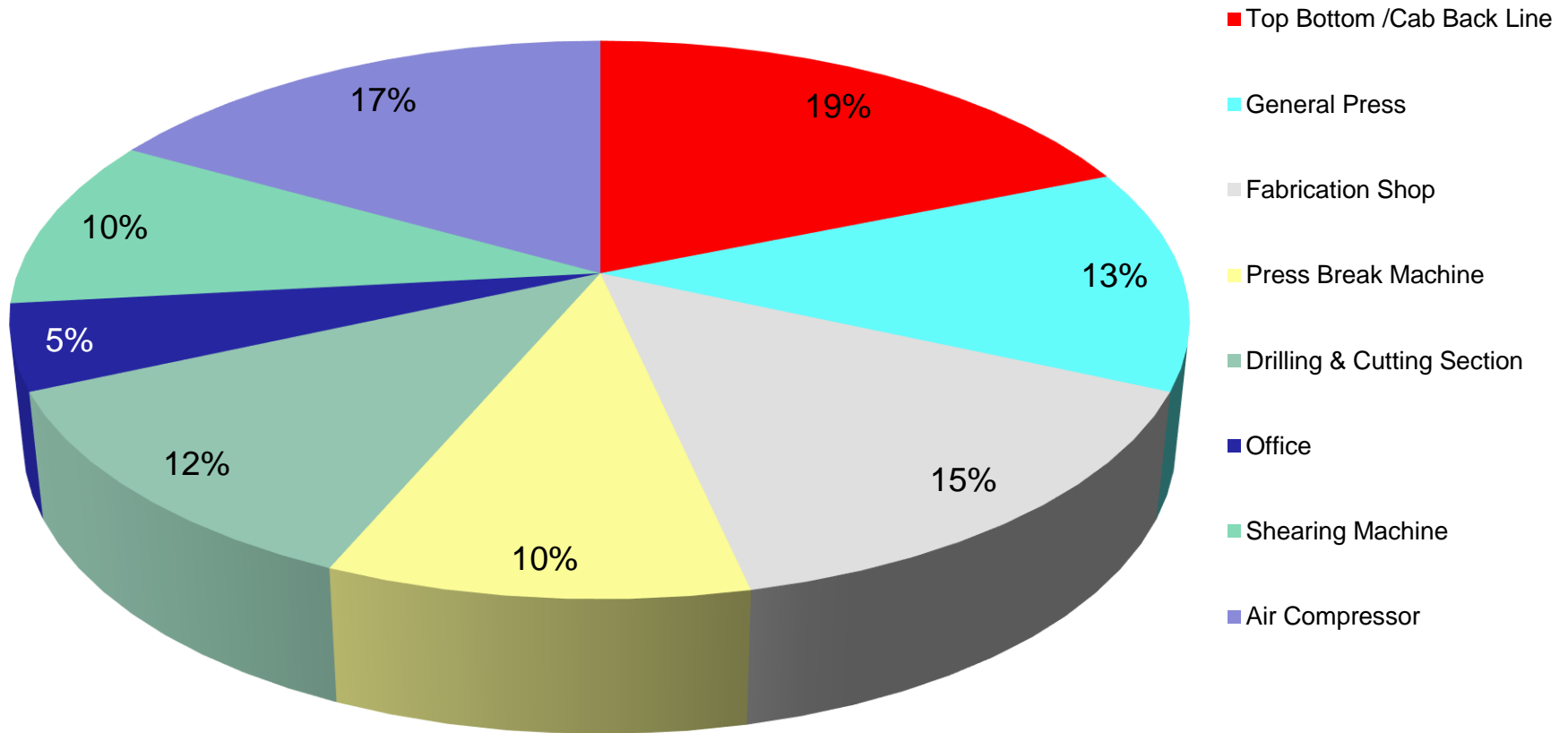
Energy Management Team

Energy Management Team – Roles & Responsibilities

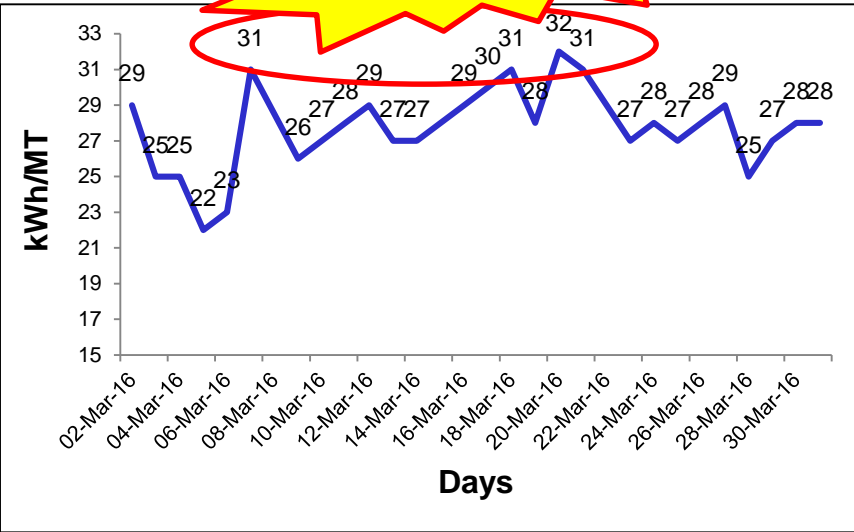


Sr. No.	Section	Electricity Consumption in kWh												Avg.	%
		15-Apr	15-May	15-Jun	15-Jul	15-Aug	15-Sep	15-Oct	15-Nov	15-Dec	16-Jan	16-Feb	16-Mar		
1	Top Bottom /Cab Back Line	1192	1133	877	234	542	637	828	410	624	714	727	747	722	19%
2	General Press	413	423	401	422	467	466	486	360	502	612	579	646	481	13%
3	Fabrication Shop	489	506	481	492	541	542	568	439	588	696	663	733	562	15%
4	Press Break Machine	290	288	255	270	286	383	375	390	481	543	459	556	381	10%
5	Drilling & Cutting Section	404	416	379	389	438	448	482	354	497	609	573	636	469	12%
6	Office	114	122	96	101	155	161	182	61	211	317	205	362	174	5%
7	Shearing Machine	375	388	368	376	338	420	447	276	338	338	529	534	394	10%
8	Air Compressor	662	660	656	657	661	659	655	651	665	668	751	672	668	17%
9	Total	3939	3936	3513	2941	3428	3716	4023	2940	3906	4497	4486	4886	3852	100%
		Q1			Q2			Q3			Q4				
		11,388			10,085			10,869			13,869				
	Month	15-Apr	15-May	15-Jun	15-Jul	15-Aug	15-Sep	15-Oct	15-Nov	15-Dec	16-Jan	16-Feb	16-Mar	Cumm .	
	Production (mt)	118.58	101.34	77.46	63.03	70.91	91.88	91.16	70.12	98.85	126.35	147.09	143.01	1199.8	
	Total electrical consumption (kWh)	3939	3936	3513	2941	3428	3716	4023	2940	3906	4497	4486	4886	46,211	
	Energy Consumed / mt	33.22	38.84	45.35	46.66	48.34	40.44	44.13	41.93	39.51	35.59	30.5	34.16	38.52	

