NEROLAC

GOOD TO GREAT

KANSAI NEROLAC PAINTS LTD

Presented By-
Pavan Kumar Gupta
Gurwant Singh

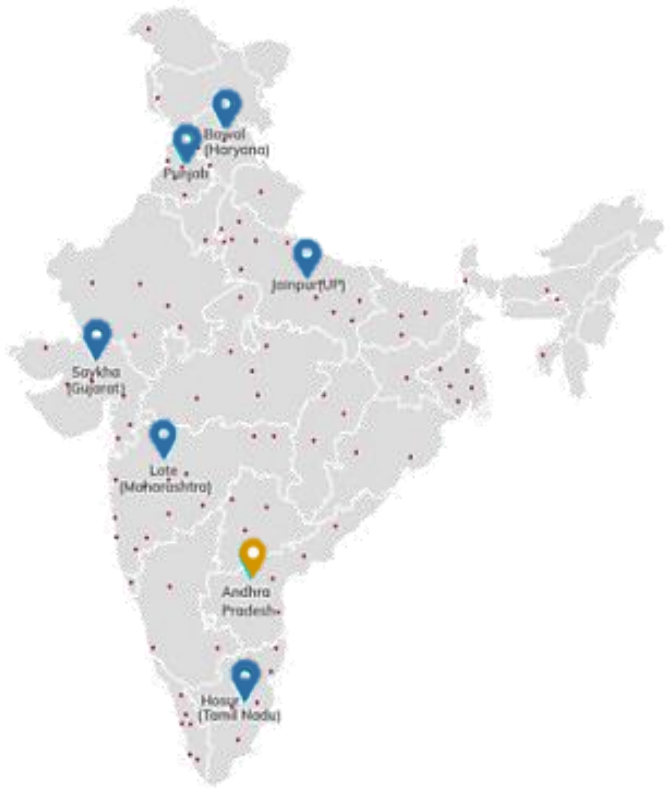
Our Operational Footprint

One of India's Largest Paint company

Second largest coating company in India

Market leader in Automotive Coatings

Established in 1920, Kansai Nerolac Paints Ltd is a subsidiary of Kansai Paint Co. Ltd., Japan



KNPL has it's **primary operations** in **India**

- **1** Upcoming Plant
- **6** Strategically Located Plants
- **100+** Depots Pan India
- **20000+** Dealers Network

3 International Subsidiary Companies	• Operations in Nepal • Operations in Sri Lanka • Operations in Bangladesh
3 National Subsidiary Companies	• Marpol Private Ltd. • Perma Construction Aids Pvt. Ltd. • Nerofix Ltd.

Product Portfolio

Automotive Coatings

General Industrial Coatings

Powder Coatings

High Performance Coatings

Decorative Coatings

Railway Coatings

Serving varied markets

Meeting every Customers' needs

Auto Refinish (ARF) Coatings

Floor Coatings

Construction chemicals

Adhesives

Coil Coatings

Rebar Coatings

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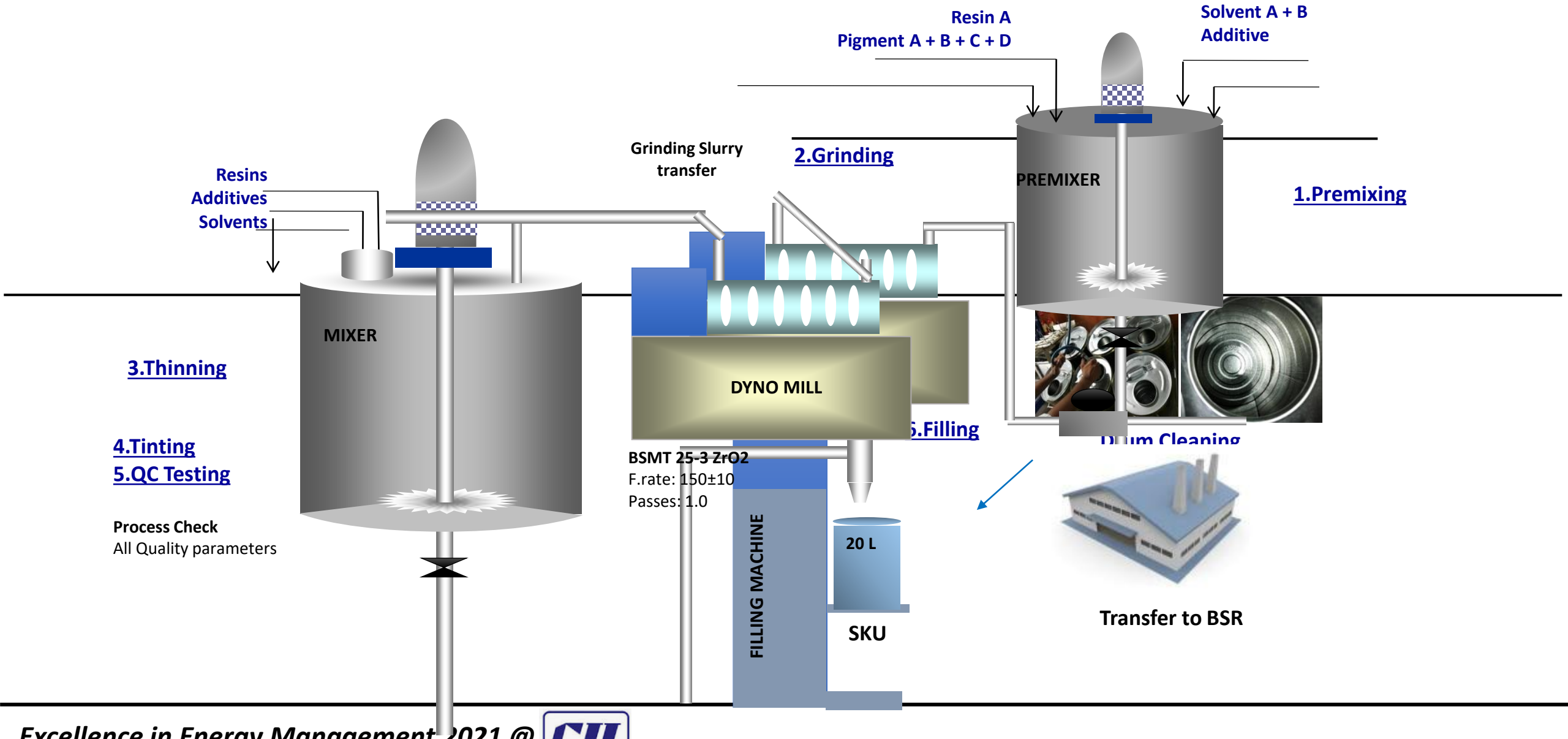
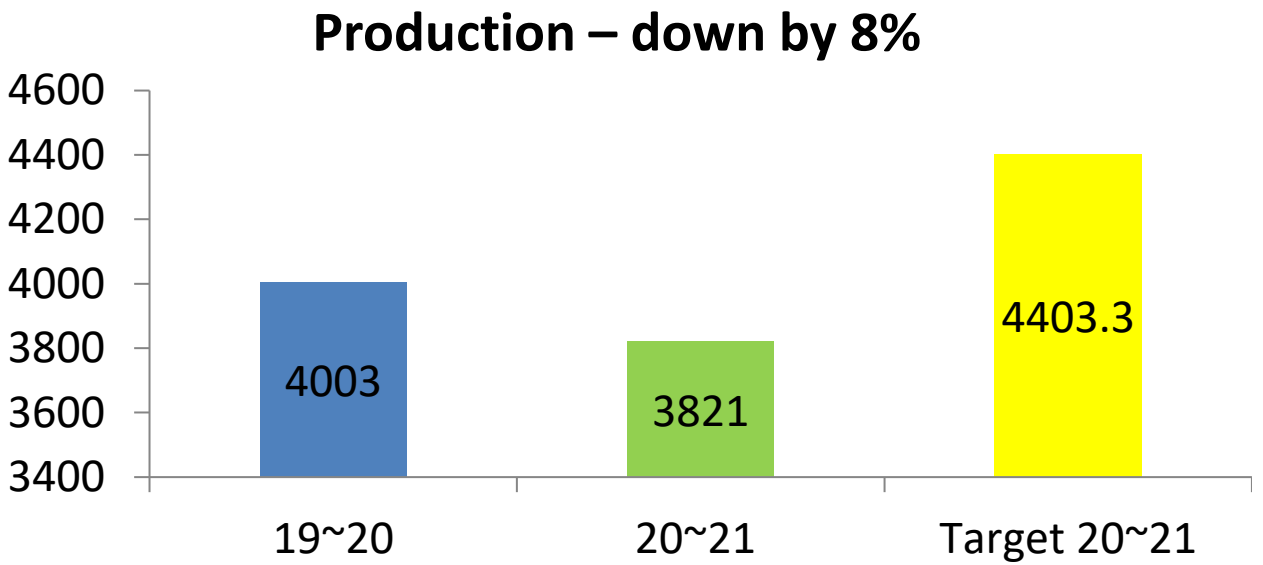
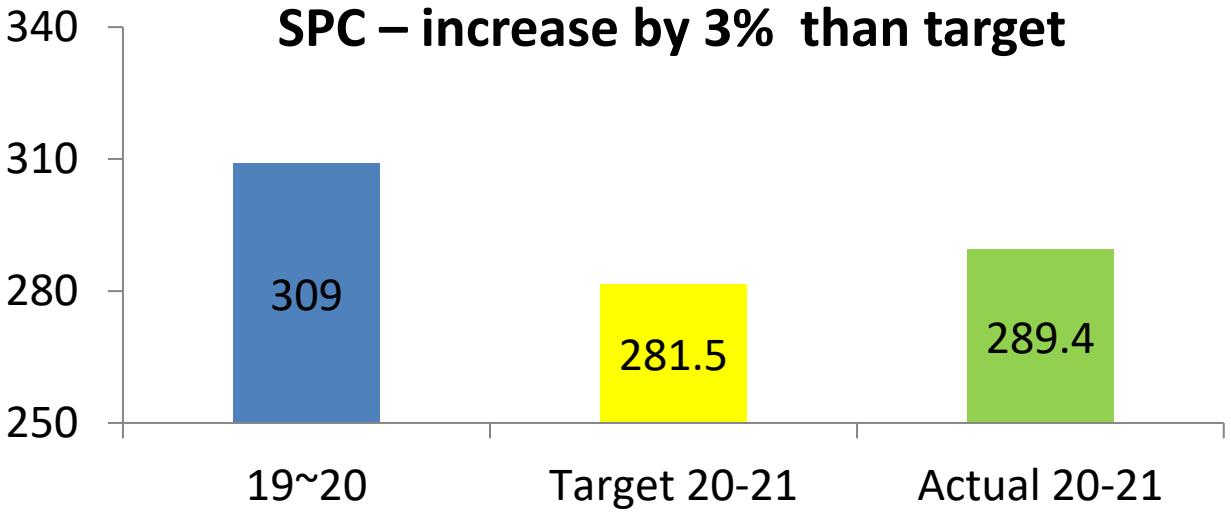
Manufacturing Process

