





ENVIRONMENT IMPROVEMENT PROJECT



Welcome All Delegates in Virtual Ceremony of 10th Edition of "CII National Awards for Environmental Best Practises, 2023"

PANASONIC LIFE SOLUTIONS INDIA PVT. LTD.

We have MANUFACTURING in 4 Areas & 8 Factories on PAN India



SRI CITY FACTORY

- Wiring Device
- Switchgear



HARIDWAR FACTORY

- Wiring Device
- Switchgear



DAMAN FACTORY

- Wiring Device
- Switchgear
- Ceiling Fan
- Wires & Cables & Tapes



KUTCH FACTORY

- Wires & Cables & Tapes
- Lighting

- NABL accredited laboratory
- ISO 50001 certified for energy Management
- ISO 14001: Certified for Environment Management
- ISO45001 certified for safety management
- RoHS Compliant products, QMS ,EMS and OHSAS Certified Units

Wide Ranges of Products





BREAKTHROUGH TO EXCELLENCE



1



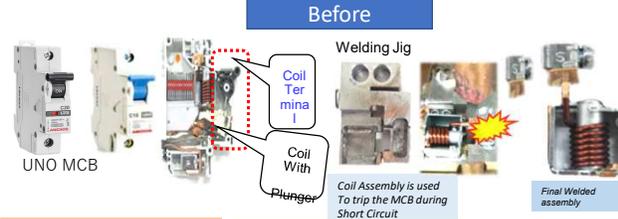


ENVIRONMENT IMPROVEMENT PROJECT



PROJECT -1: Reduce metal consumption of New Coil Welding jig by doing Modification in Old Scrap jig

Before



UNO MCB

Coil Terminal
Coil With Plunger

Welding Jig

Coil Assembly is used To trip the MCB during Short Circuit

Final Welded assembly

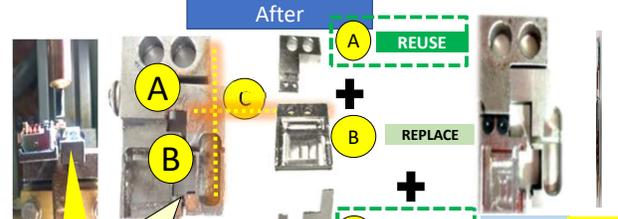
After 2 Lacs Weld Cycle on High Current (Amp.) Wear and tear Occur on Jig during Welding

***Welding Strength Decreases**
***Weld Joint Alignment Issue**

Alignment issue in weld joint Cause NG Quality Issue

Coil Assembly is critical part of an MCB. It is made by spot welding with 2 component i.e., terminal and Coil with outer yoke. Welding is done on a spot-welding machine using Coil Block jig. But after approx. 2 lacs no. of welding shots, material starts Deteriorate by which it became no use for Production.

After



A REUSE
B REPLACE
C REUSE

Height Variation in Jig Between BOTH component

Split the Jig into 3 Parts for making Re-use of old scrap jig area

Affected part will be replaced

REDUCE REUSE RECYCLE

New In-House Modified Jig

Successful Trail of Jig

Now we reuse the jig by modification in it & utilization of scrap part of jig He cut of Eroded part and made a new jig with in- house development by using scrap part of jig. Now only B section in this jig need to replace by which we were able to use complete jig with A & C part- which was earlier scrapped.



BREAKTHROUGH TO EXCELLENCE



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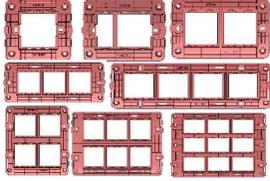


ENVIRONMENT IMPROVEMENT PROJECT



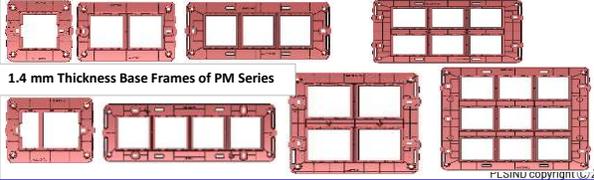
PROJECT -2: Reduction of Plastic material usage by reducing weight in PM base frame