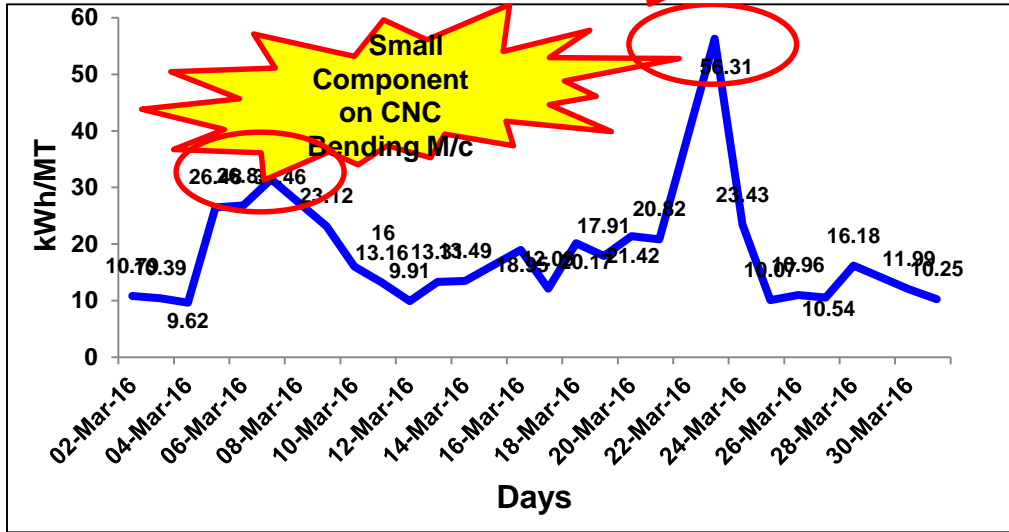
Electricity Consumption – Contributors



New Development Trial-Spin Component



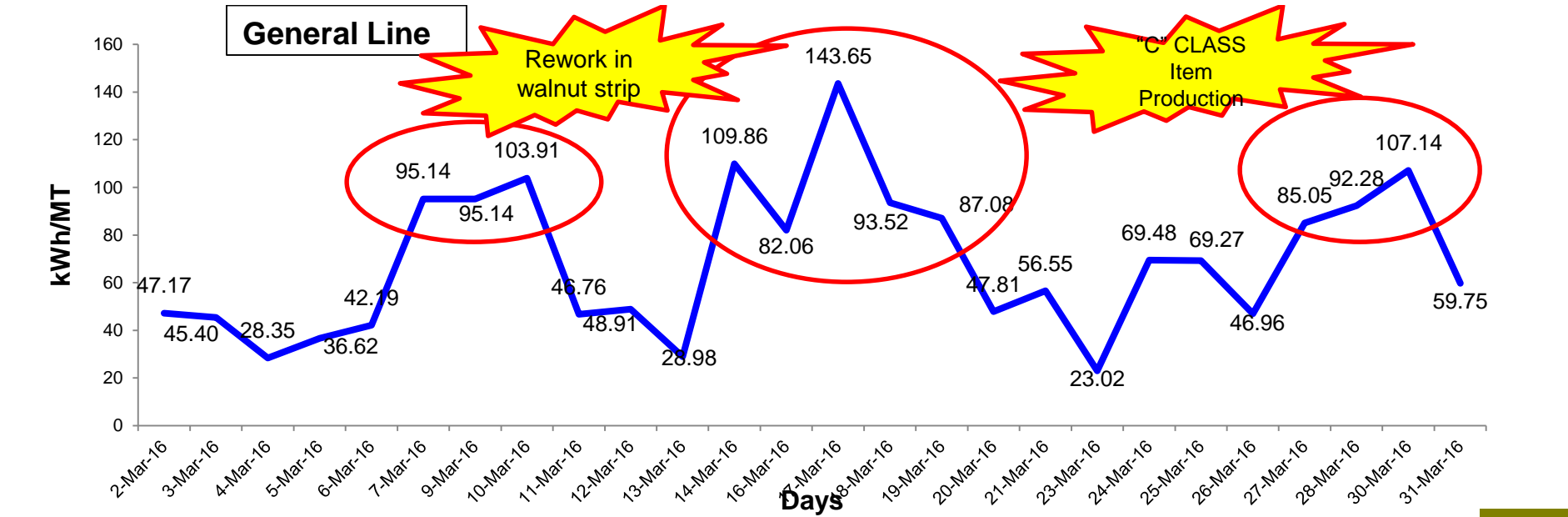
TP/BTM Line



New Development Trial

Small Component on CNC Bending M/c

General Line



Rework in walnut strip

"C" CLASS Item Production

Sr. No.	Improvement Projects Identification
01	Addition of Roof Transparent Sheets .
02	Addition of Roof Air Ventilators .
03	CFL 1718W (38 nos.) to LED Light 870W (32 nos.)
04	Conventional Air Gun to Trans vector Air Gun
05	Reciprocating Compressor to Screw compressor
06	Addition of VFDs .
07	Optimum usage of HP Elect. motors .
08	Transformer based Welding M/Cs to Inverter based Welding Machines .
09	Installation of Roof top solar System(30kW)
10	Procurement of Cut to size RM to eliminate shearing operation
11	M.S. Trolleys to Aluminum Trolleys(LPG)
12	GI Airlines to Aluminum Airlines.

BEFORE



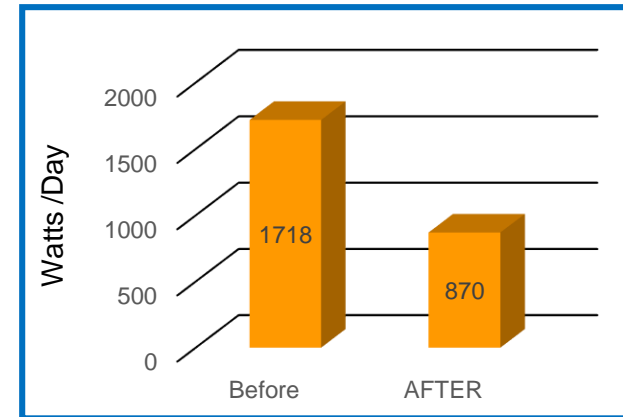
Use of CFL (1718 Watts)

AFTER



Replace CFL by LED(870Watts)

RESULTS



Benefits : Saved 848 watts per Day

Horizontal Deployment : All CFL changed to LED

BEFORE



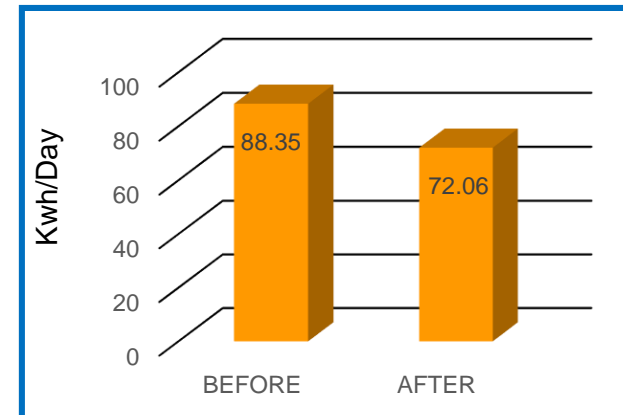
Conventional Air gun

AFTER



Trans vector Nozzle gun

RESULTS



Benefits : Saved 16.29 Kwh/Day

Horizontal Deployment : Replace all 3 air guns by Trans vector AirGuns

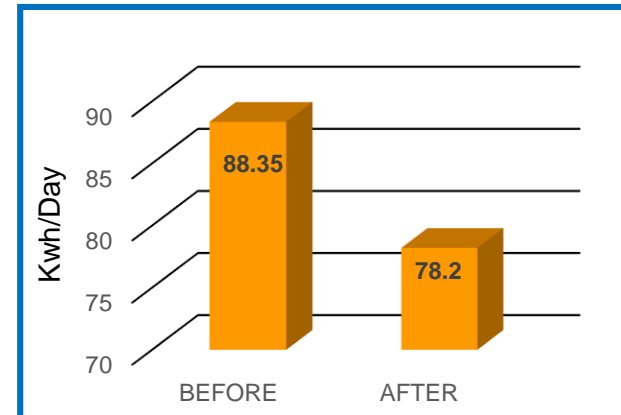
BEFORE



AFTER



RESULTS



Reciprocating Air Compressor .

Energy efficient Screw Compressor

Benefits : saving 10.15 Kwh/Day

Horizontal Deployment : Use screw compressor in both KEPL & SEPC Unit.

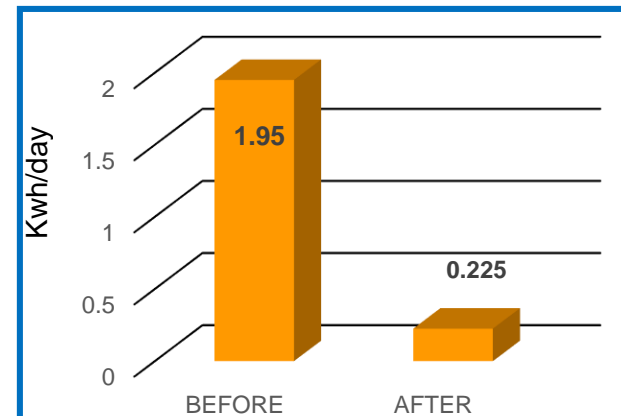
BEFORE



AFTER



RESULTS



Angle cutting on cut-off Machine.

