



Panasonic

PANASONIC LIFE SOLUTIONS INDIA PVT LTD.
Unit-02, Haridwar

CII NATIONAL AWARD FOR
“EXCELLENCE IN ENERGY MANAGEMENT 2023”

Presented By :

Chandrashekhar Singh –AGM Facility Management
Susanta Dwivedi-DM Facility Management

Brief Introduction on Company

Panasonic

Life Solutions India Pvt. Ltd.

(Formerly known as)

Anchor Electricals Pvt Ltd.

A global enterprise that manufactures cutting edge electrical products

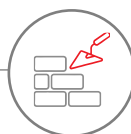


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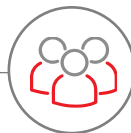
Established 1963



Revenues Million USD 501+



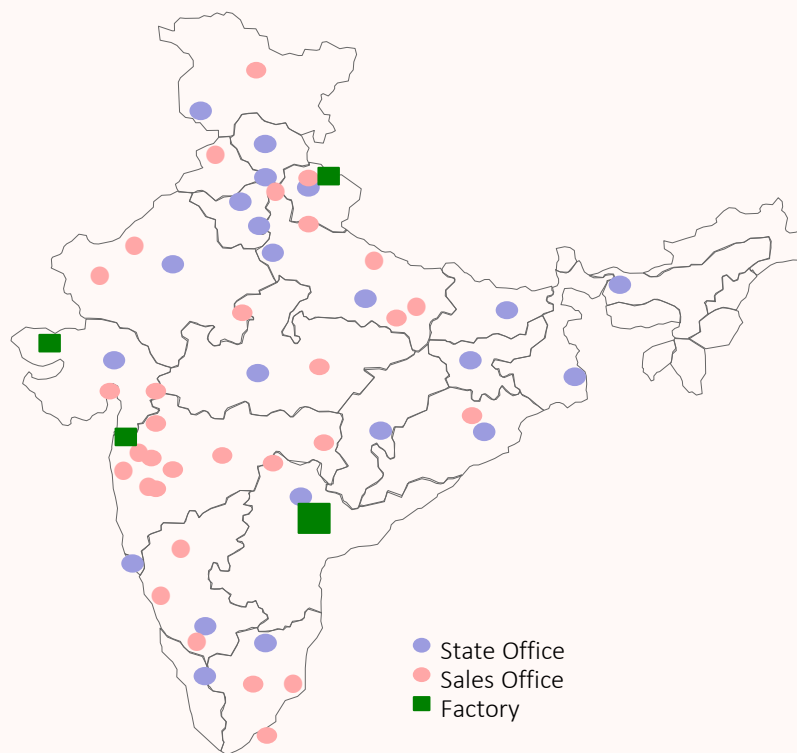
Organization Strength 9000+



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Brief Introduction on Company

MANUFACTURING FACILITIES



SALES OFFICES

4 Regions & 27 Offices



MANUFACTURING

4 Areas & 7 Factories



HARIDWAR FACTORY

- Wiring Device
- Switchgear



DAMAN FACTORY

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



KUTCH FACTORY

- Wires & Cables & Tapes
- Lighting



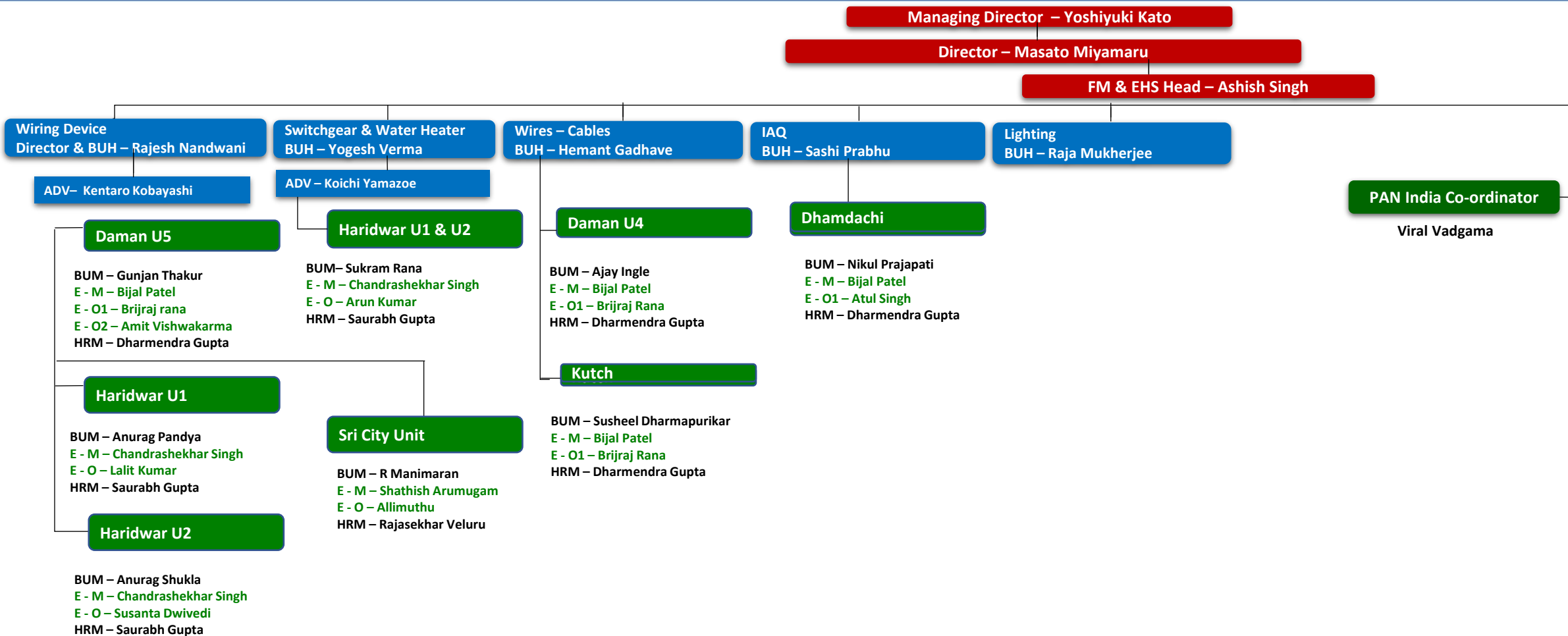
SRIRANGAPATNA FACTORY

- Wiring Device

• ISO 50001: 2018 certified for energy Management & ISO 14001, ISO 45000 & ISO 9001

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PAN INDIA – Energy Cell Organogram



E - O – Energy Officer
E - M – Energy Manager
BUM – Business Unit Member

BUH – BU Head
ADV – Advisor
HRM – HR Manager

Panasonic Energy Policy

Top Management Direction

Continuous monitoring and controlling energy consumption

Management commitment for adopting energy efficient technology, product and design

Set and Review objectives and targets for continual improvement

Energy Saving activities to Achieve Net Zero by 2030

Comply with all relevant Govt approval and other requirements applicable to energy use.

Energy conservation awareness to all employees

Panasonic

ऊर्जा नीति

हमारे व्यापार दर्शन और मूल मूल्यों के एक अभिन्न अंग के रूप में, हम वैश्वीकरण, उद्योग, समाज और पर्यावरण के बीच संतुलन में ऊर्जा का उपयोग करना हमारे लिए प्राथमिक है।

इस प्रतिबद्धता को पूरा करने के लिए, हम अपनी सभी गतिविधियों में सर्वोत्तम ऊर्जा संरक्षण प्रथाओं को सुनिश्चित करने के लिए एक दृढ़ और संतुलित प्रयत्न करेंगे।

हमारे विशेष ध्यान इस प्रकार होगा:

- ऊर्जा की खपत की निरंतर निगरानी और नियंत्रण।
- ऊर्जा की खपत को कम करने के लिए निरंतर प्रयत्न में निरंतर सुधार।
- ऊर्जा उत्पादन, उपयोग और दक्षता के लिए उच्च गुणवत्ता वाले तकनीकी समाधानों और अन्य आवश्यकताओं का अनुपालन।
- ऊर्जा दक्षता से संबंधित प्रमुख क्षेत्रों के लिए उद्देश्यों और लक्ष्यों को निर्धारित करना और उनकी समीक्षा करना।
- ऊर्जा दक्षता उत्पाद और सेवाओं की खरीद द्वारा ऊर्जा दक्षता के लिए सर्वोत्तम समाधानों को प्रोत्साहित करना, उत्पाद और सेवाओं को अपनाना।
- सभी कार्यस्थलों के बीच ऊर्जा संरक्षण पर प्रशिक्षण के माध्यम से जागरूकता को बढ़ाना होगा।

उद्देश नीति

ऊर्जा का व्यवसायिक दर्शन को मूल मूल्यों के अंतर्गत आना चाहिए, हमें वैश्वीकरण, उद्योग, समाज और पर्यावरण के बीच संतुलन में ऊर्जा का उपयोग करना हमारे लिए प्राथमिक है।

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- ऊर्जा दक्षता से संबंधित प्रमुख क्षेत्रों के लिए उद्देश्यों और लक्ष्यों को निर्धारित करना और उनकी समीक्षा करना।
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- सभी कार्यस्थलों के बीच ऊर्जा संरक्षण पर प्रशिक्षण के माध्यम से जागरूकता को बढ़ाना होगा।

ENERGY POLICY

As an integral part of our business philosophy and core values, we at Panasonic Life Solutions India Pvt. Ltd., are committed to achieve excellence in energy conservation.

To fulfil this commitment, we shall provide information & resources to integrate best energy conservation practices in all our activities.

We will have special focus on:

- Continuous monitoring and controlling energy consumption.
- Continual improvement in manufacturing process, to reduce energy consumption.
- Comply with all relevant statutory and other requirements applicable to energy use, consumption and efficiency.
- Set and review objectives and targets for continual improvements related to energy performance.
- Adopt best feasible technology design, product and services for energy efficiency by purchase of energy efficient product & services.
- Promoting awareness through training on energy conservation among all employees.

For Panasonic Life Solutions India Pvt. Ltd.

For Panasonic Life Solutions India Pvt. Ltd.

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Energy Distribution Plant

Facility Overview

Utilities	Capacity
Maximum Demand	1500 KVA
Transformer	2000 KVA
DG Set	2750 KVA
Compressor	2200 CFM

Renewable Energy Sources
791.5 KWp On Grid Roof Top Solar system installed.