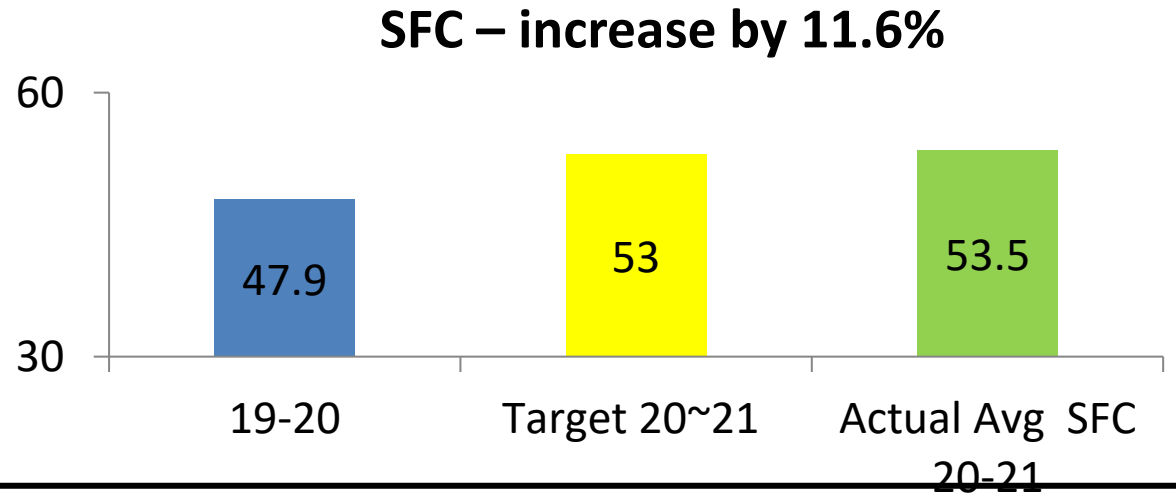
GOOD TO GREAT



Impact of Covid 19







Energy Management System

Leadership

Governance Policies
Accountability (Encon Team)
Drive- Team Structure

Framework

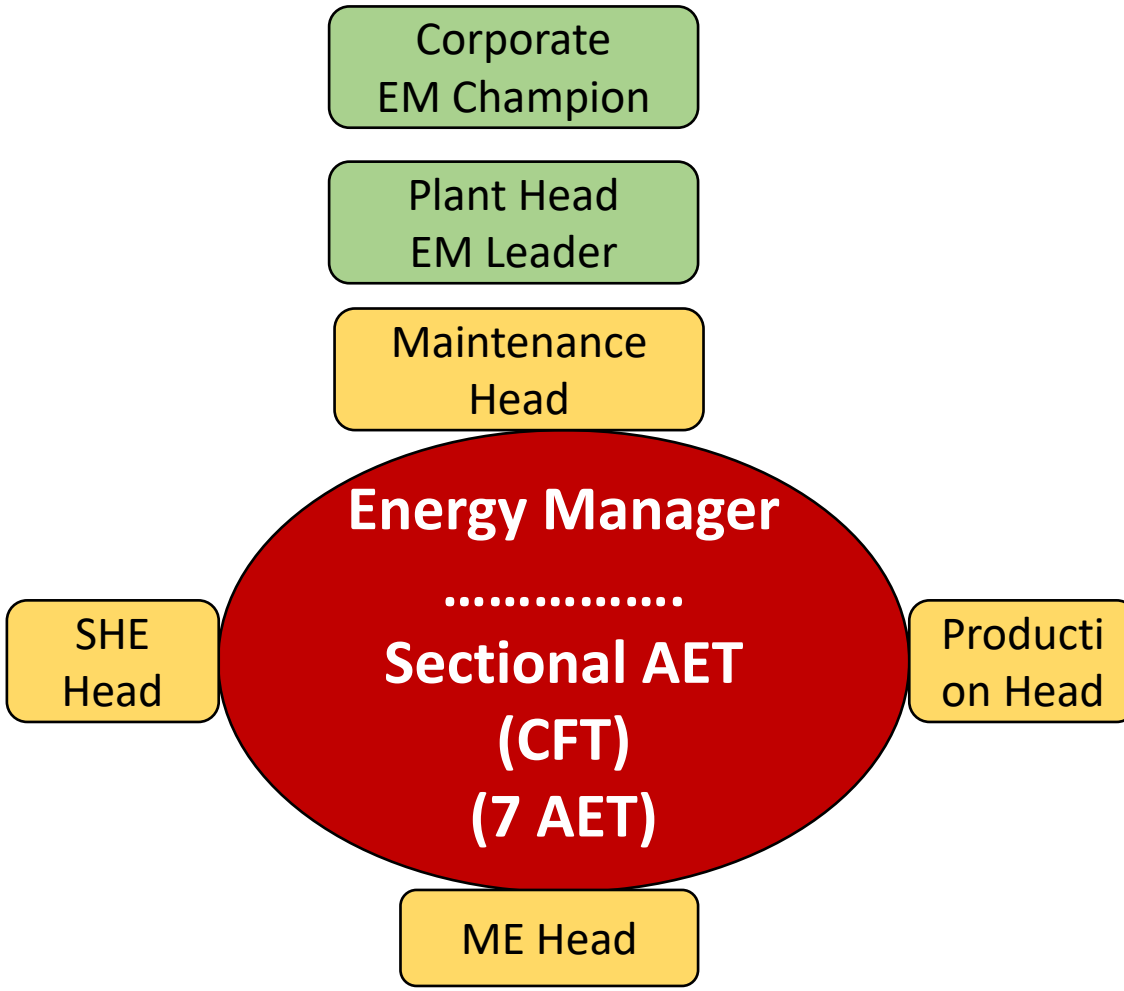
ISO 50001
KWH Prediction- Energy Model
Consulting