Die designed to cut in single stroke)

Benefits : Saved 1.72 Kwh/Day

Horizontal Deployment : Square & Rectangular pipe and Rod cutting

BEFORE



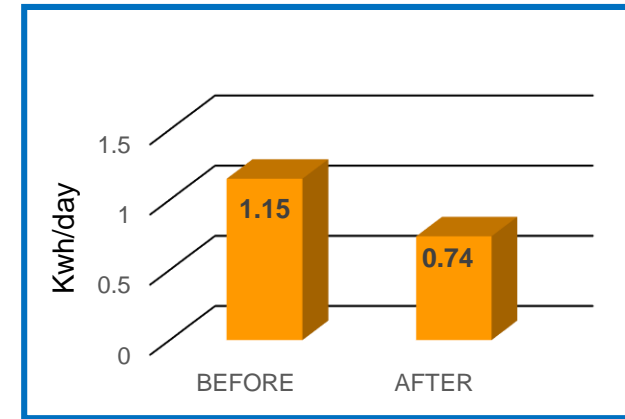
Machine run with out VFD

AFTER



Instillation of VFD's

RESULTS



Benefits : saving 0.41 Kwh/Day per machine

Horizontal Deployment : Installed on 4 presses & Planned for 5 more Presses

BEFORE



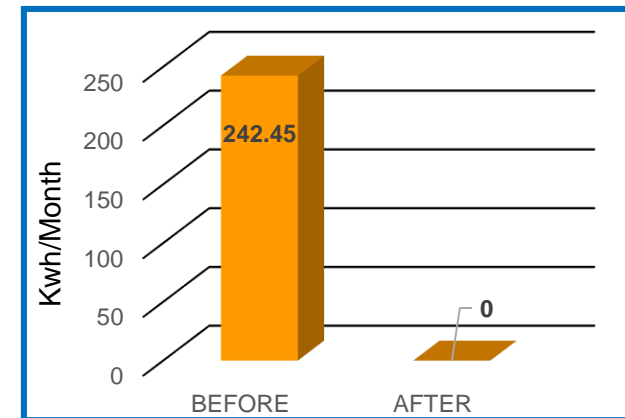
Std. sheets needing shearing

AFTER



Cut to size RM

RESULTS



Benefits : saving 242.45 Kwh/Month (for 150 Sets/D Production)

Horizontal Deployment : Thk. 0.45 -Coil 4 comps, 0.25 CTS 14 comps, 0.8 CTS 4 comps, 1.0 & 2.0 CTS 7 comps. 0.8 CTL 6 comp

BEFORE



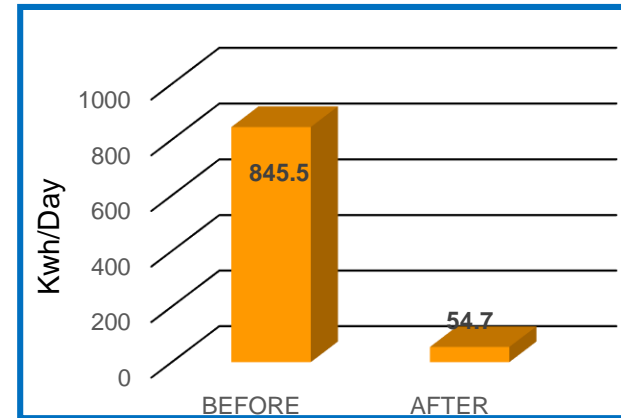
NC Shearing M/C For strip Parting

AFTER



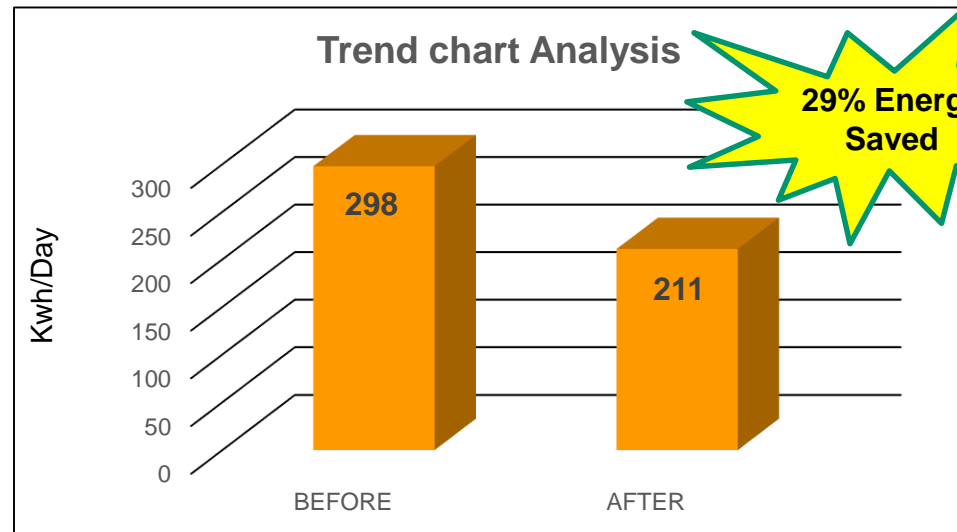
Press tool for strip(W-300) parting

RESULTS



Benefits : saving 208 Kwh/Week

Horizontal Deployment : CNC Bending Machine (small component bending on power press)



Benefits : Saved 87 Kwh / Day (29 % Energy saved)

BEFORE



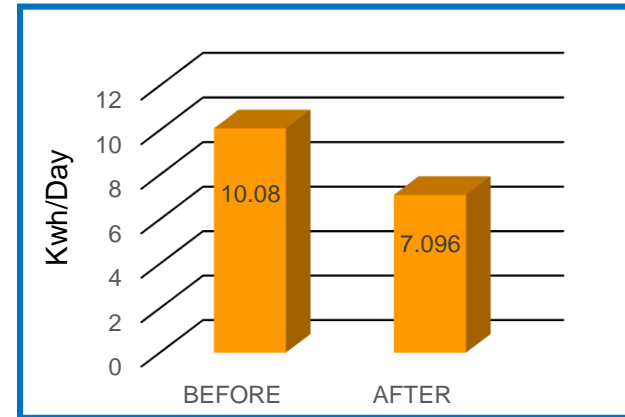
High LPG & Electricity consuming 'MS' trolleys

AFTER



Reduce LPG & Electricity consuming 'AI' trolleys

RESULTS



Benefits : Saved 2.98 Kwh/ Day

Horizontal Deployment : To make additional 4 trollies

BEFORE



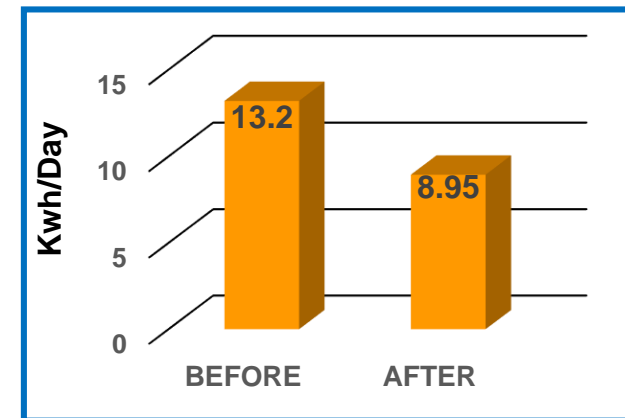
Powder Recovery Blower Motor (3 HP)

AFTER



Powder Recovery Blower Motor (2 HP)