Before											After																																																														
Base Frame											Base Frame																																																														
	1M	2M	3M	4M	6M	8MH	8MV	12M	16M	18M		1M	2M	3M	4M	6M	8MH	8MV	12M	16M	18M																																																				
Penta Annual Quantity	335396	1732651	2360046	1640547	3365582	1576600	466045	2149220	82524	285841	<div style="text-align: center;"> Total Material-Wise Savings for each Module (Tons): </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="11" style="text-align: center;">Base Frame</th> <th>Total RM</th> </tr> <tr> <th></th><th>1M</th><th>2M</th><th>3M</th><th>4M</th><th>6M</th><th>8MH</th><th>8MV</th><th>12M</th><th>16M</th><th>18M</th> <th>Reduced (Tons)</th> </tr> </thead> <tbody> <tr> <td>Plastic RM saving (tons)</td><td>0.61</td><td>3.73</td><td>5.46</td><td>3.77</td><td>12.98</td><td>6.64</td><td>0.89</td><td>8.36</td><td>0.21</td><td>0.91</td> <td>43.56</td> </tr> </tbody> </table> <div style="text-align: center; margin-top: 10px;"> Total Material Wise Savings (All modules combined) (Tons): </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Raw Material</th><th>Total RM Savings (Tons)</th><th>Commodity Rate Rs/Kg</th><th>Total Savings (Rs)</th> </tr> </thead> <tbody> <tr> <td>ABS RM Penta Modular</td><td>37.55</td><td>270</td><td>1,01,38,500.00</td> </tr> <tr> <td>PC RM Roma Urban</td><td>6.01</td><td>300</td><td>18,03,000.00</td> </tr> <tr> <td>Total</td><td></td><td></td><td>1,19,41,500.00</td> </tr> </tbody> </table>											Base Frame											Total RM		1M	2M	3M	4M	6M	8MH	8MV	12M	16M	18M	Reduced (Tons)	Plastic RM saving (tons)	0.61	3.73	5.46	3.77	12.98	6.64	0.89	8.36	0.21	0.91	43.56	Raw Material	Total RM Savings (Tons)	Commodity Rate Rs/Kg	Total Savings (Rs)	ABS RM Penta Modular	37.55	270	1,01,38,500.00	PC RM Roma Urban	6.01	300	18,03,000.00	Total			1,19,41,500.00
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1.6mm Thickness Base Frames of PM Series

Base Plates were analysed for weight reduction and identified for having excessive usage of ABS ABSTRON IM17A and PC (Makrolon 6557 - DA 01 White) RM. Proposed 1.4mm thickness Design for base plates have been developed and tested successfully for implementation as there was new mould development at Sricity factory in respective series of plates launched , to reduce RM usage.



1.4 mm Thickness Base Frames of PM Series



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PROJECT-3:Reduction of Metal Material consumption Through Flat Metal Contact Development for Sockets- 6A/10A

Before											After																																																							
Base Frame											Base Frame																																																							
	1M	2M	3M	4M	6M	8MH	8MV	12M	16M	18M		1M	2M	3M	4M	6M	8MH	8MV	12M	16M	18M																																													
ABS RM cost (PM)	1482416.78	765044.155	1253998.3	1049780.25	31300225.4	17516814.3	5035802.643	34306888.95	1525167.306	6104706.237	<div style="text-align: center;"> Opportunities (Existing for Metal RM (Brass) and Plastic RM (Polycarbonate) reduction for all Sockets: </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th><th>ROMA</th><th>ROMA URBAN</th><th>RIDER</th><th>ROMA PLUS</th><th>Penta PC</th><th>Penta Urea</th><th>ZIVA</th><th>PENTA MODULAR</th> </tr> </thead> <tbody> <tr> <td>Opportunity 1 L/N E Contact Weight (Existing) gms</td><td>5.36</td><td>6</td><td>5.36</td><td>6</td><td>2.31</td><td>2.31</td><td>2.31</td><td>2.31</td> </tr> <tr> <td>Opportunity 2 Brass Pillar weight (Existing) gms</td><td>3.75</td><td>3.75</td><td>3.75</td><td>3.75</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> <tr> <td>Opportunity 3 Brass Screw weight (Existing) gms</td><td>2.4</td><td>2.7</td><td>2.4</td><td>2.7</td><td>0</td><td>0</td><td>0</td><td>0</td> </tr> <tr> <td>Opportunity 4 Total Plastic Weight (Existing) gms</td><td>19.06</td><td>15.05</td><td>18.78</td><td>18.94</td><td>0</td><td>0</td><td>13.76</td><td>0</td> </tr> </tbody> </table>												ROMA	ROMA URBAN	RIDER	ROMA PLUS	Penta PC	Penta Urea	ZIVA	PENTA MODULAR	Opportunity 1 L/N E Contact Weight (Existing) gms	5.36	6	5.36	6	2.31	2.31	2.31	2.31	Opportunity 2 Brass Pillar weight (Existing) gms	3.75	3.75	3.75	3.75	0	0	0	0	Opportunity 3 Brass Screw weight (Existing) gms	2.4	2.7	2.4	2.7	0	0	0	0	Opportunity 4 Total Plastic Weight (Existing) gms	19.06	15.05	18.78	18.94	0	0	13.76	0
	ROMA	ROMA URBAN	RIDER	ROMA PLUS	Penta PC	Penta Urea	ZIVA	PENTA MODULAR																																																										
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Opportunities (Existing for Metal RM (Brass) and Plastic RM (Polycarbonate) reduction for all Sockets:

Opportunities (Proposed) for Metal RM (Brass) and Plastic RM (Polycarbonate) reduction for all Sockets:

Metal Contacts for 6A/10A sockets were analysed for weight reduction and identified for having excessive usage of Brass RM and Polycarbonate RM. Proposed Flat Contact Design for sockets have been developed and tested successfully for implementation in all series of sockets previously launched, to reduce RM usage.



Conventional Bulky Socket- Contacts for Roma and Penta Modular Series



Optimised Metal Flat Contacts:

Conventional Metal Contacts:	
Contact Material	Brass
thickness	0.7
Net wt	1.91
RM cost	1.18
Process cost	0.17
total	1.35

Optimised Metal Flat Contacts:	
Contact Material	Brass
thickness	0.6
Net wt	0.34
RM cost	0.21
Process cost	0.01
total	0.22



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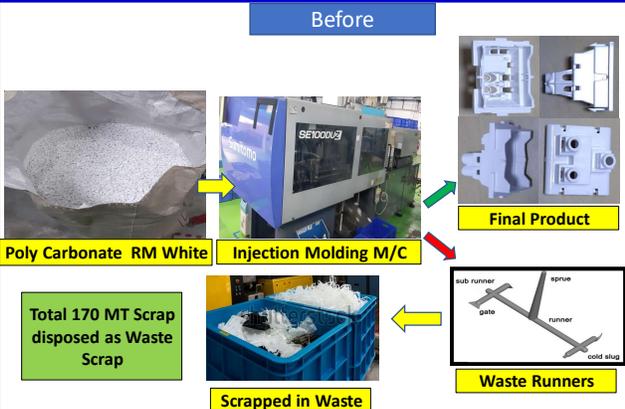


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PROJECT -4: Reuse of scrap PC Grinding for manufacturing of Molding SFG

Before

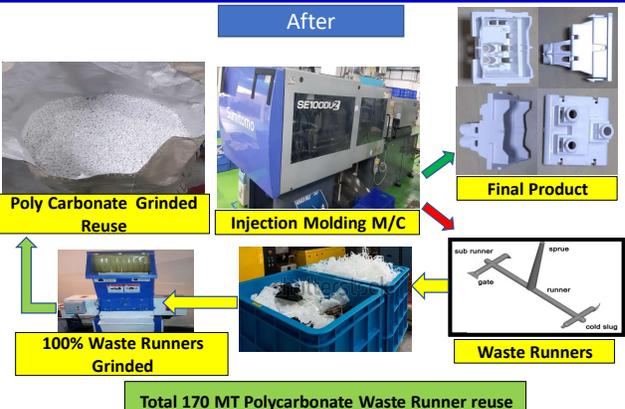


Total 170 MT Scrap disposed as Waste Scrap

Total 170 MT Polycarbonate Waste Runner reuse

Due to product design with high runner composition by weight, resulting in waste generation more than 20 % of permissible limit. This additional quantity was transferred as a waste.

After



100% Waste Runners Grinded

We identified molds with less runner ratio and hence less waste generation approx. (5-7 %) and used the grinding waste generated in before process to top up in Grinding Ratio.