Employee Involvement

Energy Theme Based Kaizen
Section wise (AET) Energy KPI
Special Appreciation award

Result

Cell Structure



Member Strength- 120

Policy & Awards

Policy

KANSAI PAINT NEROLAC

ENERGY POLICY

We at Kansai Nerolac Paints Limited, responsible corporate citizen, are committed to optimally utilize the various form of energy to minimize impact of impact of paint making operation on climate change.

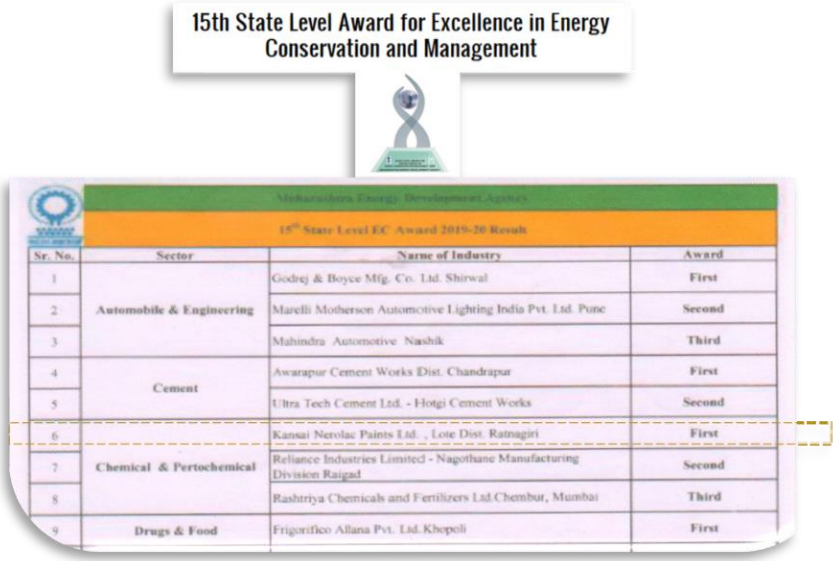
To accomplish this, we will

- Document, implement, maintain & periodically review the energy management system including the policy, objective & Target
- Comply with energy conservation act 2001 and other statuary & legal requirement
- Make Energy conservation way of life at KNPL, by promoting awareness among all
- Harness Energy, renewable energy source in line with national objective/Policy
- Deploy appreciate energy efficient technologies including waste heat recovery & adopt best energy conservation practice to reduce the green house gads emission on a continual basis
- Support the purchase of energy efficient product & service & ensure energy performance improvement in the design of new facility as well as upgradation of existing facility
- Look for alternative source to achieve energy security of the plant

This policy is communicated to all person working under our control and is made available to interested parties on request

Date-
Draft Policy

Excellence in Energy Conservation Award



Sr. No.	Sector	Name of Industry	Award
1	Automobile & Engineering	Godrej & Boyce Mfg. Co. Ltd. Shirwal	First
2		Marelli Motherson Automotive Lighting India Pvt. Ltd. Pune	Second
3		Mahindra Automotive Nashik	Third
4	Cement	Awarapur Cement Works Dist. Chandrapur	First
5		Ultra Tech Cement Ltd. - Hotgi Cement Works	Second
6	Chemical & Pertochemical	Kansai Nerolac Paints Ltd. , Lote Dist. Ratnagiri	First
7		Reliance Industries Limited - Nagothane Manufacturing Division Raigad	Second
8		Rashtriya Chemicals and Fertilizers Ltd.Chembur, Mumbai	Third
9	Drugs & Food	Frigorifico Allana Pvt. Ltd.Khopoli	First

Participated in CII Energy Competition

BEE Energy Award

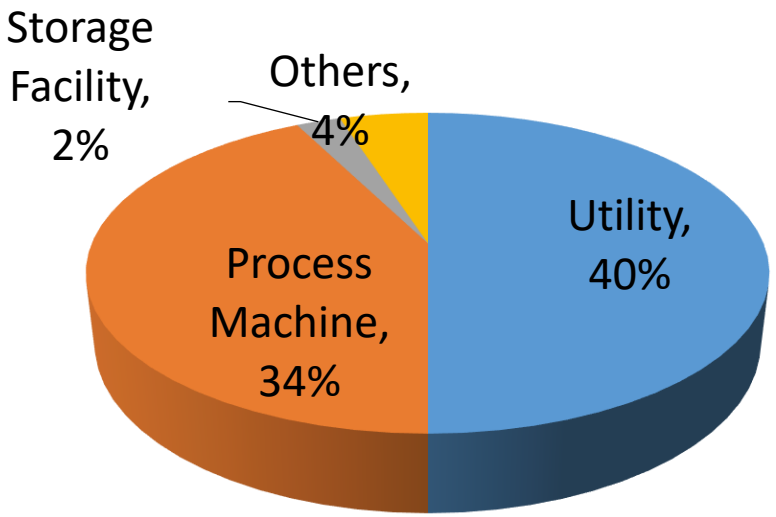
ISO 50001
ENERGY MANAGMENT

Implementation of ISO 50001;Energy Management System is in process

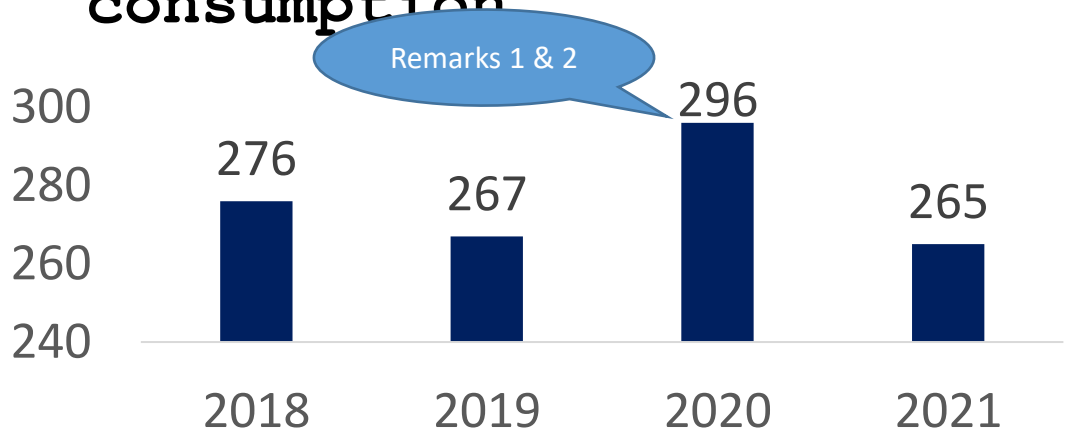
Excellence in Energy Management 2021 @ CII

Specific Energy Consumption (FY 18~21)