RESULTS



Benefits : saving 4.25 Kwh/Day per Motor

Horizontal Deployment : Other booths three motors replaced

<p>ZONE Office</p> <p>KAIZEN THEME: Energy Conservation-Reduce Elect Consumption.</p> <p>PROBLEM STATUS. External 11 LED Lights at various locations burrounding factory connected through separate sw fches are not switched ON & OFF on time leading either to Unsafe situation or Electricity wastage.</p> <p>PROBLEM ANALYSIS:</p> <ol style="list-style-type: none"> 1 Security man responsible, forgets to switch on & off these lights in time at various locations (Why) 2 Human error & negligence since manual operating ON - OFF system (Why) 3 No Automation (Why) <p>ROOT CAUSE: Human Error</p>	<p align="center">KAIZEN SHEET</p> <p>KAIZEN IDEA: Automation</p> <p>COUNTER MEASURE : Clock timer with inverter provision done In such a way that all surrounding lights are ON & OFF at specified time (ON @ 6:00 pm and OFF @ 6:00 am every day) with unique control.</p> <p align="center">BEFORE AFTER</p> <p align="center">PLEASE SEE THE NEXT SLIDES</p> <p>RESULTS</p> <ol style="list-style-type: none"> 1) Electricity consumption reduced. 2) Timing of On -Off can be adjusted as per seasonal changes in daylight time . 3) During power cut or No power situation, surrounding lights are remain on when there is a need between 6.30 PM to 6 AM only , avoiding theft or robbery. 	<p>TEAM: Mr. Shirish Khutale , MR. Borate, Mr. Mane ,Mr. Shantaram More.</p> <table border="1"> <tr> <td>IDEA BY:</td> <td>Mr. Shirish Khutale</td> </tr> <tr> <td>STARTING DATE :</td> <td>21.02.2013</td> </tr> <tr> <td>COMPLETION DATE:</td> <td>25.04.2013</td> </tr> <tr> <td>BENCH MARK:</td> <td>Surrounding Lights are found ON during day time and off even in dark in the evening at various locations. : 12 to 13 times/ Month</td> </tr> <tr> <td>TARGET:</td> <td>Zero possibility to remain surrounding lights ON during day time and OFF after darkness.</td> </tr> </table> <p>BENEFITS</p> <table border="1"> <thead> <tr> <th>QUALITATIVE</th> <th>QUANTITATIVE</th> </tr> </thead> <tbody> <tr> <td> P ↑ <input type="checkbox"/> Q ↑ <input type="checkbox"/> C ↓ <input checked="" type="checkbox"/> D ↑ <input type="checkbox"/> M ↑ <input checked="" type="checkbox"/> S ↑ <input checked="" type="checkbox"/> </td> <td> Benefits : 01) Rs : 1680/annum. 10 units per month = 10*14 Rate Rs. 14/KWh unit. 02) No unsafe situation because of no lights in the evening. </td> </tr> </tbody> </table> <p>PLAN FOR HORIZONTAL DEPLOYMENT</p> <table border="1"> <thead> <tr> <th>S/N</th> <th>WHERE</th> <th>WHO</th> <th>WHEN</th> <th>STATUS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Office lights & PC connections.</td> <td>pp Natu.</td> <td>Oct. 2014.</td> <td>In complete.</td> </tr> </tbody> </table>	IDEA BY:	Mr. Shirish Khutale	STARTING DATE :	21.02.2013	COMPLETION DATE:	25.04.2013	BENCH MARK:	Surrounding Lights are found ON during day time and off even in dark in the evening at various locations. : 12 to 13 times/ Month	TARGET:	Zero possibility to remain surrounding lights ON during day time and OFF after darkness.	QUALITATIVE	QUANTITATIVE	P ↑ <input type="checkbox"/> Q ↑ <input type="checkbox"/> C ↓ <input checked="" type="checkbox"/> D ↑ <input type="checkbox"/> M ↑ <input checked="" type="checkbox"/> S ↑ <input checked="" type="checkbox"/>	Benefits : 01) Rs : 1680/annum. 10 units per month = 10*14 Rate Rs. 14/KWh unit. 02) No unsafe situation because of no lights in the evening.	S/N	WHERE	WHO	WHEN	STATUS	1	Office lights & PC connections.	pp Natu.	Oct. 2014.	In complete.
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Before



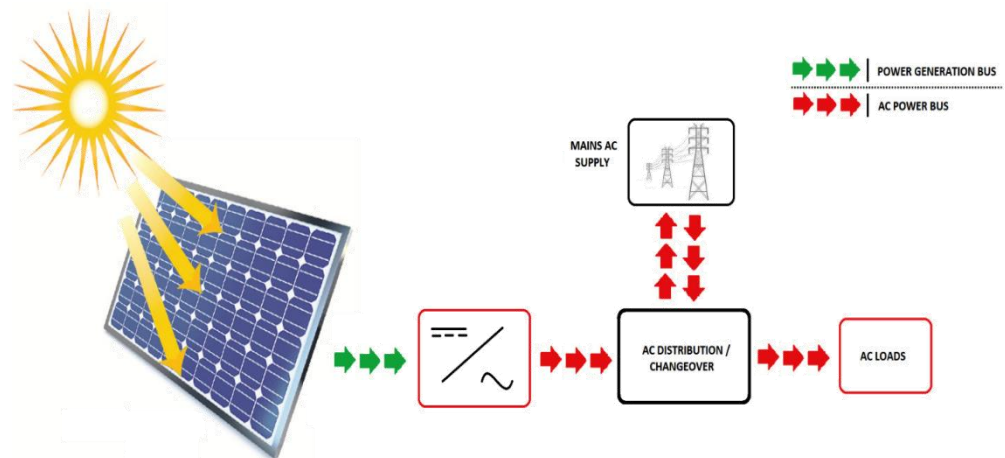
After



Action Plan & Financial allocation –Renewable Energy

Sr. No	Project	Energy Saving	Imple. Year	Benefit (Rs.)	Investment	ROI Years
1	30KW Roof Top Solar System	36,000 kWh/Annum	2016-17	3,24,000	19,50,000	5.0
2	Bio gas System	250 kg LPG/Annum	2016-17	9,000	30,000	3.5

Roof Top Solar System



Usage of 67% Renewable Energy from 30 Kw Grid Interactive PV Roof Top Solar System .

GHG Inventorisation of Scope 1,2 & 3 @ KEPL

Scope 1 :

- Diesel /Petrol Used in Company Owned Vehicles
- CO2 Used In Welding
- LPG Used in oven
- Top up in AC
- CO2 top up in fire extinguisher
- Kerosene (burning hangers)

Scope 2 :

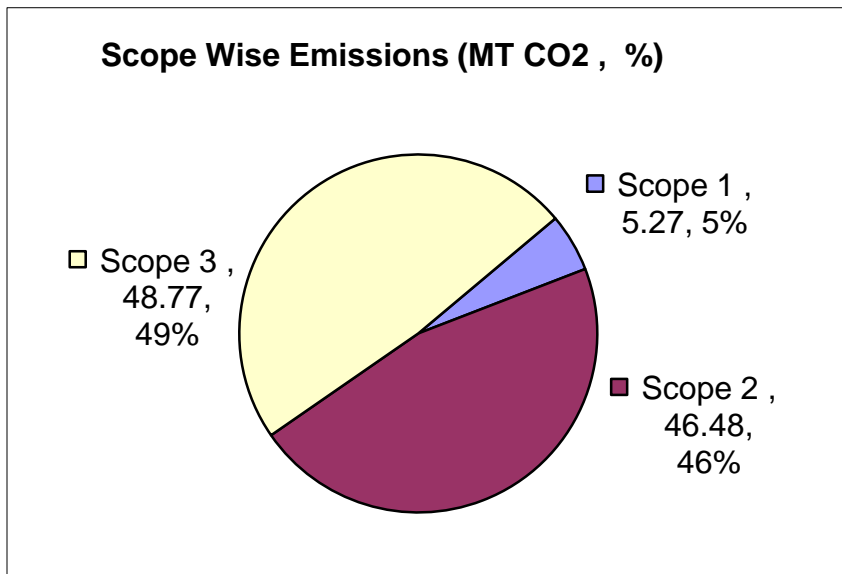
- Total electricity consumed in plant by Grid.
- Green power

Scope 3 :

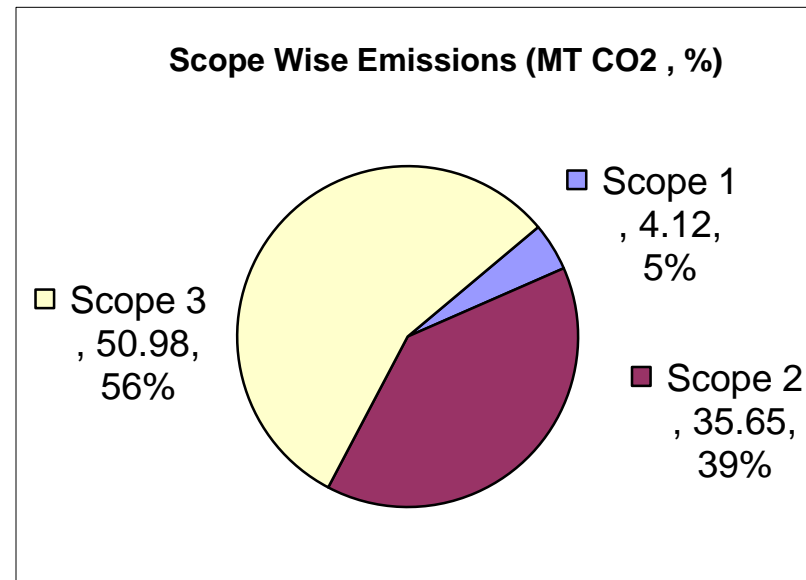
- Business Travel
- Material Transport
- Employee Transport