Existing : On Site 791.5 KWP Roof Top Solar Plant

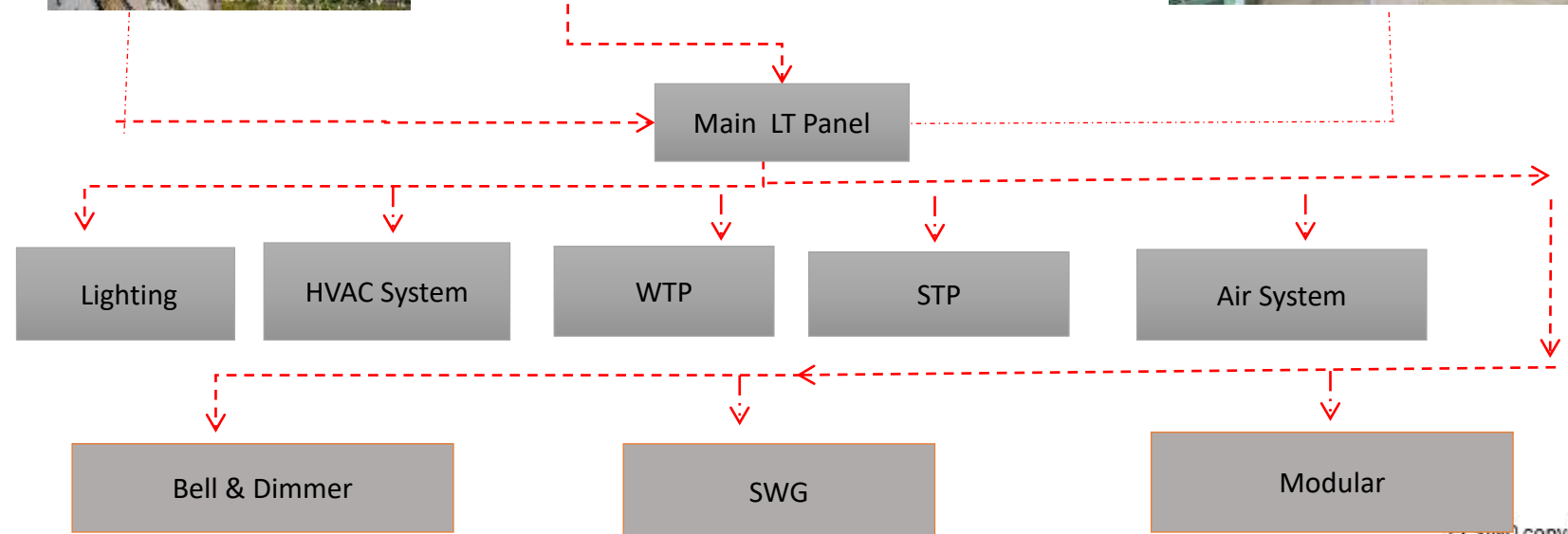


11 KV From Electricity Board(1500 KVA)

11 kV Supply (2000 KVA)



2750 kVA Capacity DG Sets (Backup Power Source)

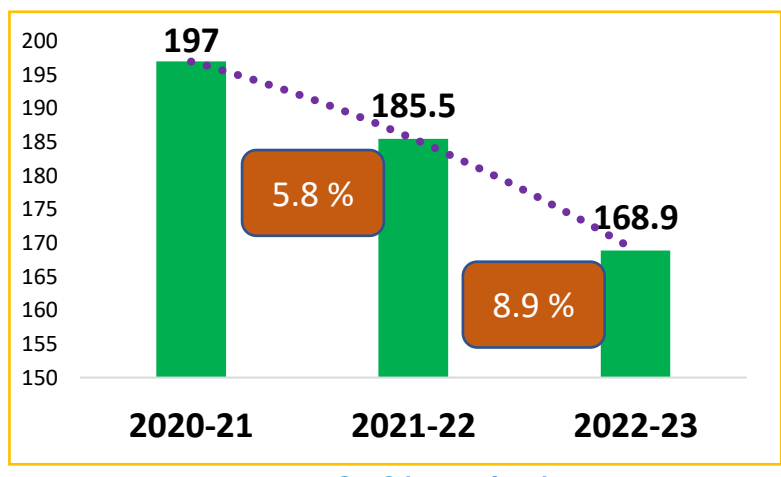
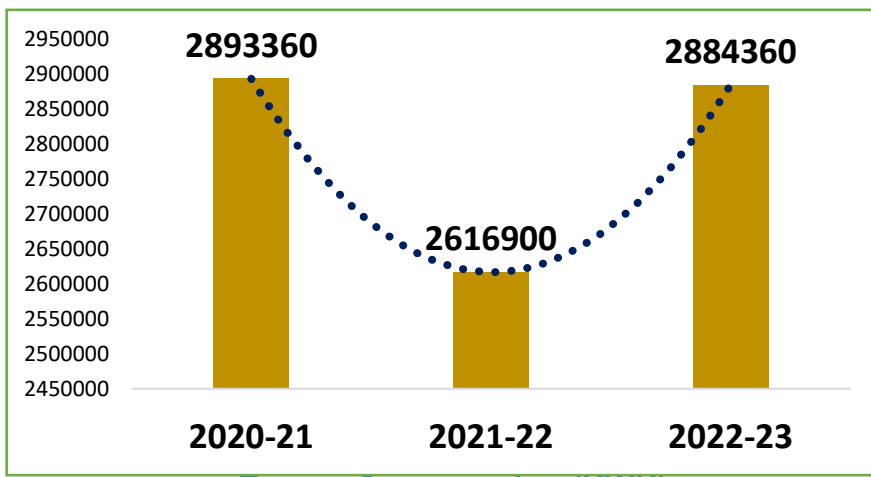
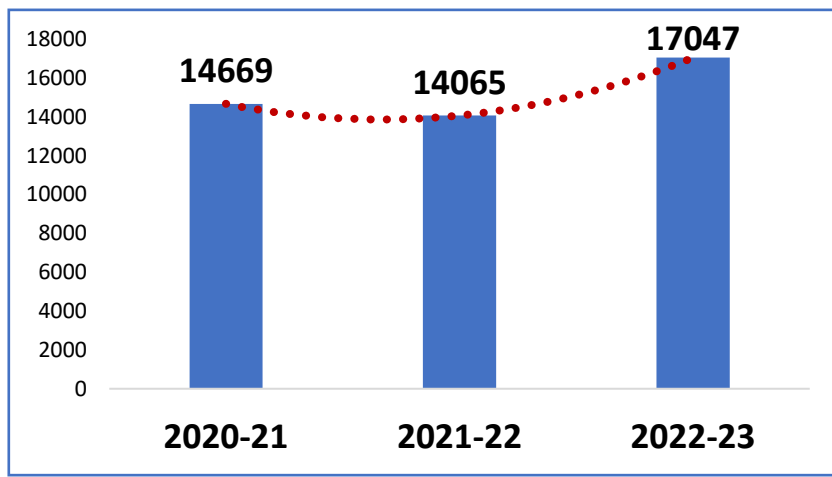
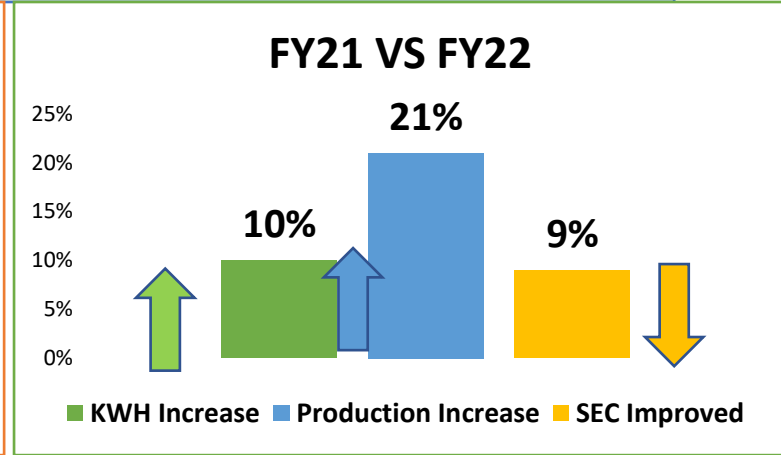
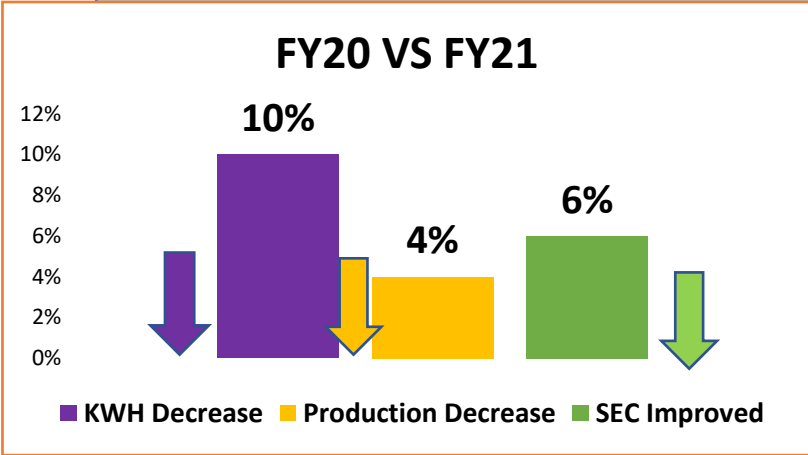


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Specific Energy Consumption Plant

Year	Total KWH consumption	Production in MT	SEC in KWH/MT
FY'20-21	2893360	14669	197
FY'21-22	2616900	14065	185.5
FY'22-23	2884360	17047	168.9

SEC TREND(%)

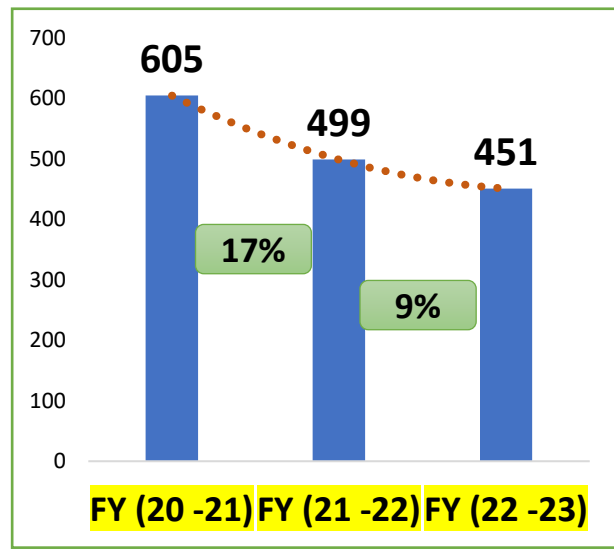


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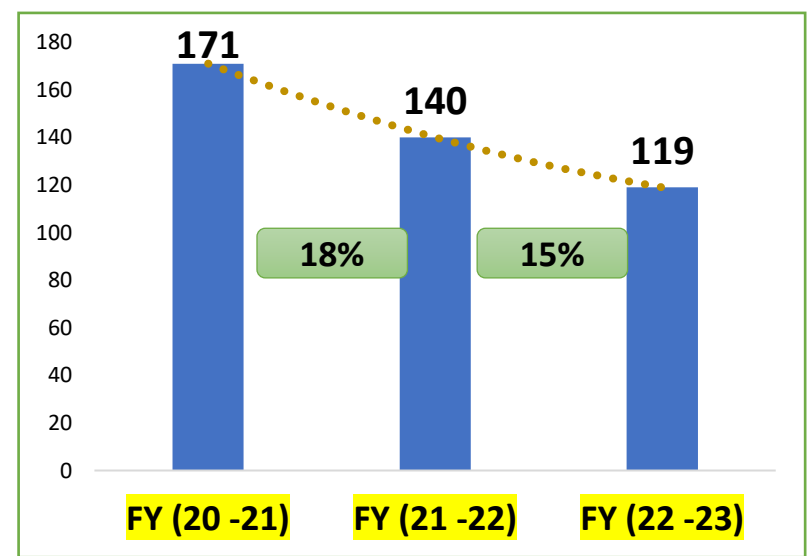
Specific Energy Consumption :Section Wise