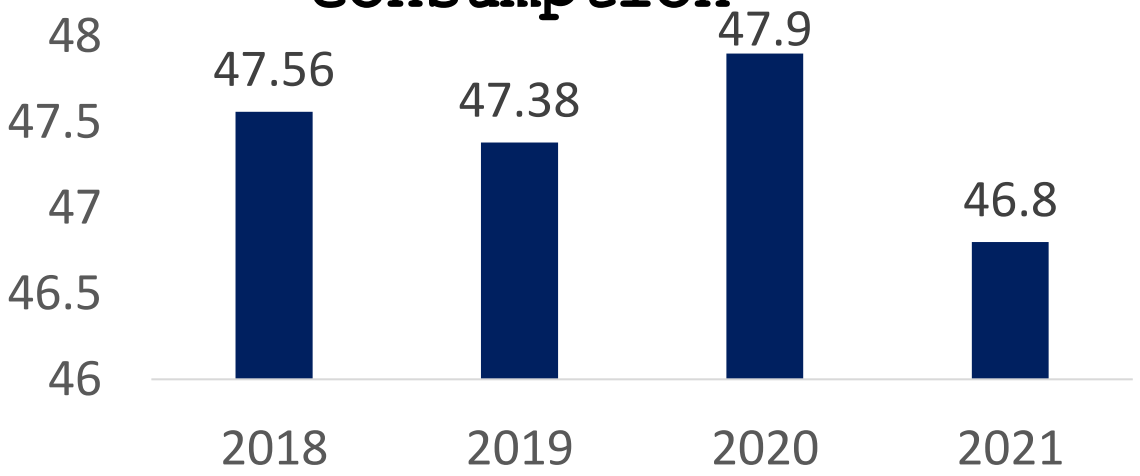
Energy contribution



Specific Electricity consumption



Specific Fuel consumption



Remarks-

1- In FY 2019-20 specific electricity consumption increase due to IR issue plant was not proper operational for 3 months and plant fixed load expense was there.

2- Volume drop by 21% in FY 2019-20 as compared to 2018-19 which also impacted to increase specific electrical energy consumption.

Benchmarking

PLANT	SEC
Kansai Paint Japan	289
KNPL _ Bawal ✓	265
KNPL _ Hosur	287
KNPL _ Lote	322
KNPL _ Sayakha	291

Initiative Summary					
Sr. No	Competitor	No of Energy Projects	Implemented by KNPL	Planned by KNPL	To be explored by KNPL
1	APL	8	7	1	0
2	Akzo Nobel	5	4	0	1
3	Maruti	2	2	0	0
4	Berger	16	16	0	0

PLANT	SOLAR (Captive)	Add. Rooftop potential	Wind Mills (Captive)	3rd party Power	IEX Power trading	Wind Wheeling	Group Captive
Lote	309 KW (as is)	1600 KW	2100 KW (as is)				wef Oct 2022
Bawal	1200 KW (as is)	1570 KW			On going		wef Oct 2022
Hosur	1340 KW (as is)	2000 KW additional is on hold due to Govt approvals	4200 KW (wef Sep 2022)	1000 KW units power quantum to be sourced from "Shankar Adobes"	On going		On going
Jainpur	490 KW (as is)	1306 KW		1000 KW (as is)			Will be explored in FY 21-22
Goindwal	1000 KW (as is)	300 KW					
Sayakha	920 KW (as is)	300 KW	2000 KW (wef April 2023)	Under evaluation	Under evaluation	Under evaluation	
KNPL	5259 KW (as is)	7076 KW	2100 KW (as is) 8300 (planned)	2000 KW (as is)	na	na	na

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Energy Saving Projects (LY 3 Year)

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FY	S.N.	Key Initiative	Investment	Proposed	Saving	ROI
18~19	1	VFD installation on old trane chiller	1650000	1900000	1029240	1.60
18~19	2	Installation of Demand side management system in compressed air line (F111)	500000	550000	786000	0.64
18~19	3	Street light replaced with LED light	350000	385000	114000	3.07
18~19	4	Water softener required, Raw water usage in cooling towers instead of RO/Soft water	850000	810000	712500	1.19
18~19	5	Switch to Biofuel	150000	150000	6240000	0.02
18~19	6	Solar power Plant				
18~19	7	Improve power factor				
18~19	8	Reduction cost of Boiler operation Ag revised				
FY	S.N.	Key Initiative				
19~20	9	Bell Booth blower synchronization wi machine panel apply time				
19~20	10	Tracking of Air leakage on Monthly ba				
19~20	11	Tracking of steam leakage on fortnigh				
19~20	12	Energy saving Kaizen				
~20	13	Power Purchsing through IEX				

FY	S.N.	Key Initiative	Investment	Proposed	Saving	ROI
20~21	14	Replacement of balance conventional light with LED light 2nd phase	5200000	4600000	1900000	2.74
20~21	15	Timer installation in All HSS during Operation.	8500	0	11000	0.77
20~21	16	Migration from Fino-Fuel to PNG (GAS)	9000000.00	10000000.00	9000000.00	1.00
20~21	17	10 KL blender stirrer interlock with blender weight (Batch*H*KW*INR)	5000.00	5000.00	202752.00	0.02
20~21	18	MDI Reduction 4010KVA to 3600KVA	250000.00	250000.00	836400.00	0.30
20~21	19	ETP blower replacement with tri lobe blower	650000.00	750000.00	295000.00	2.20
20~21	20	VFD installation at SOH boiler ID fan	625000.00	668000.00	576000.00	1.09
20~21	21	Mist cooling tower installation for chiller	3500000.00	4000000.00	2363760.00	1.48
20~21	22	MDI Reduction from 3600 KVA to 3150 KVA	150000.00	150000.00	918000.00	0.16
20~21	23	Vibration analysis frequency reduction	0.00	0.00	150000.00	...
20~21	24	Thermography analysis to be on hold for FY 20~21	0.00	0.00	38000.00	...
~21	25	PC compressed air load shifting	1200000.00	1500000.00	680000.00	1.76

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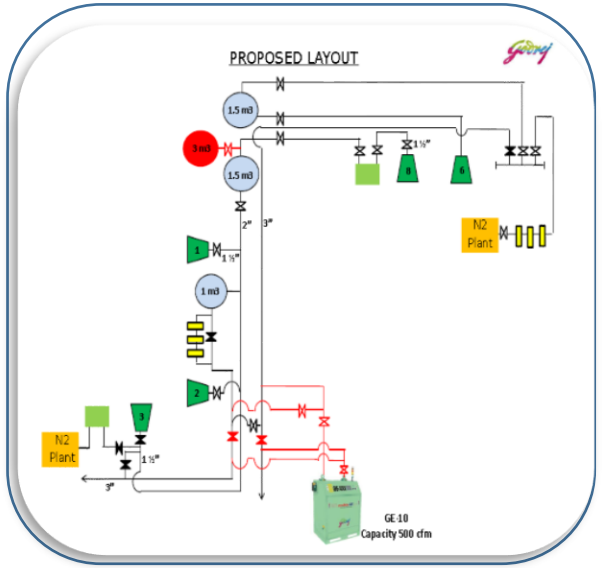
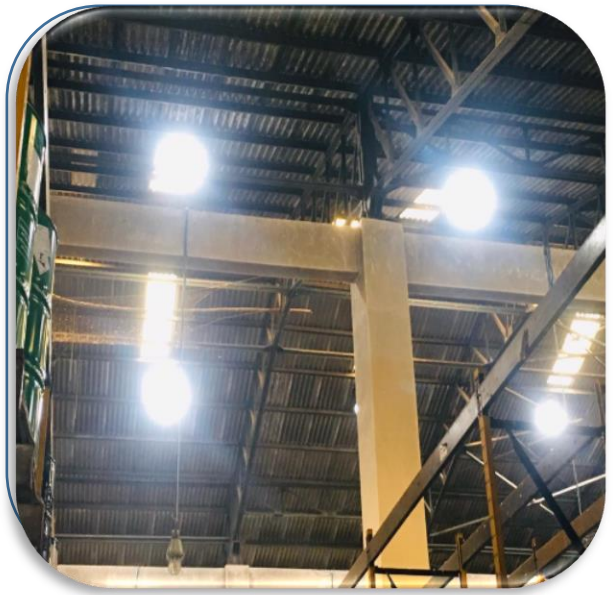
Energy Saving Projects Highlights