Scope of Emissions	2013-14	2014-15	2015-16	2016-17
Scope 1	5.27	4.12	6.17	6.46
Scope 2	46.48	35.65	37.89	23.52
Scope 3	48.77	50.98	48.24	26.93
Total	100.52	90.75	92.30	56.91

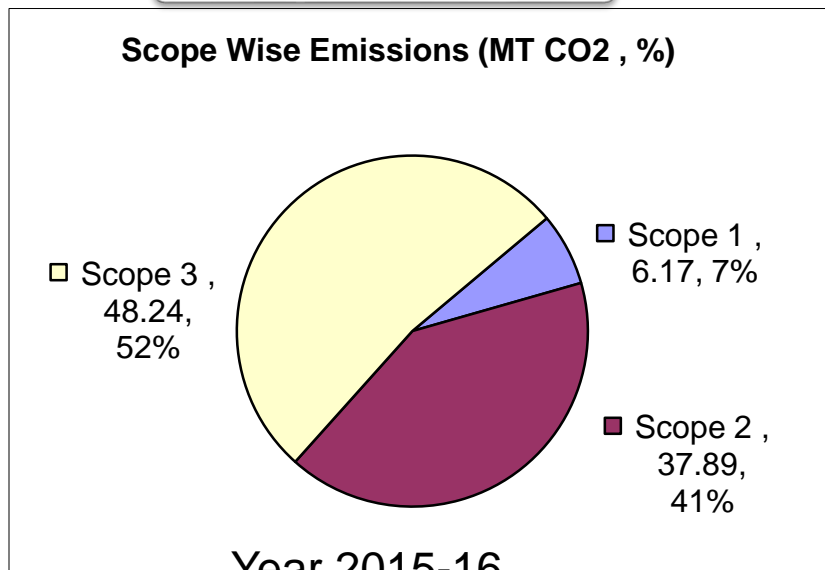
GHG Inveneterization of Scope 1,2 & 3 KEPL



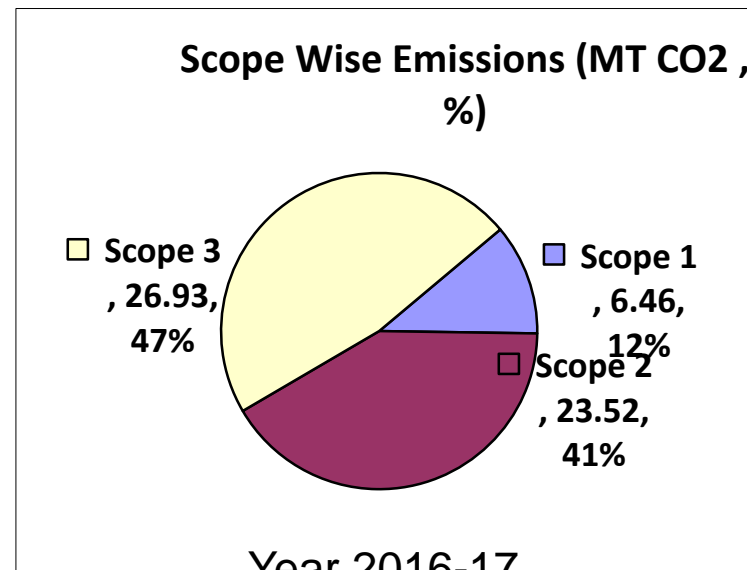
Year 2013-14



Year 2014-15



Year 2015-16



Year 2016-17

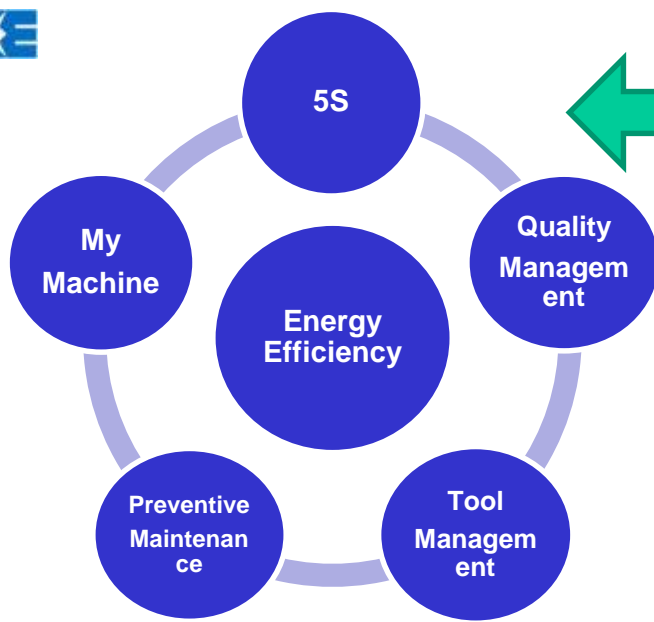
GHG Emmission Reduction-List of projects

Sr. No.	Project	Scope	Implementation Year	Benefit (Rs.)	Investment (Rs.)
1	Installation of Co2-Argon welding machine (Sigma make)	Scope1	2015	3402	1,44,400
2	Monitoring daily trip (km) of company owned vehicles & introduced Milk Run concept.	Scope1	2015	11,400	----
3	Placement of Transparent sheets& Air Ventilator on roof top	Scope 2	2013	45,164	1,13,000
4	Replacement of CFL to LED Lights	Scope 2	2013	7,632	13,333
5	Procurement of cut to size Raw Material	Scope 1 & 3	2016	18,283	Nil

GHG Emmission Reduction List of Projects

Sr. No.	Project	Scope	Implementation Year	Benefit (Rs.)	Investment (Rs.)
6	Installation of VFD for 4 no. Power press.	Scope 2	2015	36,969	79,870
7	Installation of APFC Panel	Scope 2	2015	PF 0.99	33,500
8	Use of Transvector guns	Scope 2	2015	13,176	5,880
9	Selection of local suppliers for bought out material	Scope 3	2015	55,000	---
10	Using full capacity of vehicle for transportation of finished goods	Scope 3	2015	27,000	---

Energy Efficiency Operational Practices



Employee Involvement

- Energy Saving Kaizen Scheme
- Suggestion Scheme



- Daily Monitoring & Analysis on Energy Issue
- Inputs from Each Department for Energy Saving
- Project Evaluation

- Awards & Recognitions for Best Energy Saving Projects
- Kaizen Policy

- Celebration of Energy Saving Days Every Year
- Competitions On Energy Saving
- Displayed Posters in Plants
- Awareness Programs