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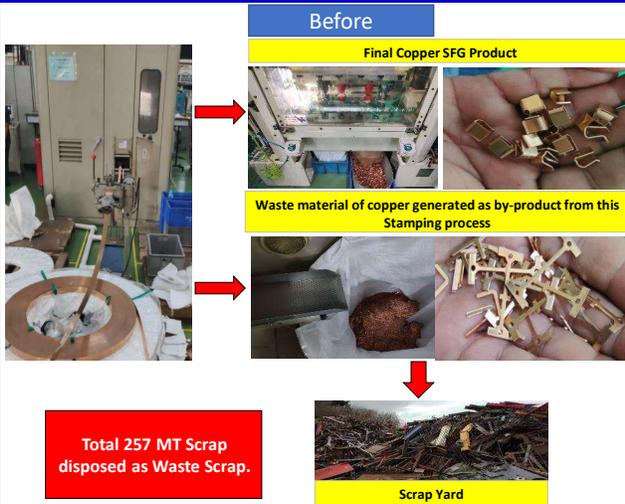


ENVIRONMENT IMPROVEMENT PROJECT



PROJECT -5: Recycling of Copper Waste to Brass Coil by using it as Raw material in Brass Coil production.

Before



Total 257 MT Scrap disposed as Waste Scrap.

After



Total 257 MT Scrap reuse as RM for Brass Coil Preparation

Brass Copper Coil used as rawmaterial in ISIS Stamping Machine to prepare SFG parts of Wiring Device.



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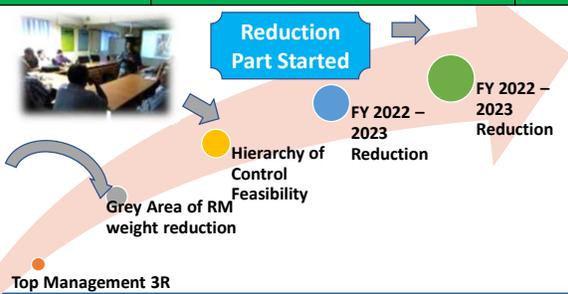


Trigger of the Project	Parent Company - Global Environment Vision, Environmental Performance Driven Through Top Management, Culture of Environment Improvement Through Sustainable Activities, Effective Waste Management System, 3R (Reduce, Reuse & Recycle) Meet at Management Level, Actual Implication of 3R Technique, Reward Policy – "PARYAVARAN SAHYOGI PURASHKAR". Long term vision for Environment for Sustainability (Vision 2050), Commitment towards Environment [Project conceived at Operating Level]		
Uniqueness of the Project	Innovative New Concept, Hierarchy of Control Mechanism (Elimination, Substitution, Engineering Control), Cross Functional Team, Daily Data Monitoring, Non-Standardize Length (NSL) Reduction, Horizontal Deployment		
Project Time Period Details	Schedule of Project	Start This Project	End this Project
	Plan	April – 2022	March – 2023
	Actual Implement	April – 2022	February – 2023

Project Road Map

We have identified our Major Focus Area generating excess Raw Material scrap.

1. Raw Material Reduction
2. Design change of Product
3. Reuse & recycling of Scrap Raw Material



Reduction Part Started

FY 2022 – 2023 Reduction

FY 2022 – 2023 Reduction

Hierarchy of Control Feasibility

Grey Area of RM weight reduction

Top Management 3R Trigger

RM Reduction by change in Design

Managing Director

March 2022 3R Triggered By Top Management

ANCHOR

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Support To Mother Earth

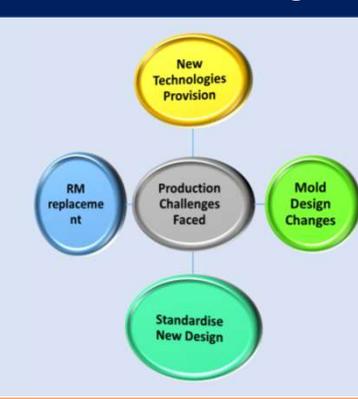


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Technical Challenges	Administrative Challenges	Production Challenges
		
<p>Major Challenge :- Biggest Challenge was Data Collection for finding scope of raw material reduction by changing product design & applying 3R Reduce-Reuse-Recycle on present Product.</p>		
<p>Countering :- We have resolved it through changing Mold Design, Raw material replacement by brass to metal, Recycling Polycarbonate scrap again in Moulding process to reduce fresh Polycarbonate material consumption.</p>		