GOOD TO GREAT





Project (18~19)
Solar Phase 1- 500 KW
Investment- lacs
Saving realization- 91.5 Lacs

Project (18~19)
Installation of Demand Side for compressed air- F111 Plant
Investment- 5 lacs
Saving realization- 7.8 Lacs

Project (18~19)
HSD fired Thermic fluid heater replacement with Biodiesel
Investment- 62.4 lacs
Saving realization- 91.77 Lacs

Project (18~19)
Sola Tube Installation
Investment- 1.5 lacs
Saving realization- 1.2 Lacs

Saving calculated for 1 year after installation for all projects

Energy Saving Projects Highlights

Project (18~19)
VFD installation on old Trane chiller
Investment- 16.5 lacs
Saving realization- 10 Lacs

Project (19~20)
Mist cooling tower installation for chiller
Investment- 35 lacs
Saving realization- 24 Lacs

Project (19~20)
Street light replaced normal (HPSV 70W) to LED (30W)
Investment- 3.5 lacs
Saving realization- 1.2 Lacs

Project (19~20)
MS air replacement with Aluminium piping along with Air leakages arresting in overall plant
Investment- 14.4 lacs
Saving realization- 16.3 Lacs

Saving calculated for 1 year after installation for all projects

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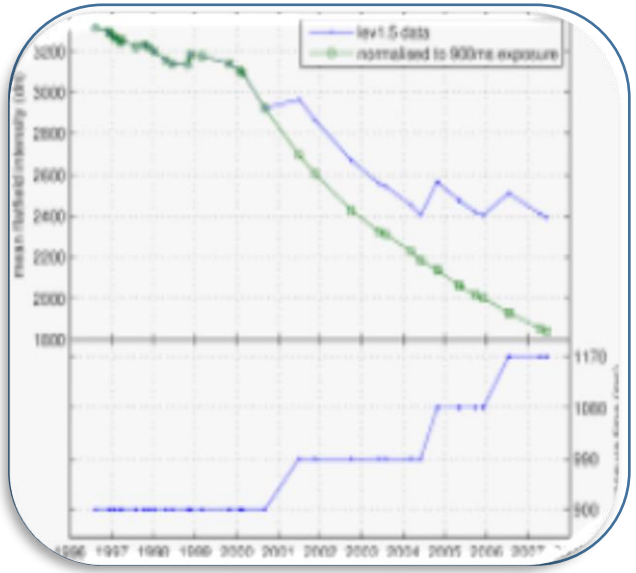
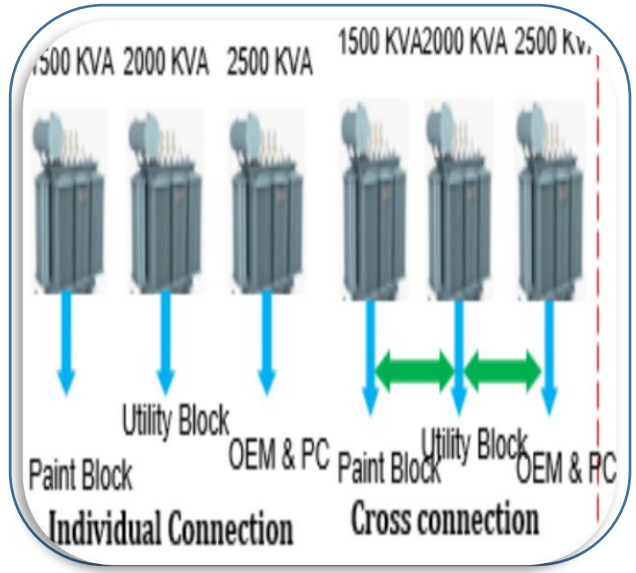
Energy Saving Projects Highlights

GOOD TO GREAT





Project 20~21
Solar power plant Phase 2
Investment- lacs
Saving realization- 23.26 Lacs

Project (20~21)
MDI Reduction 4010KVA to 3600KVA
Investment- 2.5 lacs
Saving realization- 8.3 Lacs

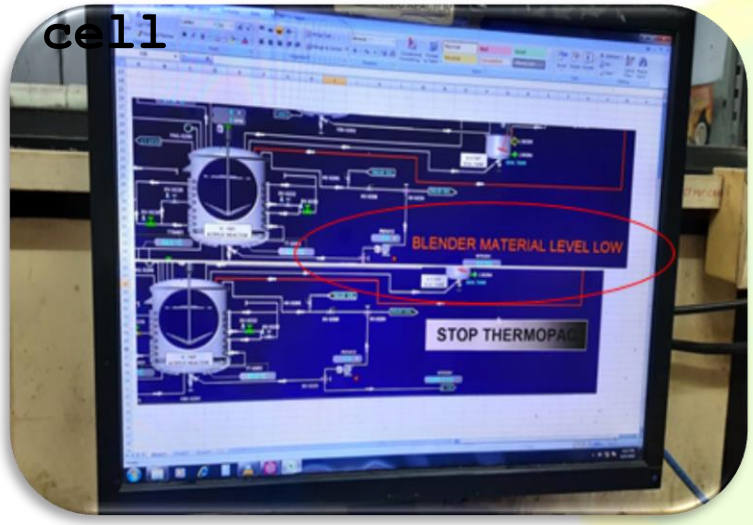
Project (20~21)
Migration from Fino-Fuel to PNG (GAS)
Investment- 90 lacs
Saving realization- 92 Lacs

Project (20~21)
Transformer Merging
Investment- 0.01 Lacs
Saving realization- 0.03 Lacs

Saving calculated for 1 year after installation for all projects

Innovative Project

Interlock – agitator & Load cell



Implementation of some Automation by which stopping of stirrer as per the weight remaining in the tank below the cowl. Saving – 2.4 Lacs/Annum
(Poka Yoke)

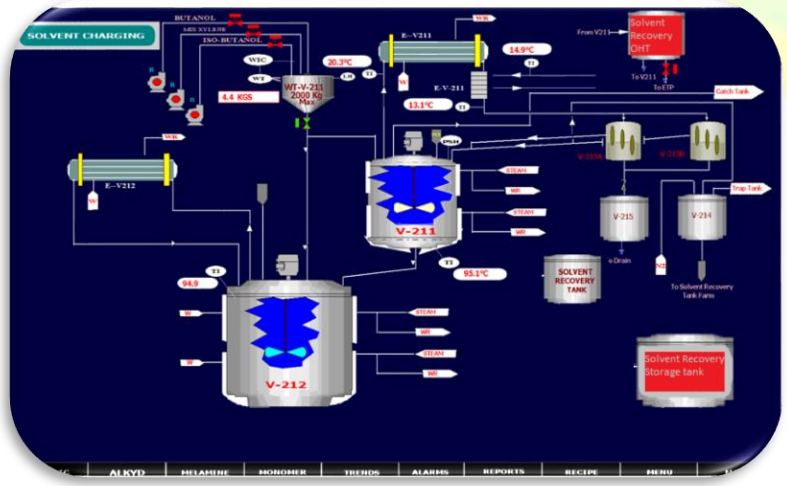
Energy Model

		Model	Actual	%Deviatio
100	Power Consumption (Kwh)			
101	Overall	1187119	1236268	-3.98
102	CEDF1	50254	49856	0.80
103	PC	245876	251667	-2.30
104	CEDF2	29714	28965	2.59
105	Resin House	124070	128987	-3.81
106	Paint House	345801	348965	-0.91
107	Utility	331,824	320654	3.48
108	ETP	12,750	12856	-0.82
109	Incinerator	18,880	18965	-0.45
110	Others	60,765	58965	3.05
111	Production (Ton)			
112	CEDF1	238.01	238.01	0.00
113	PC	624.56	624.56	0.00
114	Resin	1030.92	1030.92	0.00
115	CEDF2	791.50	791.50	0.00
116	Paint + Thinner	3203.07	3203.07	0.00
117	Overall	4857.14	4857.14	0.00
118	Specific Power Consumption (SPC's) -KWh/Ton			
9	CEDF1	211.14	209.47	0.80