Employee Involvement-Awareness



**Training on Energy Saving
on 12th Sept 2015 by Energy**



**Energy Saving Culture In plant-
Signage Display**



**Celebration of Electrical Safety Week
between 11th -17th Jan 2016**



**Oath for Minimum Consumption of
Electricity on 8th Mar 2016**

Planned Maintenance Activity



Daily Oiling of Machines



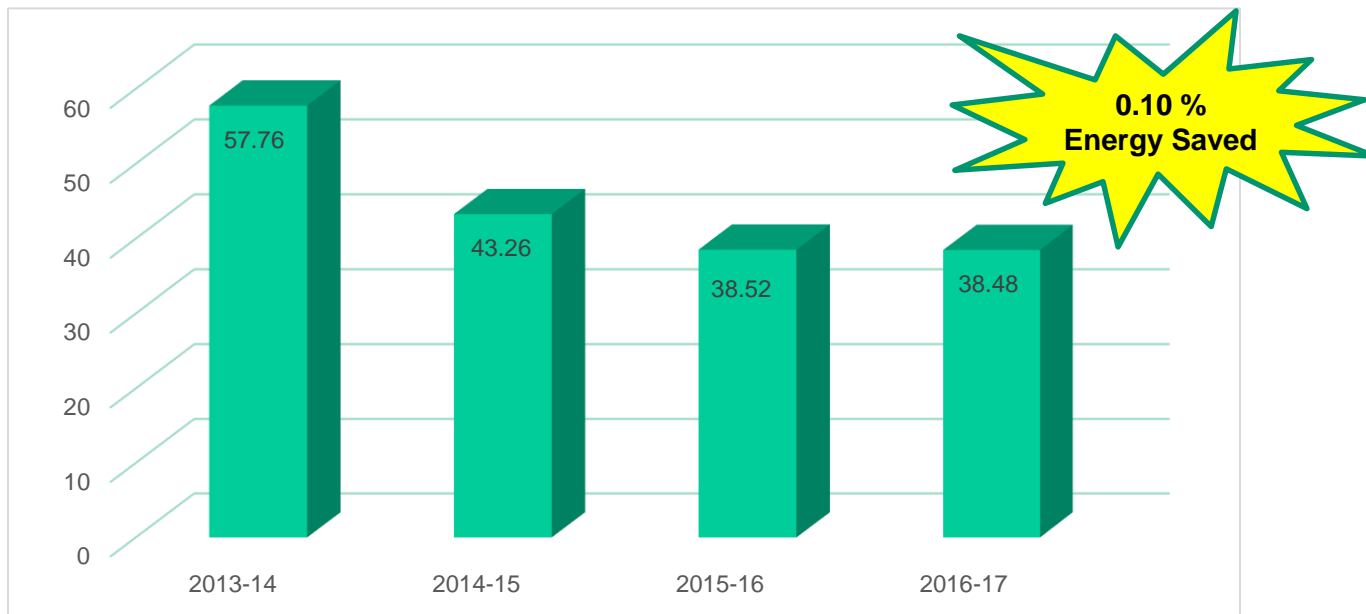
Daily Cleaning of Machines



**Tightening of loose parts of Machines
daily, Weekly & monthly basis**

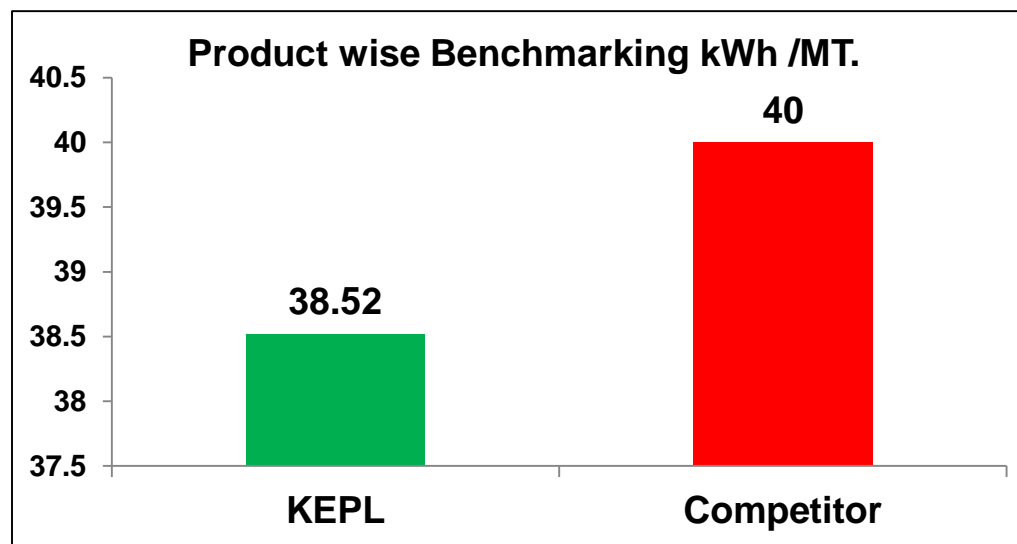


Preventive Maintenance on monthly basis



33.37 % of Energy Reduction from 2013-14 to 2016-17

Benchmarking – Product wise Energy Consumption



Sr. No.	Project	Energy Saving kWh/Annum	Impln. Year	Benefit (Rs.)	Investment
1	Installation of Roof top solar System(30kW)	43,800	2016-17	3,94,200	19,50,000
2	Installation of Screw compressor	9000	2016-17	81,000	7,00,000
3	Replace M.S. Trolley to Aluminum Trolley(LPG)	105	2016-17	9,240	14,600
4	Transvector Gun	1,464	2015	13,176	5,880
5	Replacement of balance CFL Bulbs (19X80W &11X18W) to LED Light (19X40W &11X10W)	848	2016-17	7,632	13,333
6	Replaced Co2 Transformer Based Welding M/C to Inverter based Argon Welding M/C	378	2016-17	3402	1,92,000
7	Peripheral Lighting with Timer& Battery Back Up with Inverter Based	75	2014	Anti Theft safety measure	1,04,874
8	APFC Panel for KEPL	---	2015	PF 1.00	33,500

Intangible Benefits:


- Resource Conservation
- Helped in achieving EMS 14001 :2015.
- Builds Global competitiveness
- GHG Emission reduced.
- Excellent tool for strengthening the bottom line
- Environment protection for better tomorrow.
- “Preferred Vendor partners” Status for larger corporates, Government & PSU’s.
- Image building- We are now known as GreenCo Platinum rated company.

Future Plan

Sr. No.	Project	Energy Saving kWh/Annum	Implementation Date	Benefit (Rs.)	Investment
1	Installation of VFD For 5 additional Machines	936	March-17	42,120	79,870
2	Adopting Light Pipe Technology	192	August-17	1,728	15,000
3	Motor coupling to be installed for oven	1,205	August-17	10,845	15,000
4	Converted Camel Back Oven(LPG)	4,666	March-18	4,10,153	25,65,000

Total Renewable Energy Substitution

Biogas System



Kitchen Waste + LPG Free

Kitchen Waste Free + LPG saving

वाया नाही 'वायु'

Ecological Way of creating Cooking fuel from kitchen Waste
Be a Part of the Movement, Which takes us closer to Environment !

Kitchen Waste + LPG Free

- 1000 liter digester
- Daily 6-8 kg Kitchen Waste
- Cooking gas :- 2.5 – 3 Hr
- Tie up with our neighbour's, Vegetable sellers & nearby Hotels to get extra garbage.

Kitchen Waste Free + LPG saving

Digester Size	Max Food Waste That Can Be Digested Per Day	Cooking Time Per Day
50 liter	500 Gm.	12 - 15 min
200 liter	2 Kg	30 - 40 min


- Suitable for one family of 3-5 people
- LPG Saving 20-30%

- Bi-product obtained from this is good bio-fertilizer for our plants
- It can be installed in kitchen, terrace and garden space
- An effective step for solving the garbage and fuel problem
- Till date 25 installations are successfully done

www.vaayu-mitra.com
vaayu.mitra@gmail.com

Sagar Patil
90 28 11 2076

Vaishali Pawar
73 85 45 6789



आपल्या कचऱ्याची आपणच विल्हेवाट

निसर्गाजवळ नेणारा जीवनशैली बदल

कचऱ्याचे रूपांतर स्वयंपाकाच्या इंधनात

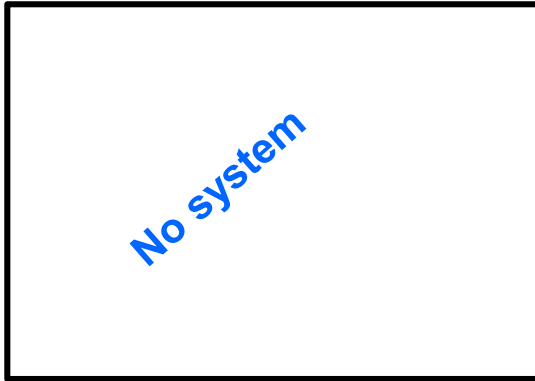
वाया नाही 'वायु'

कचऱ्यातून स्वयंपाकाचे इंधन निर्माण करणारी जिवंत पद्धत
निसर्गाजवळ नेणाऱ्या या चळवळीत सहभावी व्हा!

- KEPL & SEPC generate approx. 5-6 kg/day food waste
- 20kg/Month LPG will get from 150kg/month food waste
- KEPL will use 20 kg/Month Natural Gas

Saving of 2% LPG of total requirement in the year 2016-17

Before



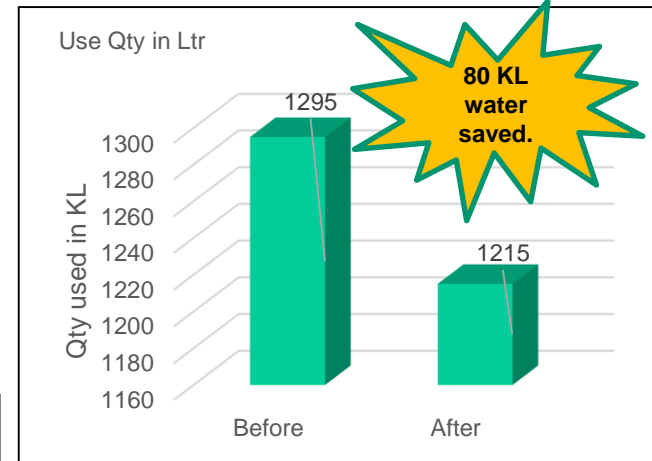
MIDC water use 100% for P.T

After



Rain water use for PT. for 3 to 4 months & not use MIDC water.