➤ **Bell & Dimmer , Modular Section and SWG** : SEC Improving year by year considering energy saving activities even the production in increasing trend

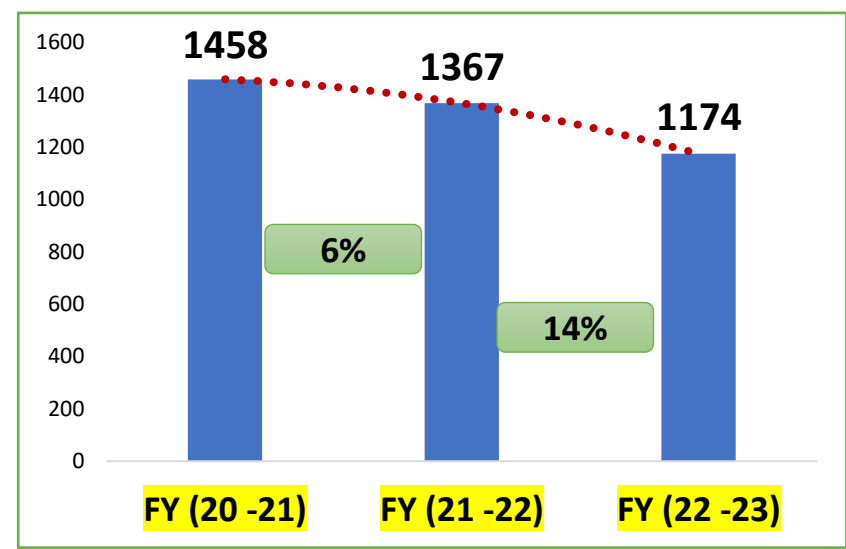
Year	Section wise SEC(KWH/MT)		
	Bell & Dimmer	Modular	SWG
FY'20-21	605	171	1458
FY'21-22	499	140	1367
FY'22-23	451	119	1174



Bell & Dimmer



Modular



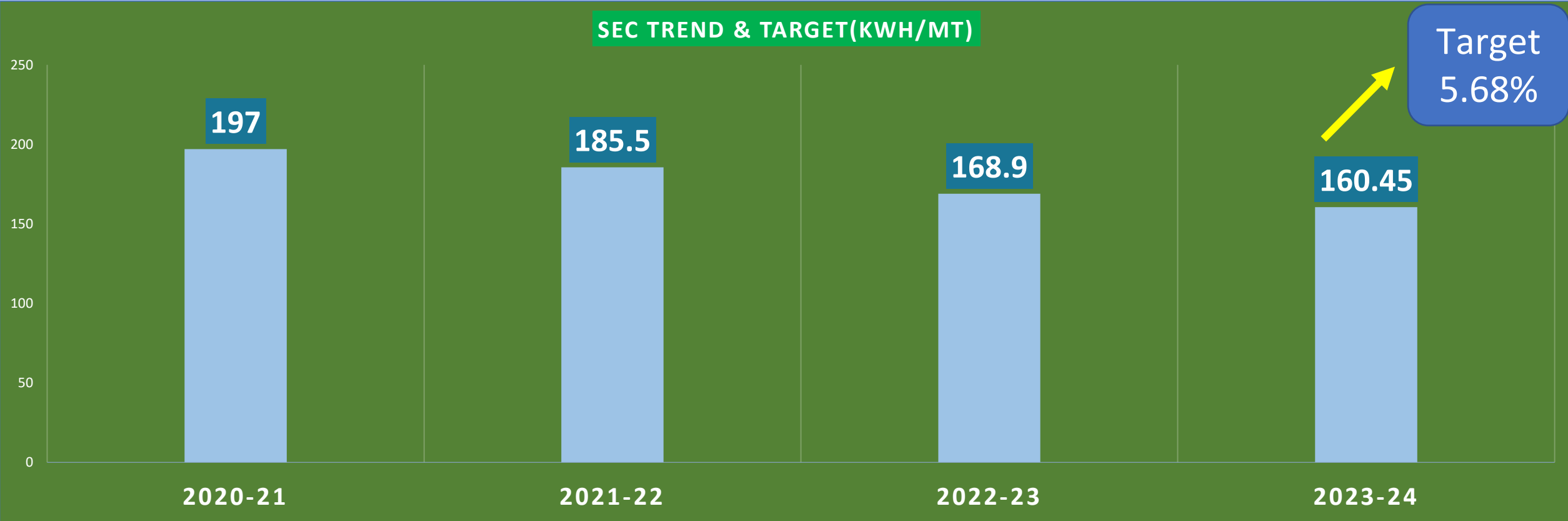
SWG

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Road Map for Further Improvement of SEC

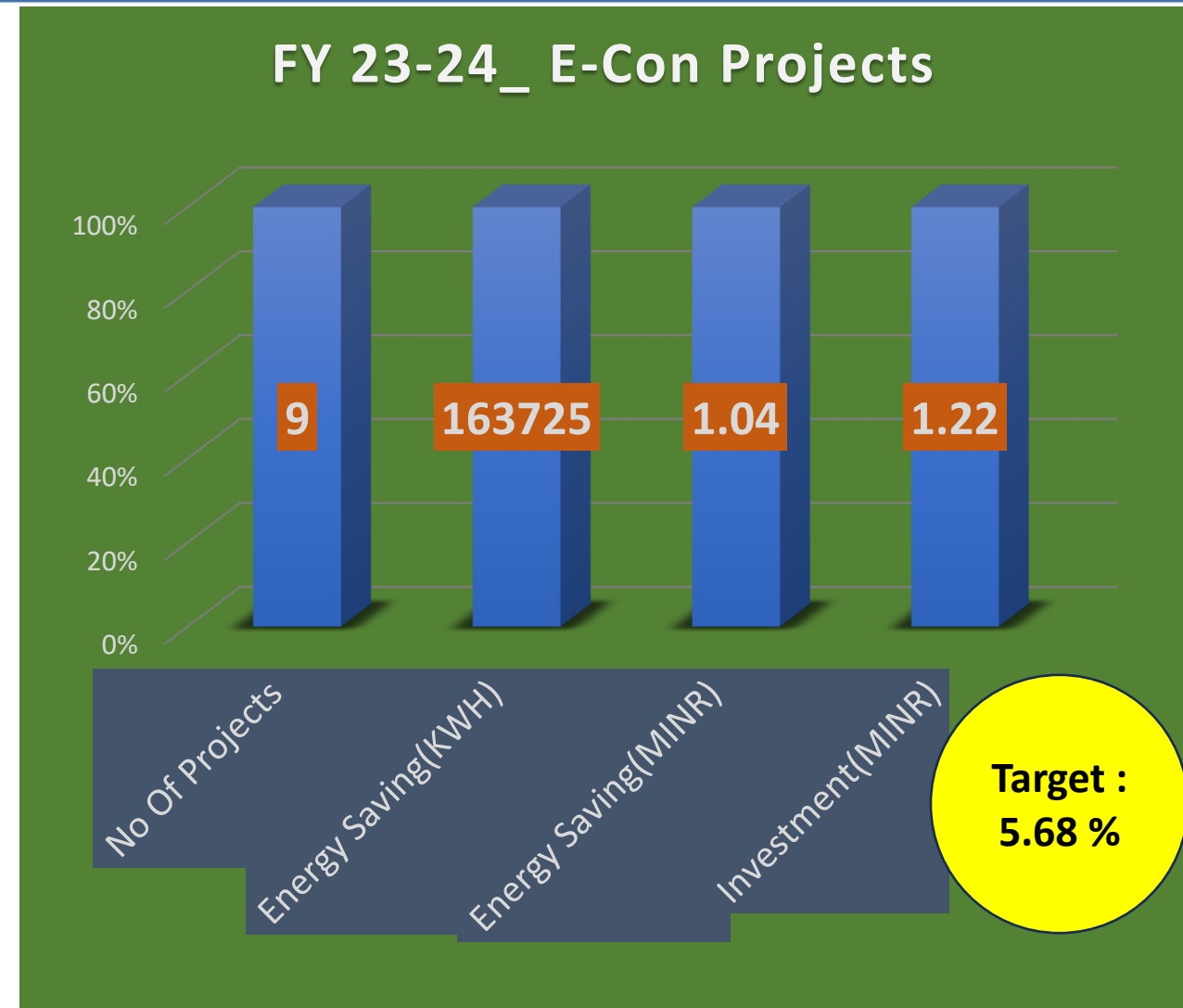
SEC Benchmark

We have internal benchmarking with our other units & accordingly we made target for 5.68 % reduction in FY23-24



Major E-CON Projects Planned for FY 2023-24

Sr.No.	Energy Objectives	Annual Saving (KWH)	INVESTMENT (MINR)
1	Air Leakages Reduction from 2.41% to 1.8%	67392	0.016
2	Conventional ceiling fan replacement by BLDC fans Canteen and office area	8768	0.17832
3	Modification of air washer ducting by proper designing	27586	0.3
4	Maintain required lux level by Replacement of higher rating light to LED light	18720	0.017
5	Lighting Ckt modification at 1st floor area	12636	0.01
6	Modification in machine programmed to shut down machine during Idle time in each shift for Energy saving (For 24 Nos machine)	5346	0.048
7	Energy Saving through KAIZEN ACTIVITY in Open Assembly working cell	9786	0
8	Energy Saving through Change concept of machine Manual to Semi Auto	12696	0.65
9	Annealing machine exhaust fan control by VFD	795	0.005
	Total	163725	1.22