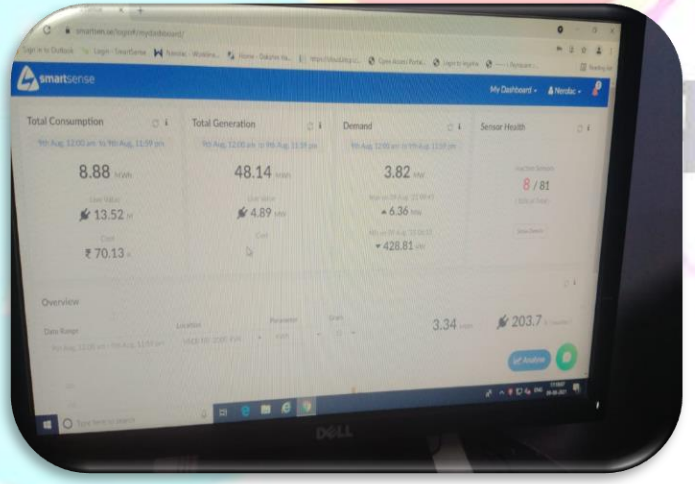
IndustrialResinHRS IndustrialResinPower PC Menu PC RELATIVES

Model Based KWH Prediction based on Product Plan

SCADA



SCADA Based Resin & CED Manufacturing process



SMART Sense for monitoring of real time KWH

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Waste Utilization and Management

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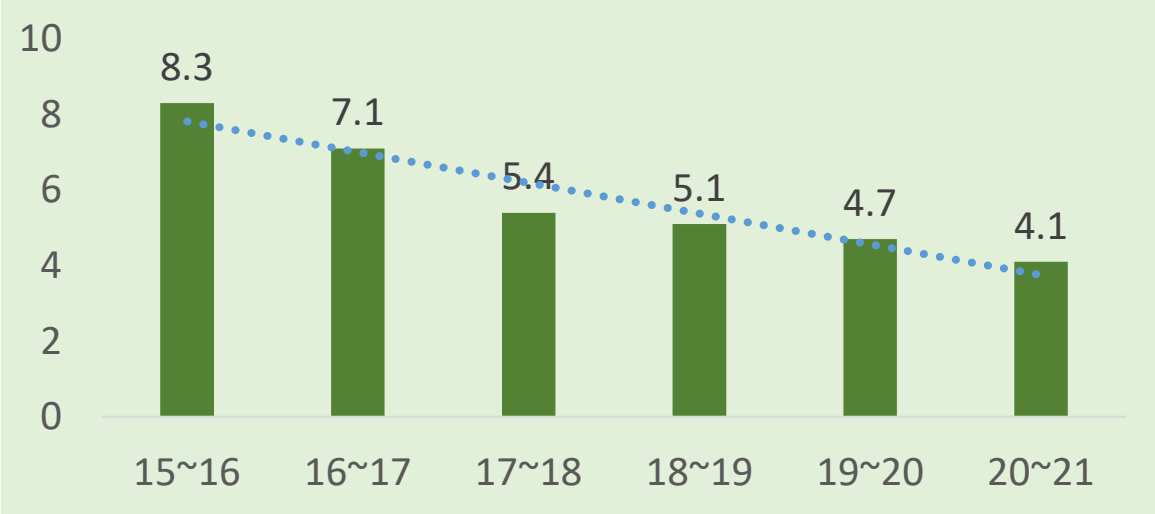
Source of Generation → Collection & Segregation at generation point → Lebeling & Weighing at Generation point → Waste transfer approval from Plant CFT → Waste Transfer to HW storage area → In-house Incineration/Sent to approve party

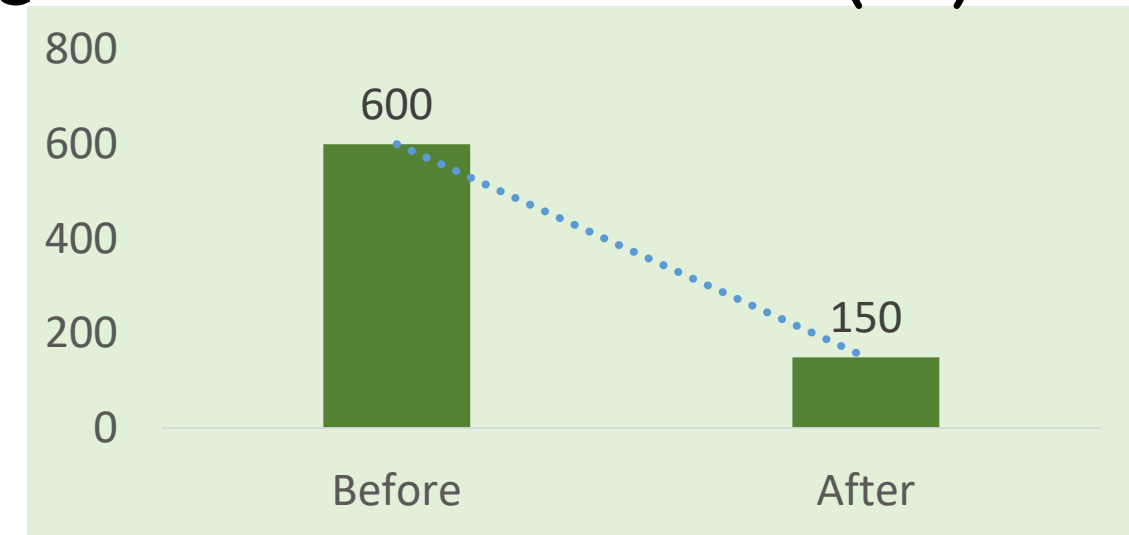
S.No.	Generation Source	Waste Type	Collection	Segregation	Transfer	Storage/Treatment	Disposal
1	Production Process	Cleaning Residue	Barrels	At source	By Forklift	HW storage area	In house incineration
2	Production Process	Contaminated bags/Filters	Bags	At source	By Forklift	HW storage area	Sent to HSPCB Authorized Party
3	Production Process	Tin & Drums	Pallet	At source	By Forklift	HW storage area	Sent to HSPCB Authorized Party
4	Machine Maintenance	Waste Oil	Barrels	At source	By Forklift	HW storage area	Sent to HSPCB Authorized Party
5	ETP/ZLD	ETP Sludge	Bags	At source	By Forklift	HW storage area	In house inciniration
6	Incinirator	Ininirator Ash	Bags	At source	By Forklift	HW storage area	Sent to HSPCB Authorized Party
7	OHC	Bio medical waste	Bags	At source	By Forklift	OHC	Sent to HSPCB Authorized Party
8	Electrical/Electronic Maintenance	E Waste	Bags	At source	By Forklift	HW storage area	Sent to HSPCB Authorized Party

Waste Reduction Performance

Specific waste- Kg/Ton FG



Food Waste (KG)



ZLD System

Bio compositing machine

Baling

Powder Bag- De-dus

Waste Reduction – Way forward

Scrap yard -

Next Key Actions-

Solvent recovery sludge gen. reduction through provision of centrifuge/ vacuum distillation

Water Positive by 2024

- *Water reduction through Resin Blender water reuse in cooling tower*
-
- *Water reduction through Resin MF jacket drained water reuse*
- *Usage of 100% water in process through ETP after modification*