Result



Benefit @ Rs. 1400 saved / annum.

Horizontal Deployment :- for flushing tank & over head storage tank

Before



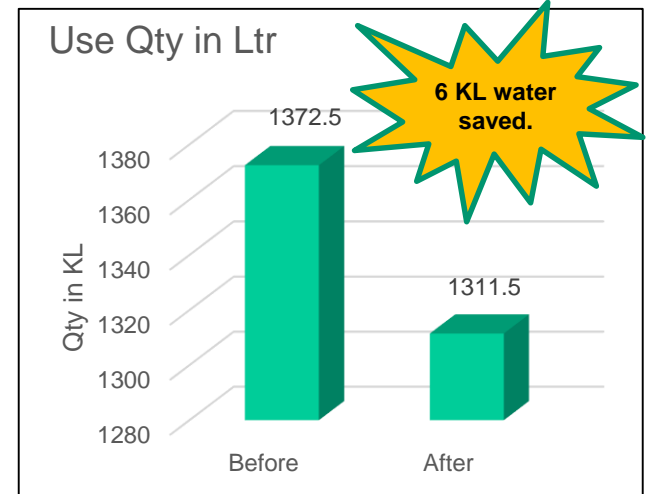
Convectional water taps.

After



Push type water tap.

Use Qty in Ltr



Benefit :- Rs.105 save / annum .

Horizontally deployment : - done at 10 places.

Before

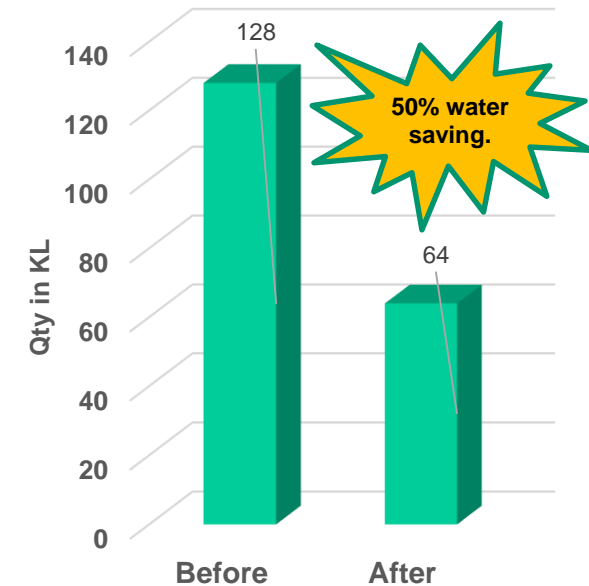


After



Result

Water Used for gardening/annum



Manual watering in Gardening.

Drip Irrigation & Sprinkler system used in gardening

Benefit : Rs.64 KL saved / Annum.**Horizontal deployment**:-For Overall Gardening