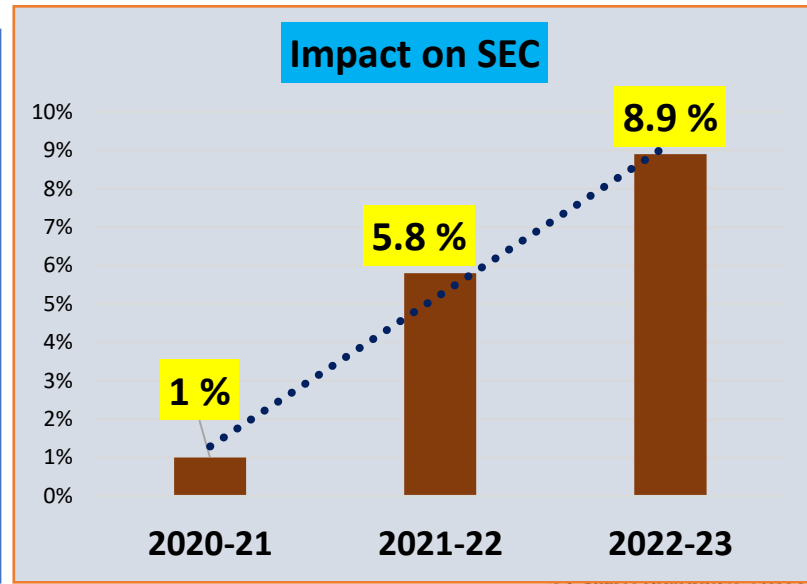
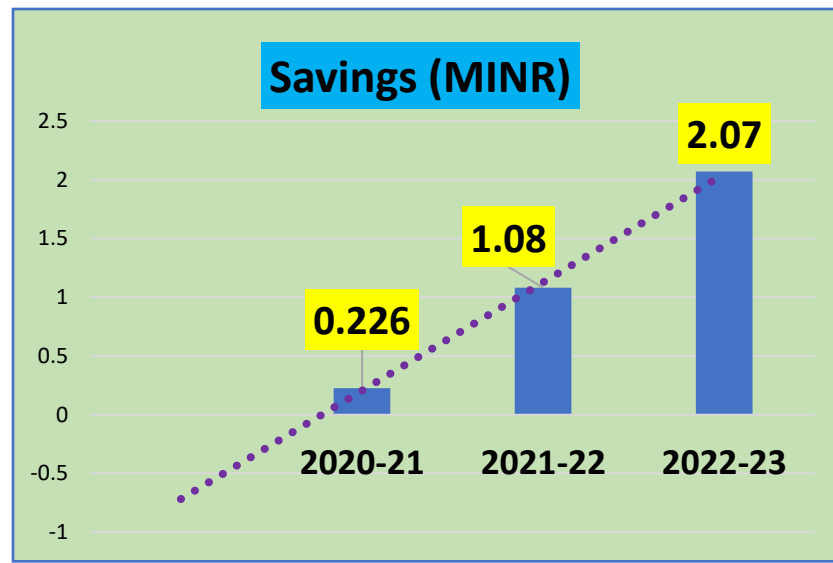
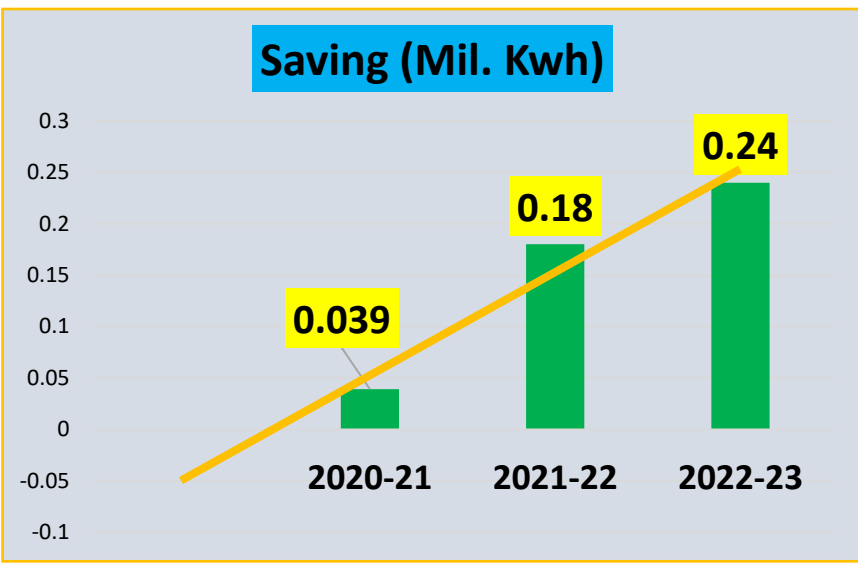
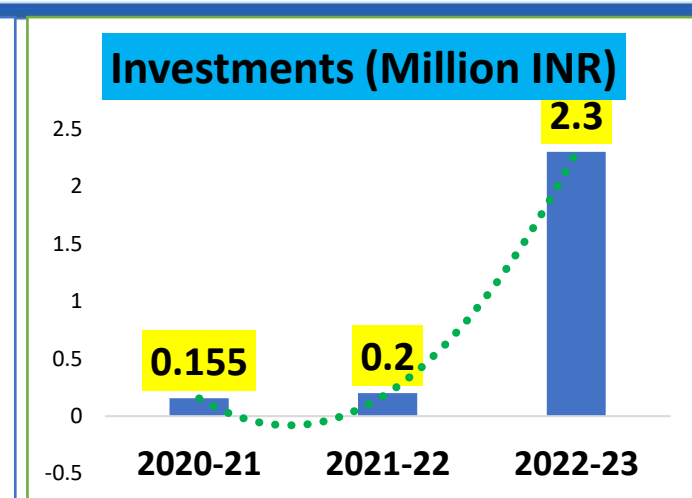
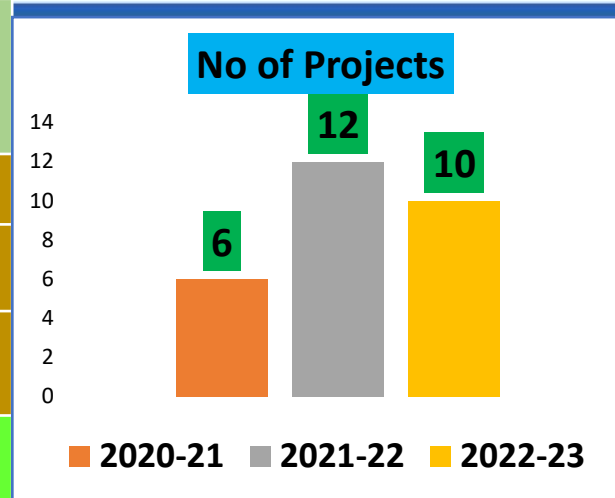
Energy Saving projects implemented in FY22-23

Completed Theme Details in FY22	Saving KWH	Investment	Year	KWH Consumption Per Annum	KWH_Saving	KWH_Saving(%)
Energy Saving through KAIZEN ACTIVITY in Open Assembly working cell	9786	0	2022-23	2884360	241198	<div style="border: 2px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <p>Achieved 8.36 %</p> </div>
Energy Saving through Change concept of machine Manual to Semi Auto Pad Printing Machine	12696	300000				
Energy Saving by Providing zone wise lighting & fan, on/off control	1935	3000				
Replacement of Conventional light to LED light in old Building to conserve energy & reduce CO2 Emission	18720	17000				
Replacement of Conventional type ceiling fan by Panasonic make energy efficient BLDC Fan (5 Star Rating) to reduce energy consumption as well as CO2 Emission	78471	853000				
Energy Saving & CO2 Reduction by reducing artificial air demand at shop floor by Using Energy Efficient" Godrej IFC System" & Also by arresting air leakages	58454	1042000				
Energy Saving & CO2 Reduction by Rectifying air leakages by regular Monitoring & Control by 3.2 % to 2.4 %	50372	18000				
Energy saving by automatic machine power OFF when machine is stop in idle condition.	5346	48000				
Energy saving By modifying Screw checking system and save vision camera and pneumatic cylinder.	5418	20000				
241198	2301000					

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Energy Saving projects implemented in last three years

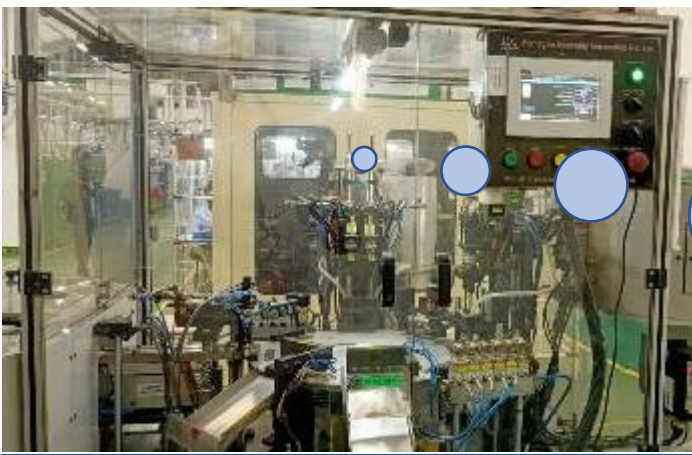
Year	No of Projects	Investments (INR Million)	Saving (Mil. Kwh)	Savings (MINR)	Impact on SEC (%)
2020-21	6	0.155	0.039	0.226	Reduced by 1 %
2021-22	12	0.20	0.18	1.08	Reduced by 5.8 %
2022-23	10	2.30	0.24	2.07	Reduced by 8.9 %
Total	28	2.655	0.459	3.37	Without Solar



Innovative Projects-01: Modification in machine programme to shut down machine during Idle time

Before

Machine electrical & pneumatic supply ON during lunch & cleaning



Machine idle for 45 Min in each shift

Idle Time/shift (45 Min) = Lunch (30 min) + Cleaning (15min)

Issue :-
 All automation machine power on when machine is stand in idle condition, but production stop & energy consumption continue on.

Impact:-
 ✓ Electricity consumed/machine/hour = 0.33 kwh
 Consumption of energy/ Annually = 0.33 KWH X 24 Hour X25 Days X 12 Months X 24 Machine = **57600 kwh**

Efforts and contribution :

- Brainstorming with the team
- No Operator dependency for machine shut down during idle.
- Energy consumption as well as cost reduced
- Energy saving in automatic mode

After

Done automation to Shut down machine automatically during idle



Make logic program



Modification in Machine program



Machine OFF automatically

Benefits :-
 Idle energy consumption saving = 2.25 hours/day (For 24 Nos Machine)
 Annual energy saving for 2.25 hours/day = 2.25 X 0.33 X 25 X 12 x24 = **5346 Kwh, So total saving in cost = 0.03 MINR**

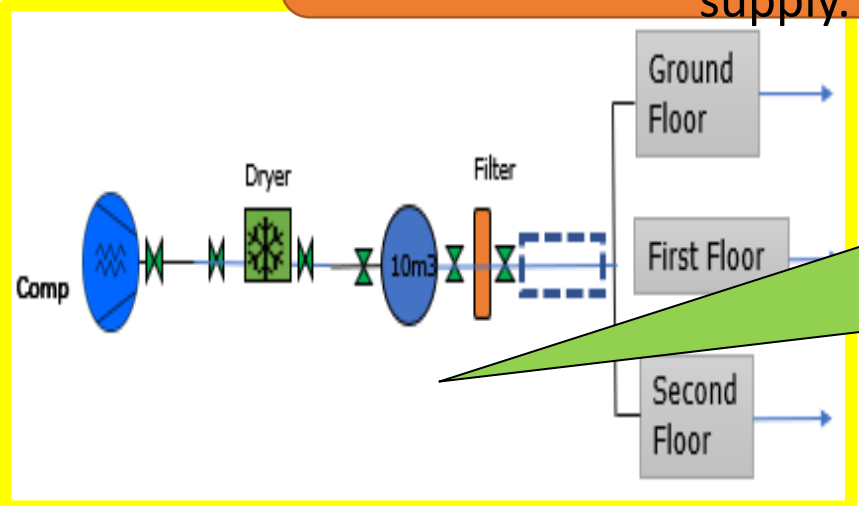
Replication: This projects can be replicate to all manufacturing sector. We have implemented this project in our flow rap machine assembly section.