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Tangible Benefit:-	FY-21	FY-22	Reduce/Reuse/R ecycle	%age	Savings MINR	Remarks
Project-1 Cu Scrap Genration	257.2	257.2	257.2	100.00%	21.27	Recycle to Brass Coil
Project-2 Plastic RM	473	436	37	9.00%	11.94	Reduce Virgin Plastic RM
Project-3 PolyCarbonate Scrap	170	170	170	100.00%	319.90	Reuse of Polycarbonate Scrap
Project-4 Metal Jig Scrap	0.0421	0.0061	0.036	85.00%	1.29	Redudction Coil Welding Jig by Reuse fo Scrap Jig.
Project-5 Metal Material Consumption	972.5	318.5	654	32.50%	0.154	Redudction Metal Material by changing design
Total Cost Savings is					354.559	

Tangible Savings & Payback Period

PLSIND	Investment (Lakhs)	Payback Years (Nos.)	Cost Buster (MINR)
Project-1	0	0	21.27
Project-2	0	0	11.94
Project-3	153.29	0.5	319.90
Project-4	0	0	1.29
Project-5	0	0	0.154

Successful Implementation of Control Mechanism

Less Investment, High Cost Saving & Immediate Implementation of Project

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In-Tangible Benefit:-

Environment Commitment
(i)Resource Conservation (ii)Support to Mother Earth

Process Improvement
(i)Quality Increment RM Scrap Reduction (ii)Raw Material Reduction

High Team Moral
(i)Leading Way of Direction (ii)Team Building (iii)Unique Data Gain

Skill Expand
(i) Data Capturing (ii)Analysis & Interpretation (iii) Decision Making (iv)Cause – Effect

Communication
(i)Team meeting increased (ii)Positive Communication (iii)Way Forwarding

3104 MT Equivalent CO2 Reduction

Raw Material Reduction

Financial Growth

BRAND IMAGE EXPAND & REWARDS & RECOGNIZATION

⑧ National Award – Energy.

⑨ National Award – Energy.

⑩ National Award – Environment

⑪ International Award – Energy.

④ National Award – Energy.

⑤ National Award – Waste Mgt.

⑥ National Award – Water Mgt.

⑦ International Award – Env.

① National Award – Energy, Env., Safety, Quality, HK.

② National Award – Safety.

③ Government Award – Energy

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CONFEDERATION OF INDIAN INDUSTRY

ENVIRONMENT IMPROVEMENT PROJECT



Replication Potential of Project

Process Assimilation

Possible Implementation of Evidence

100 %
Replication
Potential of
Project

APPROACH TO PLSIND Units:- Haridwar Unit- I & II, Sri City Unit.

Daman Unit-5

Production Department

Grasping existing scenario & setting target	Plan									
Action plan	Plan									
Implementation of action plan	Plan									
Evaluate effects	Plan									
Standardization & fixing control	Plan									

Replication Steps Initiated

- ❖ 3R Feasibility
- ❖ Hierarchy of Control
- ❖ Scrap Reduction
- ❖ Material Conservation
- ❖ Environment Effect
- ❖ Intersection Team
- ❖ IW Scrap Control
- ❖ 3R Themes
- ❖ Daily Data Capture

Future After Spreading Benefits

- Promote-5R (Refuse-Reduce-Reuse-Repurpose-Recycle)
- Move Towards Net-Zero by 2030

Achievements & Knowledge Sharing Platforms








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Achieving National Benchmarks/Standards / 10

PANASONIC GLOBAL BENCHMARK

Color Code

Area For Improvement
Area Already Improved

Reduce greenhouse gas emission to substantially zero by 2030

Top Management From Japan, had lagged behind in Environmental issues, changed the direction towards Sustainable

Achieving Sustainability Management

Contribute to solving global environment issues
 - By 2030: Achieve net zero CO₂ emissions at all operating companies
 - By 2050: contribute to reductions beyond CO₂ emissions from Panasonic's own value chain

Panasonic GREEN IMPACT announced at CES
 Support health & well-being of people both in mind & body
 - Well-being in lifestyle
 - Well-being in workstyle
 To achieve these aims, we must support the well-being of our employees

Toward achieving an ideal society with affluence both in matter and mind, we will contribute to the progress and development of global environment & quality of life.