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Key Highlights FY 20-21

GOOD TO GREAT

WATER MANAGEMENT

Major water conservation measures

- **Rain water Harvesting** – Collected and reused in process at Lote (7120 KL) and Sayakha (680 KL) **(Total – 7800 KL)**
- **Transition from VAM Chiller to SCREW Chiller** at Hosur **(Approx. Savings: 520 KL/month)**
- **ZLD permeate water reuse** in utility across all plants **(Approx. Savings: 3000 KL/month)**
- **Drip irrigation system** for green belt at Sayakha **(Approx. savings: 20 KL/month)**

13%
Decrease in specific water consumption LY vs CY YTD

WASTE MANAGEMENT

Major waste reduction measures

- **Bio-composting machines** for food/Canteen waste deployed across all plants **(Converted 4592 Kg food waste into 1465 Kg manure)**
- **Co-processing** of waste across all plants
- **Dirty solvent management** at Sayakha **(Approx. reduction: 4360 Kg/month)**
- **Substituted packing plastic material** at Bawal, Sayakha and Hosur

10%
Decrease in specific hazardous waste generation LY vs CY YTD

~40% of the total waste generated is **recycled / reused** within the factory premises

CARBON MANAGEMENT

Renewable Energy

- Additional **1.7 MW** Solar capacity installed **(Total Solar Capacity installed: 5.3 MW)**
- Increased renewable share in electricity consumption **(Target: 35% of electricity consumption, Actual: 32% (after Hosur captive ~35.5%)**

Key ENCON initiatives

- **Mist cooling tower (~Reduction: 14450 Kwh/month)**
- **PC compressed air load shifting (~Reduction: 3100 Kwh/month)**

19%
Decrease in GHG emission Intensity

HEALTH AND SAFETY

Key EHS activities

- Implementation of **COVID-19 Measures**
- **External Safety trainings** - Virtual Safety Training conducted by BASF on Safe handling of Acrylic Monomers
- **Behavioural based safety (BBS)** observations
- **Fire Load Survey** (R&D and Goindwal)
- **Interlock assessment**
- Revisited and published new **Chemical compatibility chart**

36%
Increase in Safety Training man-hours LY vs CY YTD

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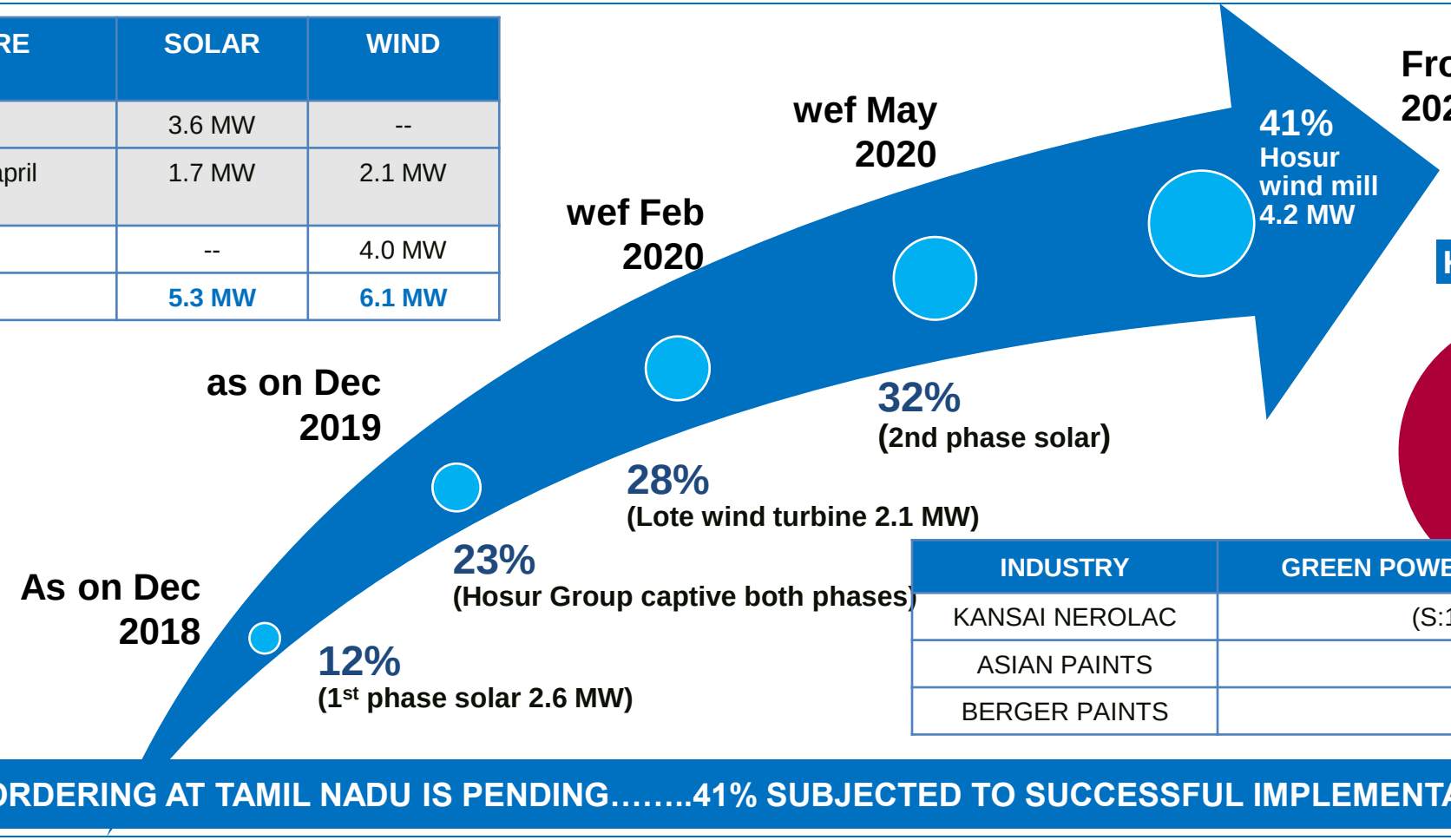
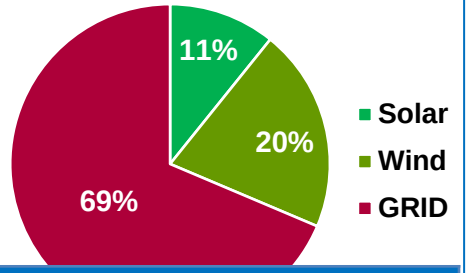
KNPL Green Foot Print Scenario

SUMMARY PURE CAPTIVE	SOLAR	WIND
Capacity as is	3.6 MW	--
Capacity addition wef april 2020	1.7 MW	2.1 MW
Capacity planned	--	4.0 MW
TOTAL	**5.3 MW**	**6.1 MW**