ROI:
 0.7
 Year

" Godrej IFC System"

Before

No energy efficient air flow controlling device for maintaining smooth air pressure supply.



After

Installation of Godrej IFC controller to reduce artificial demand of compressed air.

Issue :-
 1. High operating pressure of Air Compressors up to 7.2 bar
 2. Frequently Loading & Unloading of Air Compressors
 3. At higher pressure air leakages increase the higher energy consumption

Impact:-
 In Before condition, we had to keep the compressed air loading pressure at 6.5 & unloading at 7.2 bar for the production machineries.
 Actual Energy consumption - **974231 Kwh per annum**

Efforts, Contribution and Benefit :
 Installation of IFC Unit, now we are optimizing the compressed air loading pressure from 6.5 bar to 5.4 bar to reducing the artificial demand at shop floor & supply of optimize air pressure at shop floor .

- Now loading pressure 5.4 bar & Unloading 6.5 bar**
- Reduce frequently Loading & unloading**
- Lower the energy consumption at leakages**
- Energy saving =974231- 915777 = 58454 KWH**

Replication: This projects can be replicate to all manufacturing sector. We have implemented this project in our flow rap machine assembly section.

ROI: 3 Year

Innovative Projects-03: Replacement of conventional type ceiling fan by Energy Efficient BLDC fan

Before

Conventional ceiling fan are in operation with high wattage rating (No star rating)

Conventional Fan



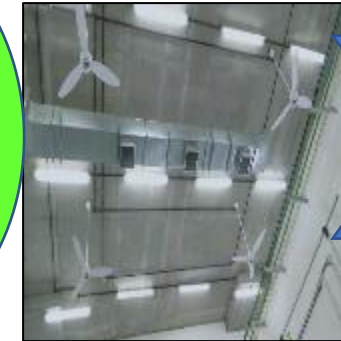
0.0935 KWH/Hour per fan

Fan Rating (83 watt) with **No Star Rating**
Total Fan :438 nos

After

Replaced Conventional type fan by energy efficient BLDC energy efficient fan (5 Star Rating)

BLDC Fan(Star Rated)



Rating (31 watt)

0.00217 KWH/Hour per fan

97.67% energy Saving

Issue :-

- Conventional Ceiling Fan
- No Star Rating and Energy efficient
- Failure of Capacitor/Motor
- High Energy consumption
- More Maintenance cost

Impact:-

Fan Rating (83 watt) Power Consumption for 438 Nos. of fans
Nos. of fans*Operating days per annum*Per hour Energy cons. Per fan*Operating Hrs. in a day
=438*200*.0935*12 = 98287 Kwh

Efforts, Contribution and Benefit :

Replaced 438 Nos conventional type Ceiling Fan to BLDC Fan by our inhouse team.
Fan Rating (31 watt)
Power Consumption for 438 Nos. of fans
Nos. of fans*Operating days per annum*Per hour Energy cons. Per fan*Operating Hrs. in a day
=438*200*0.00217*12= 2281 Kwh
Overall Saving: (98287-2281) 96006 KWH

Intangible Benefits:

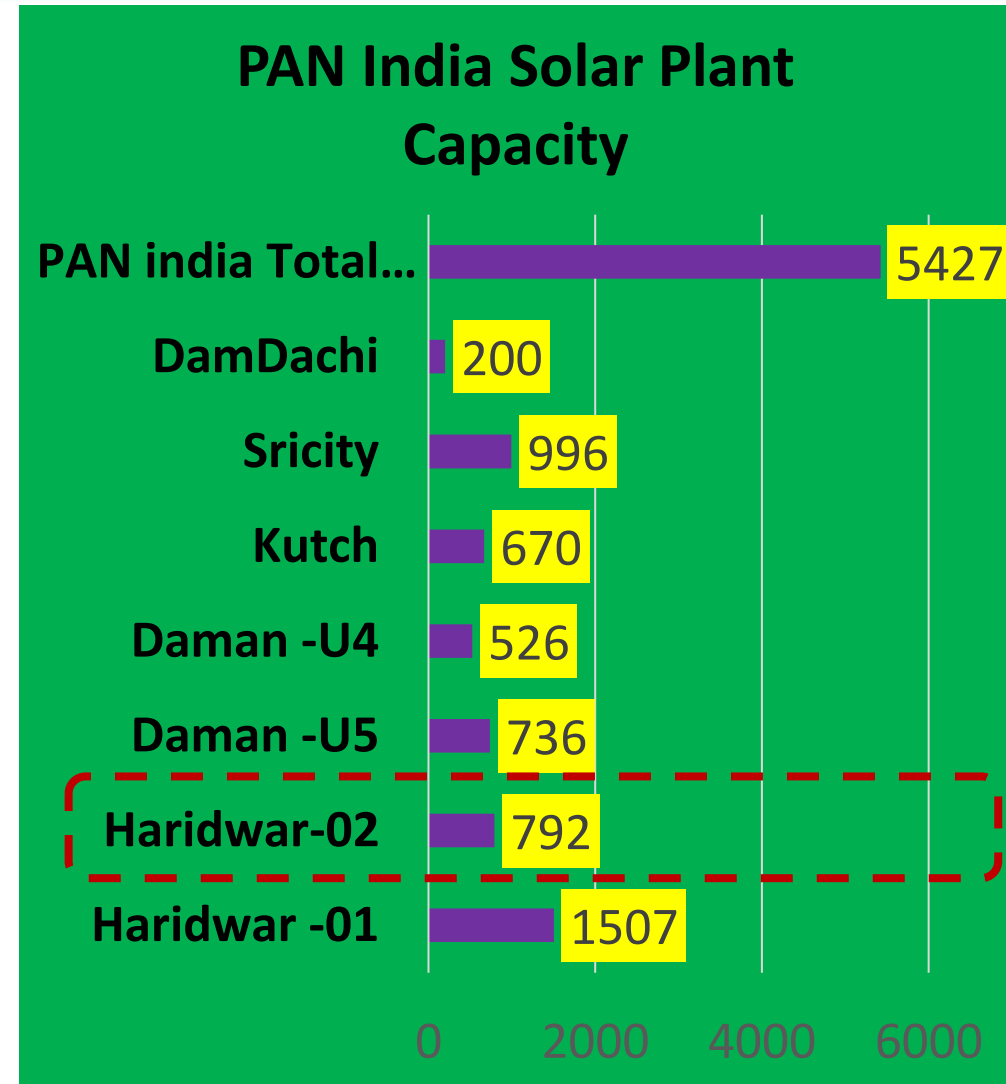
1. Lowest power consumption at high speed
2. Sensor less design for higher durability
3. Timer control for 2/4/6/8/10 hours
4. Full speed of fan even at lower voltage till 130 Volt.
5. Super efficient motor with very less temp rise, Thus increasing life of fan motor.
6. The fan don't have any capacitor. so, risk of capacitor explosion is zero and hence fire hazard will be reduced.

Replication: This projects can be replicate to all manufacturing sector. We have implemented in our complete plant area.

ROI: 1.5 Year

Utilization of Renewable Energy Sources

Year	Technology	Type of Energy	Onsite/Of fsite	Installed Capacity (MW)	Generatio n (million kWh)	% of overall electrical energy
FY 2020-21	NA	NA	NA	NA	NA	NA
FY 2021-22	Photovoltaic	Solar	On Site	0.5	0.58	22.21 %
FY 2022-23	Photovoltaic	Solar	On Site	0.29	0.39	21.98 %

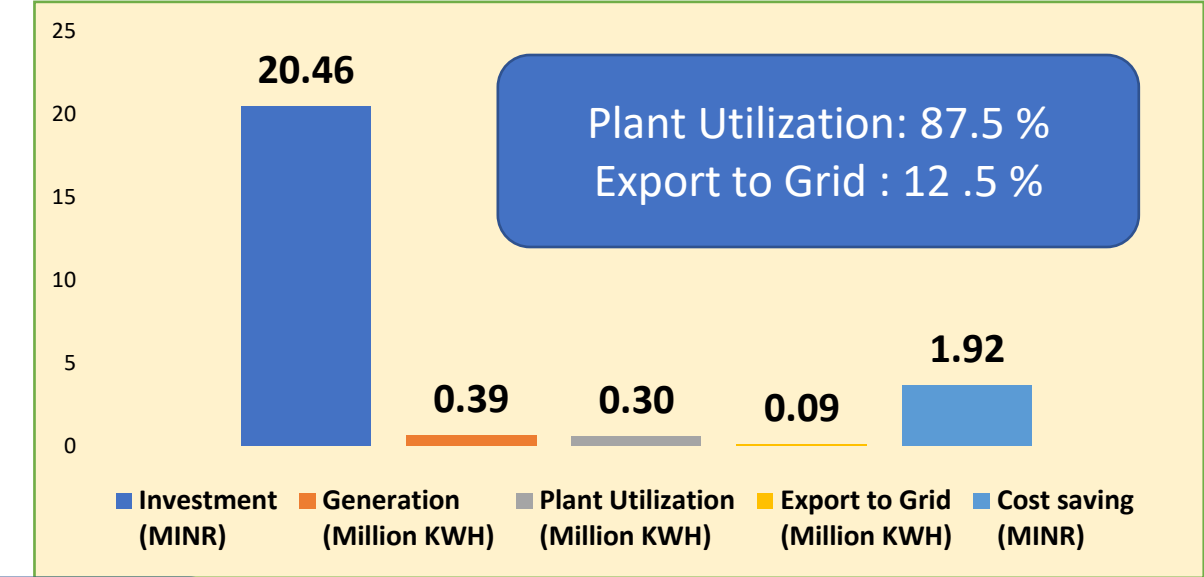
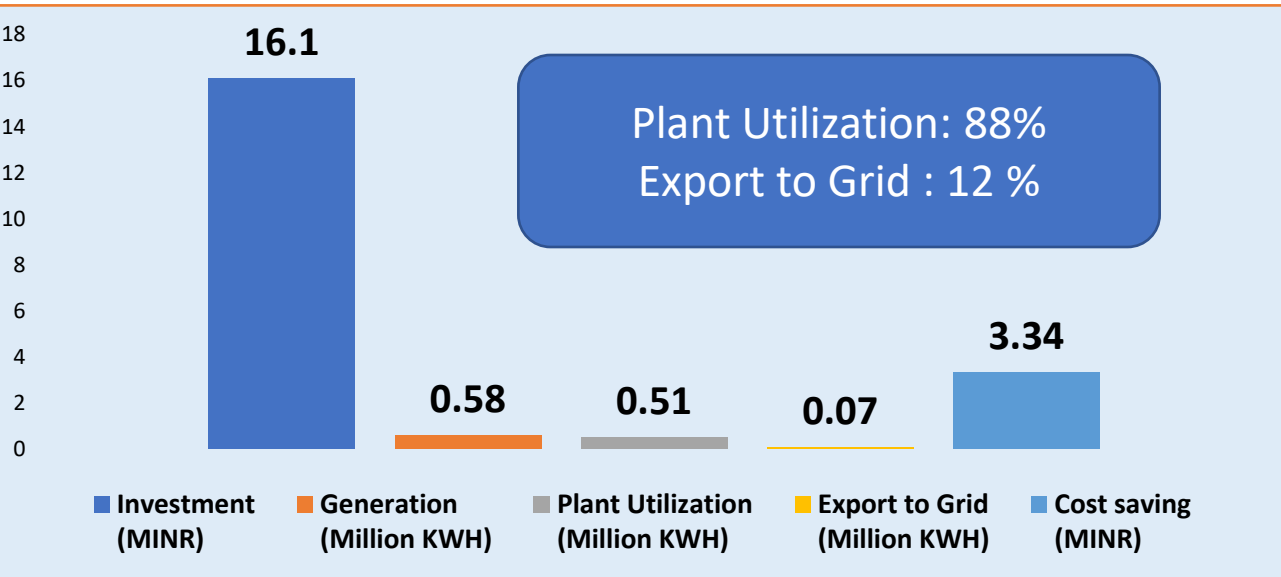