Sustainable Achievements	Panasonic		More Sustainable Competitors	Less Sustainable Competitors
	Global	National	Competitor - 1	Competitor - 1
Environmental Care Funding	2836.57 MINR	20 MINR	22 MINR	<12 MINR
Factory Waste Recycling Rates	Current 99 % 100% Vision	50 %	55 %	<10%
Renewable Energy Resources	32000 MW	3.69 MW	8.0 MW	<1.0 MW

PLSIND UNITS BENCHMARK	Panasonic		More Sustainable Competitors	Less Sustainable Competitors
	Global	National	Competitor - 2	Competitor - 2
Green House Gases Emissions	10,000 Tons	17 %	55 %	< 5 %
Waste Water Discharge & Recycling	18.02 million M3	65 %	98 %	< 20 %
Waste Landfill Disposal	3.4 Thousand Tons	<5 %	<2 %	< 5 %


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Environmental Performance
Management Performance Indicator



Kensuke Mizushima, Founder of Panasonic Corporation, My Management Philosophy (quoted in June 1978)

"There is much discussion today regarding 'social responsibility,' but with the warning of that concept can be wide-ranging depending on social conditions at a particular time, the fundamental social responsibility of a corporation, in any era, should be to improve society through its business activities. It is extremely important to manage all business activities based on this sense of mission."

Kensuke Mizushima,
Founder of Panasonic Corporation

ENVIRONMENT & ENERGY PERFORMANCE ACTIVITIES

- Legal Compliance Activities
- Waste Management & Disposal Activities
- Certification Audit Activities
- Environmental Motivational Activities** - World Environment Day, World Water Day, World Earth Day
- Tree Plantations & Public Place Cleaning Drives
- Renewable Energy Resource Utilization
- Water - Waste Water Treatment, Chemical Dosing & Discharge
- Rainwater Harvesting & Utilization
- Environment Trainings
- Replacement of Conventional light to LED light



MANAGEMENT
DRIVEN CULTURE



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Priority Plans

Sr. No.	Environment Activities	Target Month	Resource Requirements
1	Reduction of Ground Water Extraction Load By 5.0 %	March-2023	Infrastructure and Technology
2	Reduction in Overall Expense of Hazardous Waste Load By 5.0 %	March-2023	Infrastructure and Technology
3	Increase in Overall Income of Hazardous Waste Load By 5 %	March-2023	Infrastructure and Technology
4	Recycling of STP Treated Water in Utility & Domestic Purpose to reduce Fresh Water Consumption by 20%	March-2023	Infrastructure and Technology
5	Biodegradable Plastic packaging for PLSIND Products & eliminate Plastic Packaging by 30%	March-2023	Expert Feasibility Study & Actual Implementation
6	Reduction in Chemical Consumption by 1%	March-2023	Infrastructure and Technology

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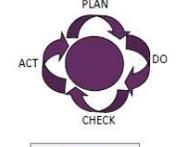




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Learning

<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Team Work</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Problem solving</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Morale</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<div style="background-color: #0070C0; color: white; padding: 5px; text-align: center;">Learning & Development of Environmental Good Practises</div> <ul style="list-style-type: none"> ❖ Learn the importance of Material Conservation ❖ Management Level Appreciations ❖ Clear understanding of waste management system of the plant and conversion into resources ❖ Strengthening of waste segregation system ❖ Better utilization of waste collection system and resources ❖ Non-value added activities elimination ❖ Process flow of wastes at micro level ❖ Identification of Scrap at various sections which has less quantity but accountable for increment ❖ Better utilization of the waste through various projects such as Reduce, Reuse and Recycling ❖ Enhance Cost consciousness among team ❖ Strengthen Green Purchasing guidelines ❖ Enhanced Competency of team resulted more sustainability initiatives water positivity, CO2 Reduction etc. ❖ Sharing of Good Practises at Global Level
<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Soft Skills</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Communication</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<div style="border: 1px solid #ccc; padding: 5px; text-align: center;">Experience</div>  <div style="border: 1px solid #ccc; padding: 2px; text-align: center; margin-top: 5px;">Improved</div>	<small>PLSIND copyright © 2022</small>



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Thank You

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