Water Conservation Initiatives



Drip Irrigation system in garden
Water saved – 970 lit/annum



Sprinklers for garden lawn
Water saved - 4080 lit/annum



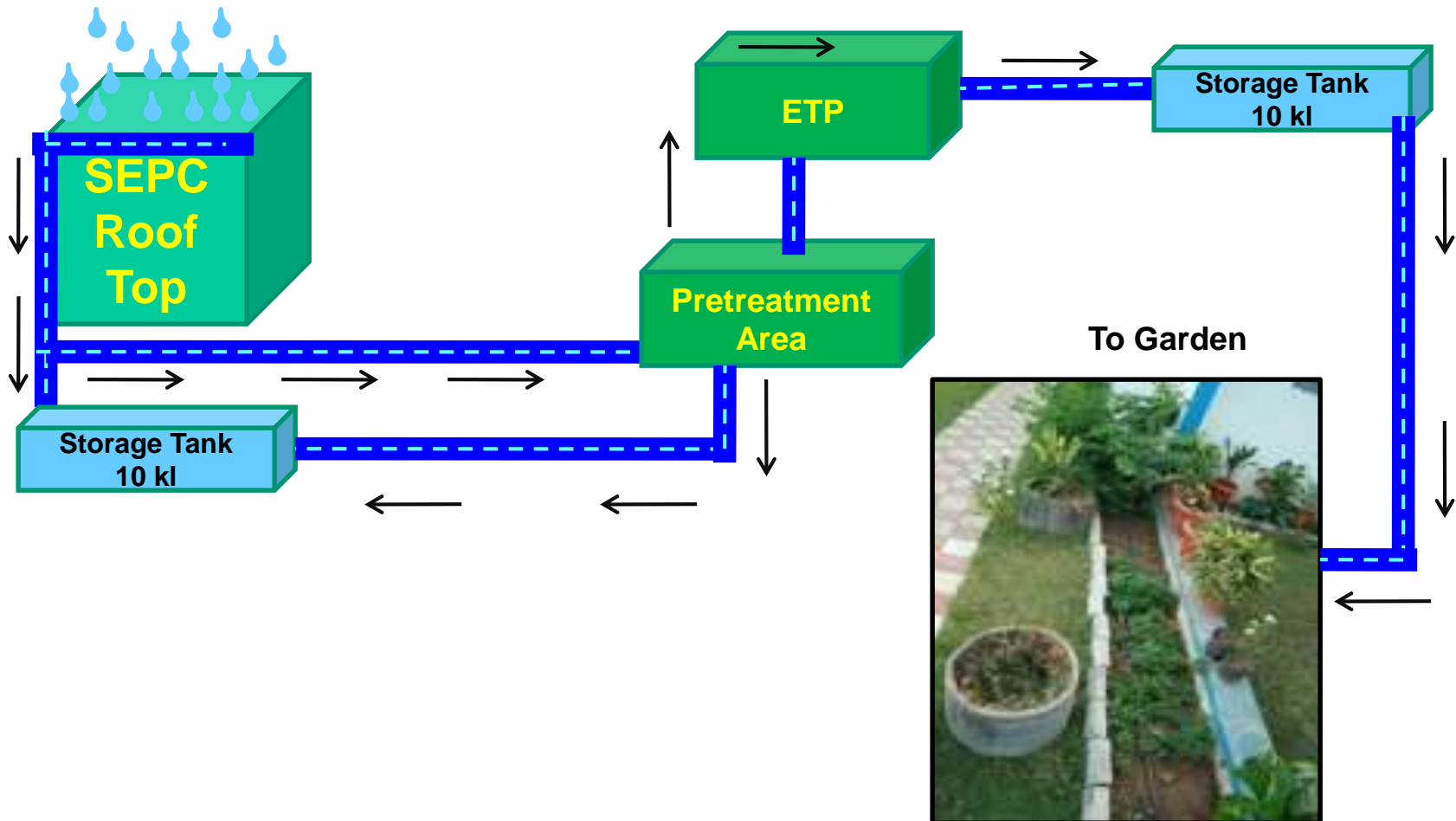
ETP Water For gardening
1002 lit/annum



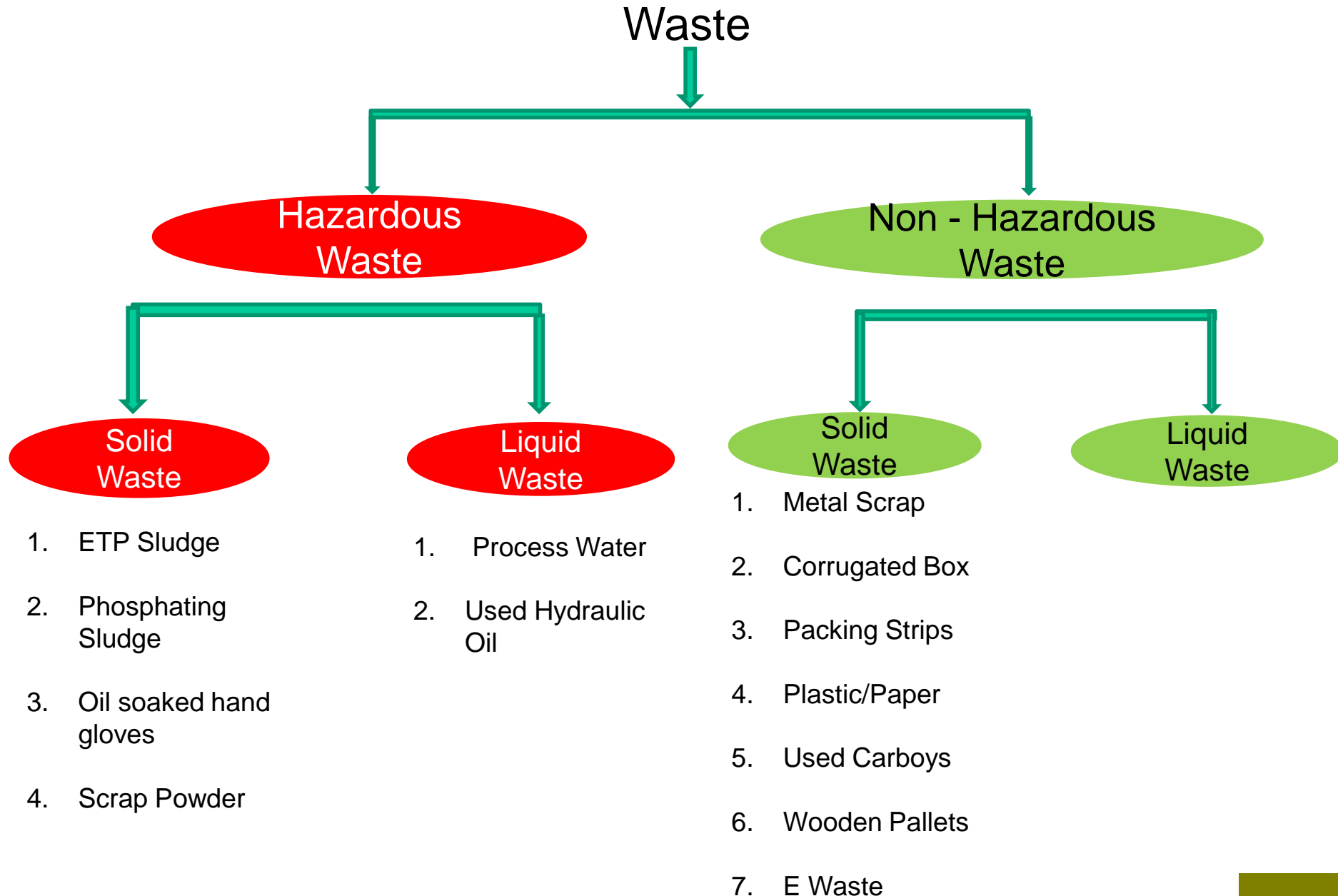
Rain Water Harvesting Tank (capacity 10 kl)
Near Compressor Room

Rain Water Harvesting System















Substituting overall fresh water consumption



Waste Management - Inventorisation of waste



Work Practices for Collection ,Segregation , Storage & Disposal of Wastes

Hazardous waste – Solid Waste					
Waste	Collection	Segregation & Storage	Disposal	Disposal Frequency	Results Reduction % since 2013 to 2017
ETP Sludge				Every 90 Days	60%
Phosphate Sludge					
Used oil soaked gloves				Every 90 Days	42%
Hazardous waste – Solid & Liquid					
Used Powder			Scrap powder sale to scrap dealer M/s. Shree Ganesh Traders	90 Days	45%
ETP Treated Water			Process water reused for gardening	Daily	-
Used Hydraulic Oil			Used Hydraulic Oil sell to A.R.Engg.Satara for reusing after filtration at their end	6 Month	100% reclaim

Work Practices for Collection ,Segregation , Storage & Disposal of Wastes

Non-Hazardous waste – Solid Waste					
Waste	Collection	Segregation & Storage	Disposal	Disposal Frequency	Results Reduction % since 2013 to 2017
Metal Scrap			Metal Scrap disposal to Local Agencies.	15 days	25%
Corrugation Scrap			Corrugation Scrap disposal to Local Agencies.	Every 3 months	14%
Plastic straps			Plastic straps Scrap disposal to Local Agencies.	Every 3 months	35%
Polythene paper			Polythene paper disposal to Local Agencies.	Every 3 months	16%
Used Carboys			Used Carboys disposal to supplier end.	Every 3 Months	53%
Wooden Scrap			Wooden Scrap disposal to local supplier.	Every 15 days	8%
Used cotton gloves			Used cotton gloves are disposed through authorised agency (MEPL) as per rules & regulations.	Every 90 Days	42%



Womens Day

World Environment Day Celebration



2nd Oct Gandhi Jayanti Surrounding Cleanliness Drive



Employee of the year 2014-15



Sarv Jal Abhiyaan



GHG Training & Awareness



Safety Week - Oath



Lean Cluster Movement

Engineers Day

Cultural Programme



World No Tobacco Day

AIDS Awareness

Blood Donation Camp & Health check-ups

- ✓ Help to Anandban School
- ✓ Donation to Anti-Superstition ANIS Committee
- ✓ Donation to Senior citizens (Vrudhashram)
- ✓ Donation to Mauli Blood Bank
- ✓ Anti-Superstition
- ✓ Celebration of Ganesh Festival
- ✓ 'Save Girl Child'.

- ✓ Annual Get Together
- ✓ Kaizen / Suggestion Recognition
- ✓ Recycling initiative
- ✓ Celebration of Birthdays



DISTRICT INDUSTRIES' AWARD 2014



Mrs. Shubhangi Khutale, Director receives District Industries 'Award 2014 of GoM .



Best Delivery Performance Award 2009 GAD

CII KAIZEN CHAMPION AWARD (5S & SAFETY) - 2014

Recognitions at various Conferences/Forums



KEPL team at **Green Initiative Program** honoured by **Ministry of Environment, Forests and Climate Change Mr. Prakash Javadekar** at Green Conclave, CII Pune 19th Dec 2015



Award for **Green Manufacturing** at **CII 8th National Cluster Summit 2015**



KEPL team with **Shri JN Godrej**, President CII GBC, Hyderabad

KEPL received **Greenco Platinum Plaque** at the hands of **Shri Nitin Desai , Member Prime Minister's Council on Climate Change @ CII Greenco Summit 2016 Hyderabad**



SMB Star Icon Recognition 2016 for Sustained Performance Excellence received at 24th CII National Quality Summit, Bengaluru



RECOGNITIONS



Sustained
Performance
500+ Points

Significant Progress in
Performance Excellence
(400-499 Points)

Commitment towards
Performance Excellence
(300-399 Points)

Adoption of
Performance Excellence
(Below 300 Points)

Performance Excellence of the company on basis of Business Results, Operational Results, Customer results and People Results

Recognitions at various Conferences/Forums



First Championship Award for Green Manufacturing at CII 9th National Cluster Summit 2016 @ New Delhi at the hands of Mr Wolfgang Leidig GIZ

First Championship Award for Energy & Cost at CII 9th National Cluster Summit 2016 @ New Delhi at the hands of Mr Wolfgang Leidig GIZ



Recognitions at various Conferences/Forums



'Green Crusader' award received at the hands of Mr. Anil Mathur, Mr. Zurvan Marolia and Mr. Atul Sohani .

"Future is Now" GID Annual Supplier Meet 2017



'Gender Equality' award received at the hands of Mr. Anil Mathur, Mr. Zurvan Marolia and Mr. Atul Sohani .



'Outstanding contribution to Society' award received at the hands of Mr. Anil Mathur, Mr. Zurvan Marolia and Mr. Atul Sohani .

' Green Makes Business Sense'

सन्मान एका लघुउद्योजिकेचा



सन्मान एका लघुउद्योजिकेचा (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

ऐक्य

खुटाळे इंजिनियरिंगमध्ये सांआयआण आणि गोवर्धन इंटरऑक्सन्सची श्रेष्ठक उत्साहान



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'खुटाळे इंजिनियरिंग'ला पर्यावरणपूरकतेचा पुरस्कार



पर्यावरणपूरकतेचा पुरस्कार (जीव मॅन्युफॅक्चरिंग) सन्मान एका लघुउद्योजिकेचा

आपले उत्पादन स्पर्धेत टिकणारे हवे : सोहनी



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ग्रौन मॅन्युफॅक्चरिंग पुरस्काराने खुटाळे इंजिनियरिंग सन्मानित



ग्रौन मॅन्युफॅक्चरिंग पुरस्काराने खुटाळे इंजिनियरिंग सन्मानित

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पाणी बचतीसाठी रेन वॉटर हार्वेस्टिंग

उद्योजकांची

पाणी बचत

खुटाळे इंजिनियरिंग

पाणी बचतीसाठी रेन वॉटर हार्वेस्टिंग



**We Do Not Inherit the Earth from Our Ancestors,
We Borrow It from Our Children...**



THANK YOU