0.79 MW Roof Top Solar Plant :: Haridwar Unit-02 having 22% of overall energy consumption & 15% Generation capacity of PAN India

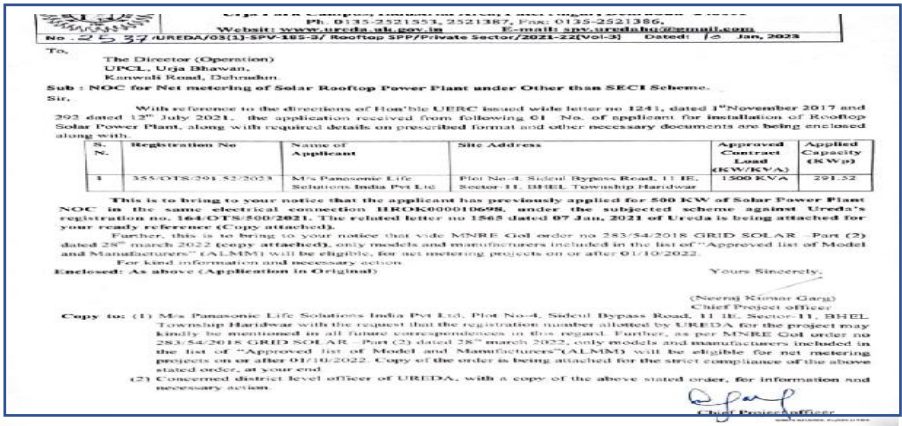
Utilization of Renewable Energy Sources

Phase-01(500 KWp) Generation, utilization & Investment(FY 21-22)

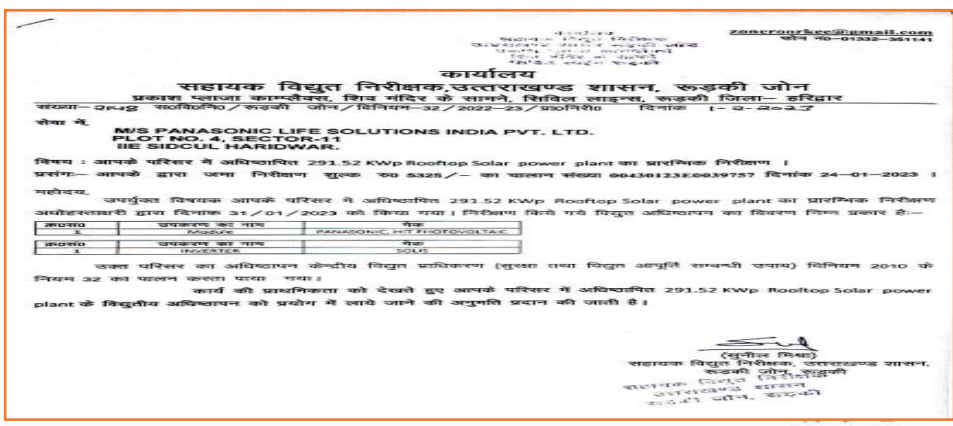
Phase-02(291 KWp) Generation, utilization & Investment(FY 22-23)



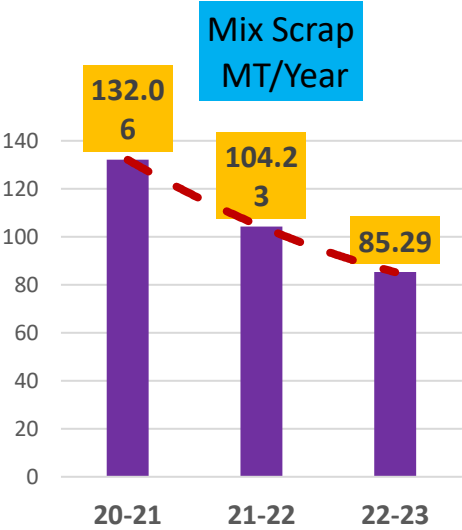
NOC for Net Metering of Solar Roof Top from UREDA



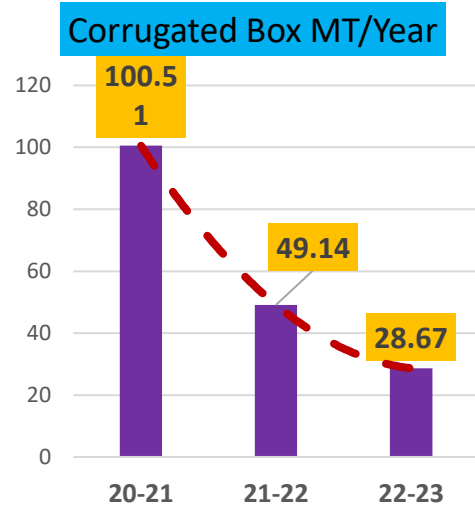
NOC for Net Metering of Solar Roof Top from CEIG



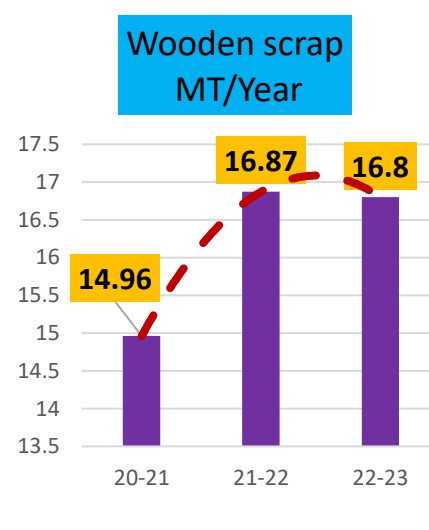
Waste Utilization and Management



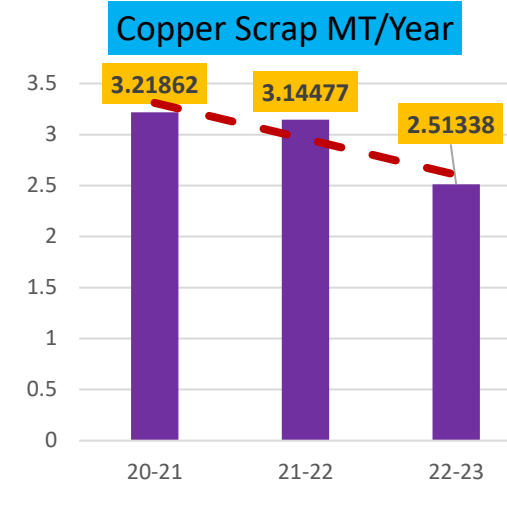
Less FG Production and some part section shifted to other unit.



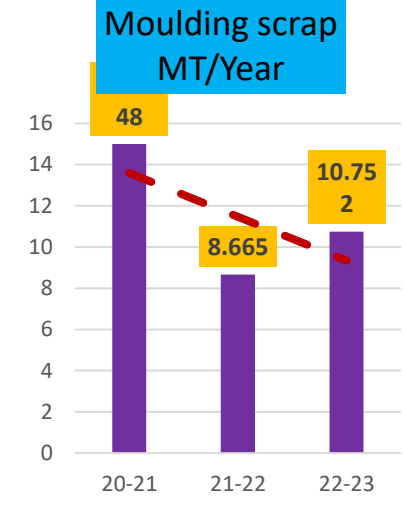
Raw material directly received in Unit-2, Few master carton merged for common packing



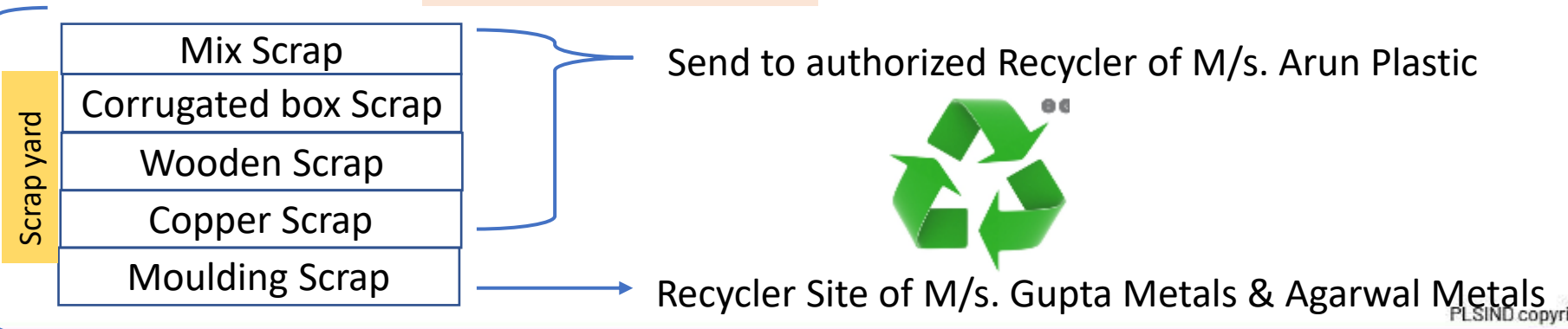
Due to installation of solar plant as well as new automation machines are came so increase the qty of wooden scrap



Develop and use standard Tool for cutting and use the complete part to reduce scrap



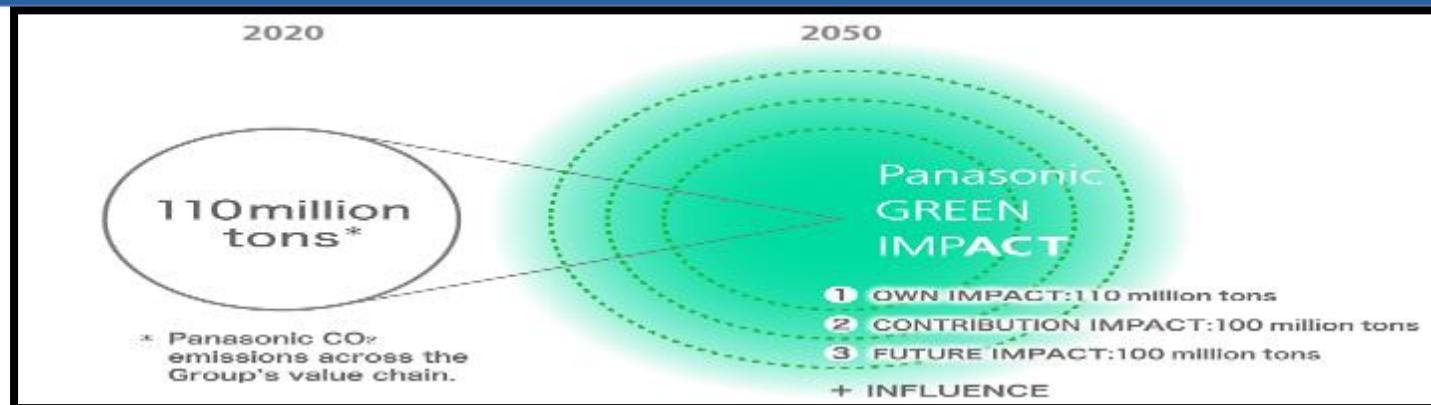
Reduce machine shutdown hence less generation of lumps, optimum reuse of lumps and runner as per standard.



GHG INVENTARISATION

Panasonic Group's Commitment

At Panasonic, we are working to reduce the huge amount of CO₂ emissions associated with our business. We will make an impact on CO₂ reduction in homes, towns, mobility and supply chain and accelerate towards carbon neutrality together with society.



Initiatives: #1

With our advanced manufacturing technology and clean energy solutions, we are reducing CO₂ emissions from factories and committed to achieve carbon neutrality in manufacturing.

Initiatives: #2

Reduce CO₂ emissions of our customers through the use of our energy efficient products

Initiatives: #3

Increase contribution to reducing society's CO₂ emissions

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GHG INVENTARISATION

Key Emission Reduction Initiatives

Monthly Energy/Environment results are being submitted on Panasonic Global portal

Reduction of 841 Tons of Co2 equivalent reduction in last 3 Years

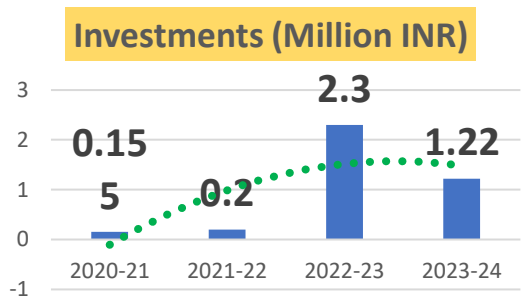
Plantation of trees(480 Nos)and use of Bi-Cycles(100Nos)



As an organization We are committed to GHG reduction by involvement of all Stakeholders of their own facilities located across country. The organizations Energy policy supports energy performance and climate change mitigation.

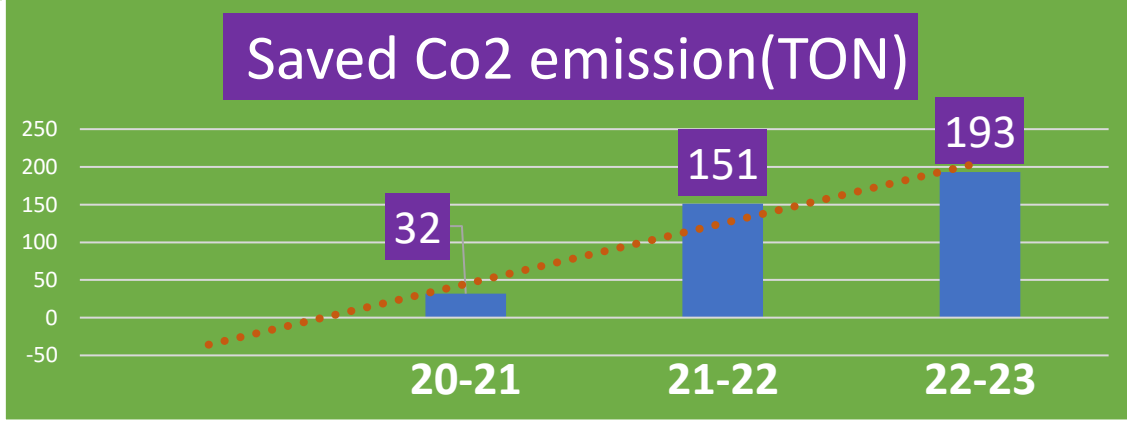
Every year budgets are allocated for energy efficiency as corporate initiative. Any project below 3to5 years of payback qualify for it. This year budget allocated approximate cost@INR2million for energy conservation.

Used Electric Vehicles Cars for internal movement and we encourage use of car-pooling and promote use of bus to the customer /Sales team during visiting our campus



Co2 Emission Reduction _Last 3 Years

Year (FY)	Energy Saving (KWH)	Saved Co2 emission(M TON)	% of Reduction
20-21	39564	32	5 (FY19Vs FY20)
21-22	189016	151	78 (FY20 Vs FY21)
22-23	241198	193	22 (FY2Vs FY22)



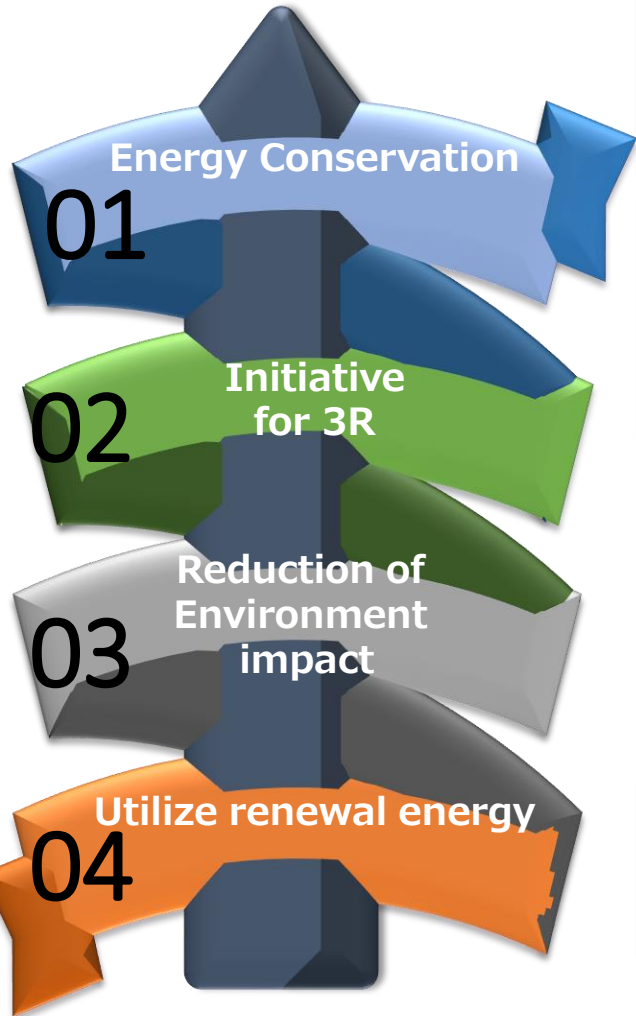
Overall CO2 emission reduction(Last 3 Year)

With Solar
841 MTON

Without Solar
376 MTON

NET ZERO commitment

Achieve Net zero in 2030

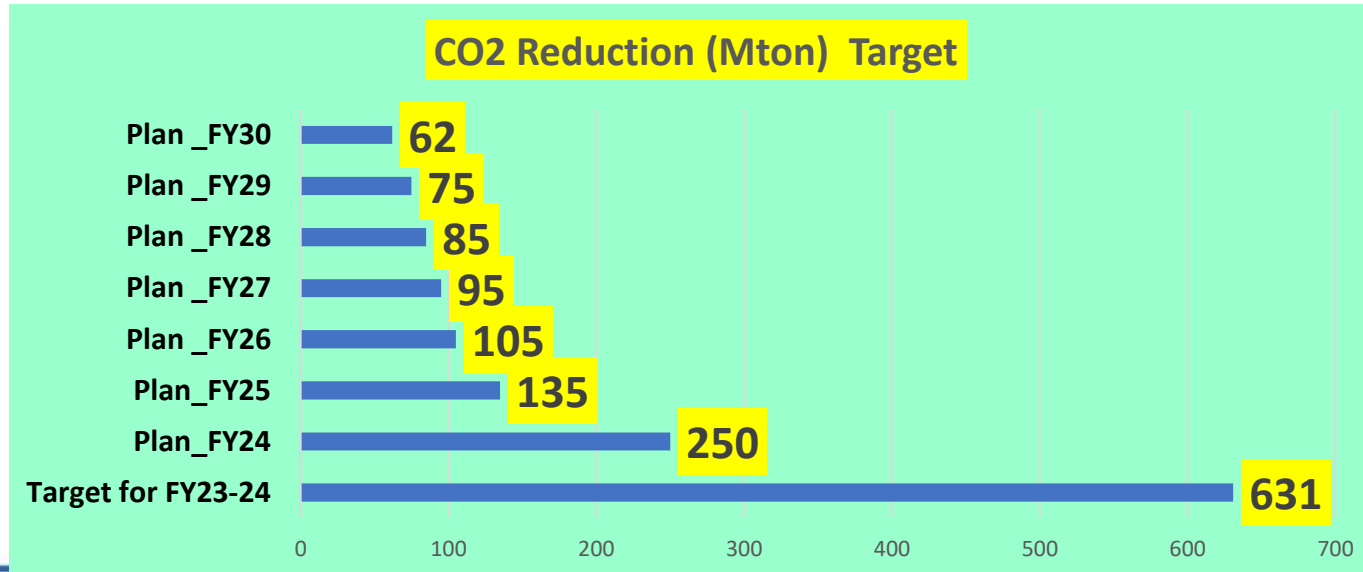
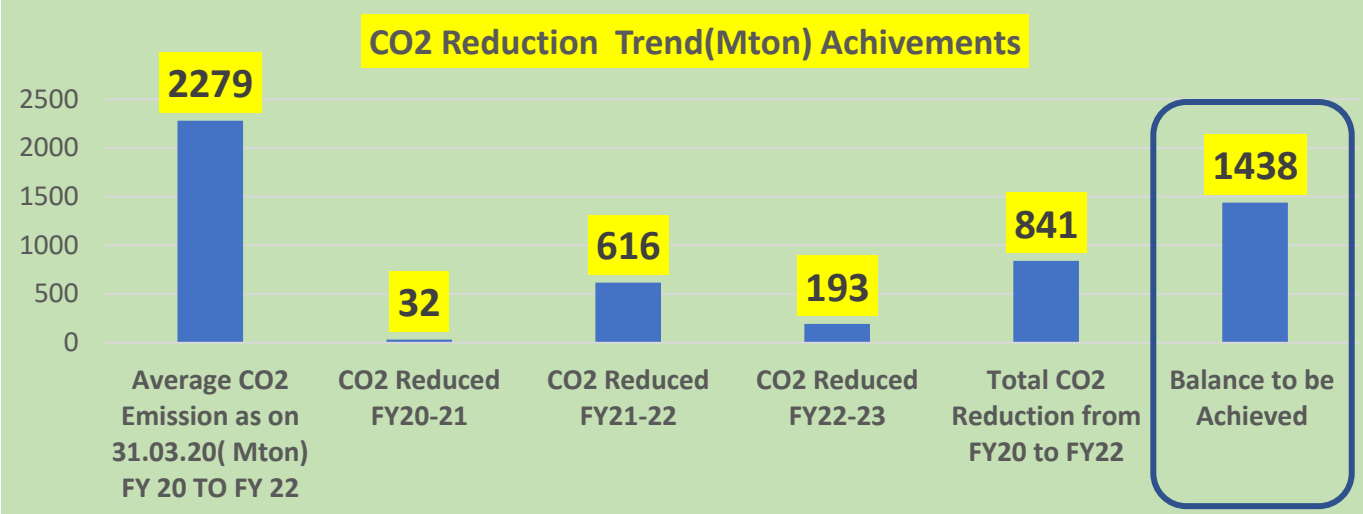


01
Every year Energy saving target for all PEWIN Units.

02
More emphasis for increase participation for 3R & energy contest year on year basis

03
PLSIND have Annual Environment plan & Energy plan for reduction and control on environment impact

04
Adoption of Renewal Energy Year by Year



NET ZERO commitment

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

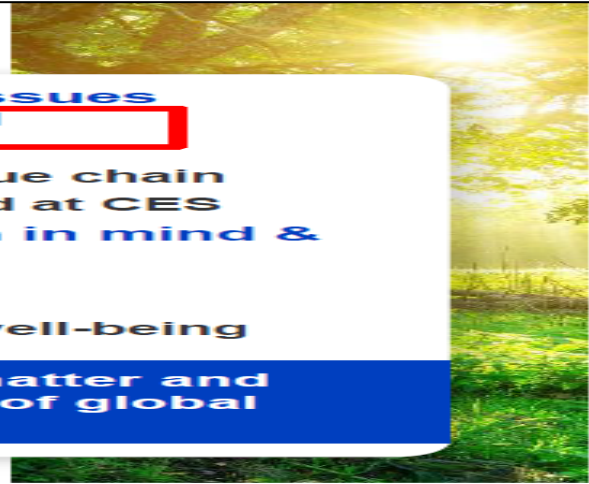
Panasonic GREEN IMPACT announced at CES

Support health & well-being of people both in mind & body

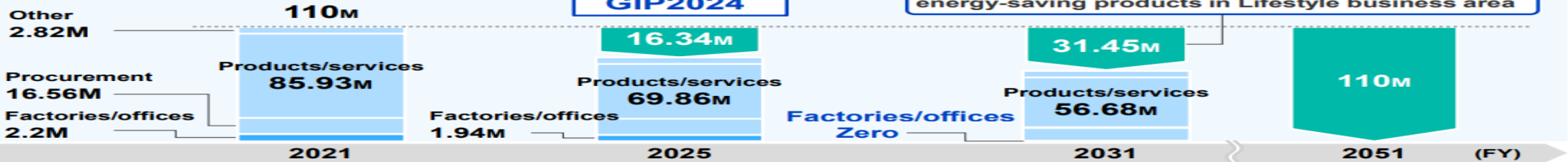
- Well-being in lifestyle
- Well-being in workstyle

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



Size of CO₂ emissions & reductions in our own VC (tons)



Size of contribution to society in CO₂ reductions (tons)

Contribute to CO₂ reductions by improving competitiveness mainly in "Electrification," "Energy efficiency," & "Hydrogen" areas

Green Supply Chain Management System

100% water coolers of factory premise are replaced by eco friendly gas water coolers as a sustainable organization

100% Air-conditioners replaced with eco-friendly gas

Only Energy efficient products are being procured in factory as a energy efficient factory.

With each purchase order ,it is communicated to vendors to supply only energy efficient product ,environmentally friendly and safe products.

For supply of any item by vendor , with PUC and License ,vendor vehicles are not allowed in plant area.

No plastic allowed having less than 50-micron thickness.

Panasonic

GREEN SUPPLY CHAIN POLICY

As an integral part of our business philosophy and core values, we at Panasonic Life Solutions India Pvt. Ltd., are committed to achieve excellence in green supply chain mechanism.

To fulfil this commitment, we shall provide information & resources to integrate green supply chain practices in all our activities.

We will have special focus on:

- Procurement of energy efficient and eco friendly products.
- Continual improvement in manufacturing process, to reduce energy consumption.
- Comply with all relevant statutory and other requirements applicable to green supply chain mechanism.
- Set and review objectives and targets for continual improvements related to green supply chain.
- Development of supplier, transporters, dealers and other associate's competency toward resource conservation and energy conservation.
- Promoting awareness through training on energy conservation and green supply chain mechanism among all stockholders.
- Strive for sustainable partnership.
- Reduce ,Reuse and Recycle.

For Panasonic Life Solutions India Pvt. Ltd.

Mr. Dinesh Agarwal
Joint Managing Director & Occupier

Date:

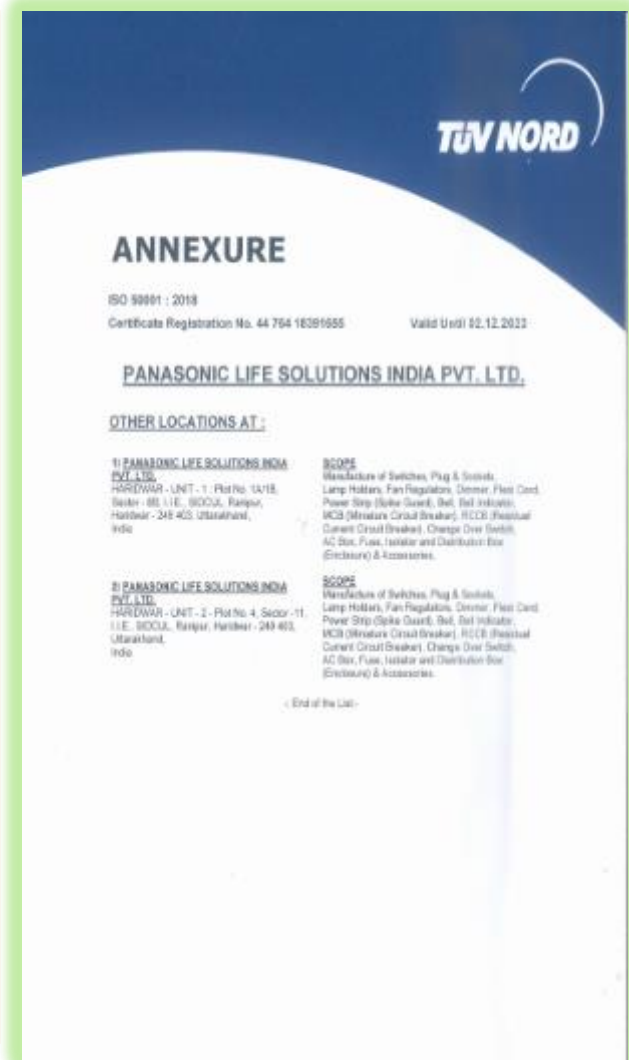
ISO 50001 Certification & Energy Monitoring System

Daily Energy Data Coming on IOT based Energy management System & Cross Checked by Respective PIC & Reviewed by Section Head Facility

Energy training awareness programme is organized on regular basis- internal as well external

Paryavaran Sahyogi award scheme for continual environmental improvement

- *PLSIND Haridwar Unit is EnMS Certified Since Nov-17 with 2018 version*
- *Set and monitoring Energy Baseline for individual departments.*
- *Regular Energy review and monitoring is being done*
- *Identify the SEU and taken monitoring control*
- *Energy awareness programmes are being planned on regular basis*
- *More Emphasis given for procuring energy efficient products.*
- *Compliance related to EnMS is being strictly maintained.*



Celebration of yearly events (Energy conservation day , Env. Day, Safety day etc)

Quarterly awarded for Best Energy saving Department and Best Energy saving Performer

Yearly 3R and Energy contest competitions at Global level

Achievements

APEX India Green Leaf Award-2021



CII National Award for Environmental Best Practices – 2021



2nd EW Company Energy Saving / 3R Case Sharing Meeting

the Good Idea Award

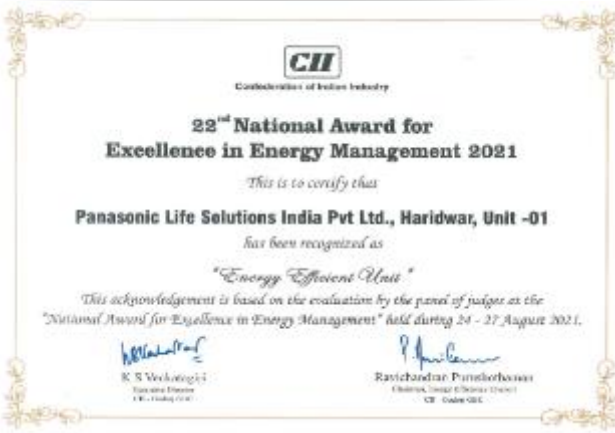
Theme: Saving in Energy Cost & Reduction in CO2 Emission by implementation of Renewable Energy (Roof Top Solar Plant)

Business Division / Affiliated Company / Department	Project focus
Business Division: PLSIND Department: Facility Management, Haridwar Unit 1	Planning & implementation & Utilization of renewable energy by installation of 1 MW roof top solar plant for reduction of Energy cost as well as CO2 emission in line with target to achieve net zero emission

ISAMEA Muda Buster CUP -2022



CII National ENERGY MANAGEMENT AWARD 2021



CII National ENERGY MANAGEMENT AWARD 2022



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Learning from CII

- ❑ Deep understanding of Energy management system and conservation.
- ❑ Better utilization of Renewable Energy source.
- ❑ Elimination of Non-value-added activities.
- ❑ Learned systematic approach towards improvements for energy saving ideas and technic.
- ❑ Enhance cost consciousness among team.
- ❑ Culture of Energy Improvement through Sustainable Activities.

Thanks

Panasonic Life Solutions India Pvt. Ltd.



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