KNPL Power Mix

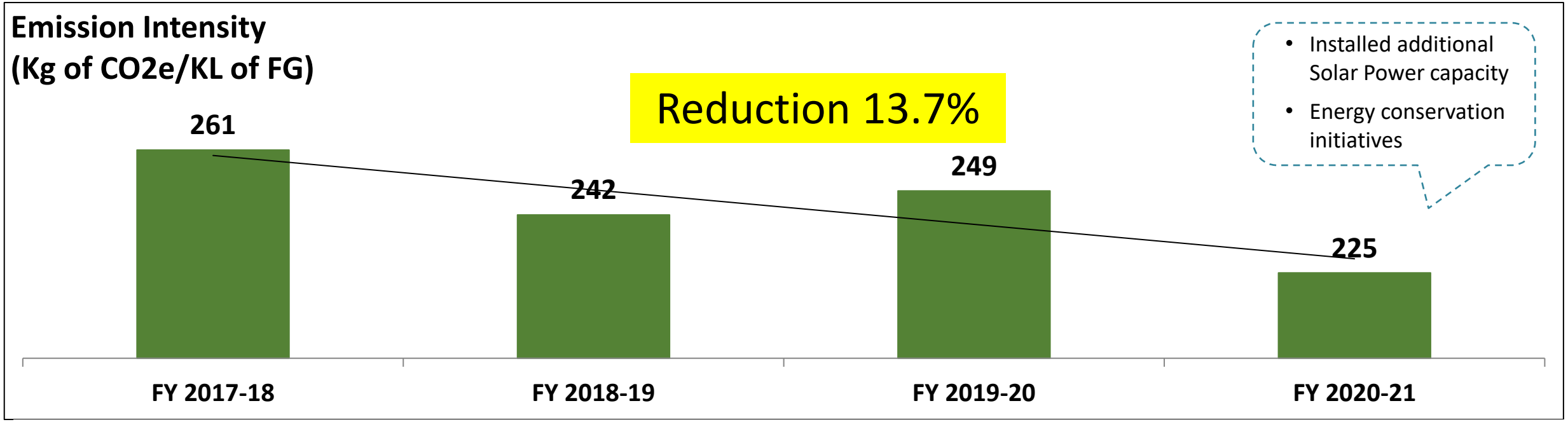


INDUSTRY	GREEN POWER %AGE AS ON DATE
KANSAI NEROLAC	(S:10%, W:20%)
ASIAN PAINTS	55
BERGER PAINTS	13

WIND TURBINE ORDERING AT TAMIL NADU IS PENDING……..41% SUBJECTED TO SUCCESSFUL IMPLEMENTATION

%age number indicates quantum of Power consumed through renewable sources for Manufacturing operations, all plants……AS IS Renewable power captive capacity is 7.4 MW. Additional solar power offtake from Shankar Adobes in place and will help in increasing Green footprint PAN KNPL

Green House Gases- last 3 Year



Key Actions-

- Installed **additional Solar Power capacity** of **670 KW**
- **Energy conservation Initiatives:** Mist cooling tower, LED lighting, SPC improvement, Timer installation in all high speed stirrer equipment etc.
- Migration to **PNG as a fuel** at Bawal

Target

- In FY 2021-22, we aim to further **decrease our GHG emission intensity by 5%**, in comparison to FY 2020-21.

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GHG Inventorisation

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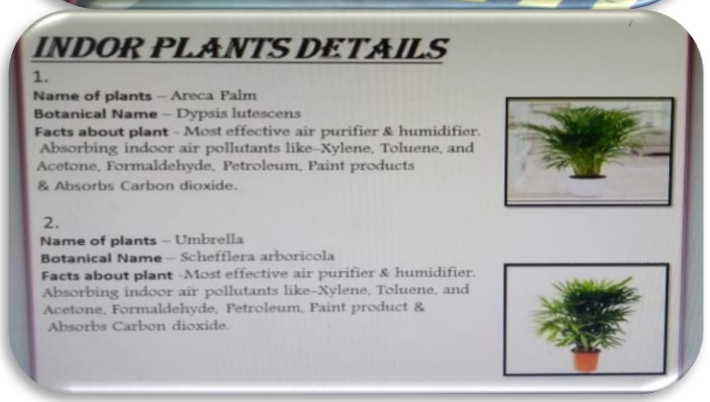
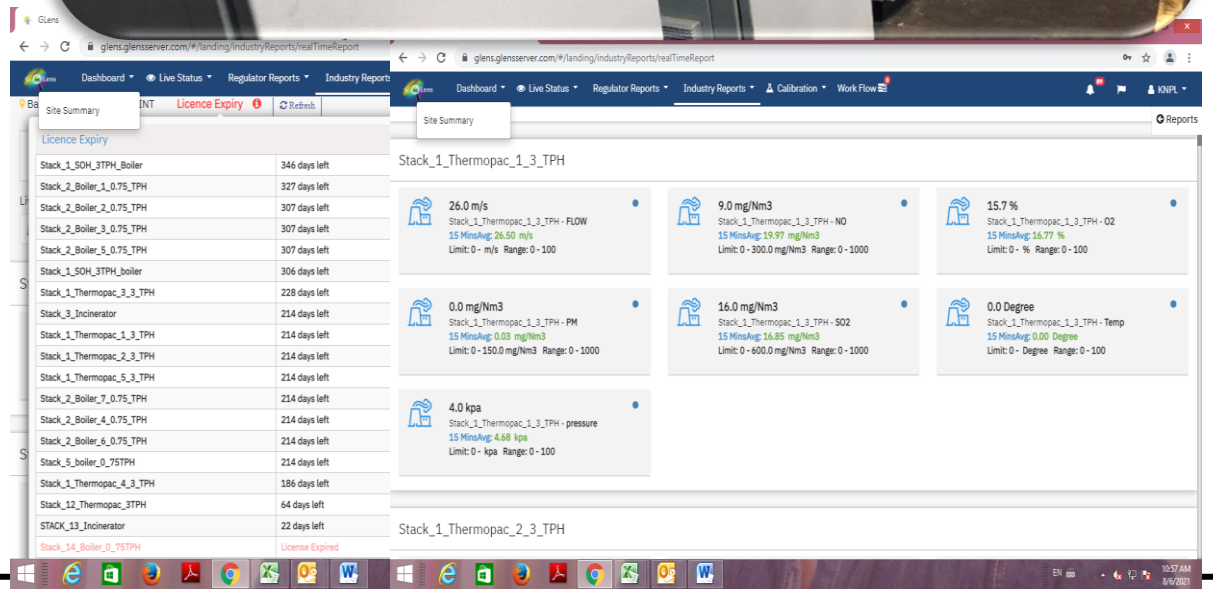
Bailing Machine

Vehicle/Transportation Emission Reduction Truck Tound reduced by 30%

VOC Absorption Plant



On Line Stake Monitoring System



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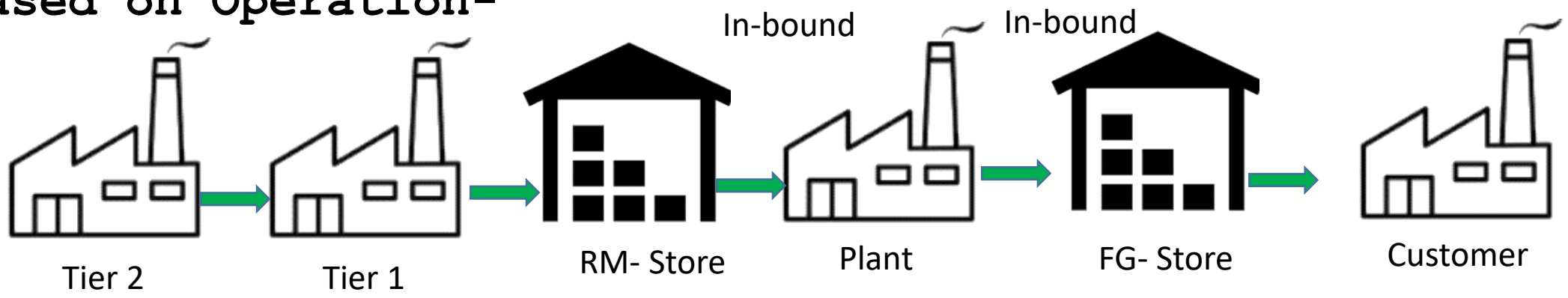
Green Supply Chain Management

Based on Operation-



Based on Function-

Supplier/Dealer Performance Upgradation

Focused Green Procurement

Green Parking

Green Logistic

Green Warehouse

Green Supply Chain – CSR Initiative

CSR Activity	School building painting
Program Place	Garibolini
Vicinity from Bawal Plant	7kms
Program Date	12-2-21
Inaugurated by	Plant Head
Beneficiaries	Villagers
Media Coverage	Yes/No
Expense	682337
Area Nerolites	20

CSR Activity	5 Solar geysers t installed in girls hostel of govt boarding school
Program Place	Naichana
Vicinity from Bawal Plant	3kms
Program Date	17-2-21
Inaugurated by	HR Head
Beneficiaries	Girls students and hostel staff
Media Coverage	Yes/No
Expense	500000
Area Nerolites	15

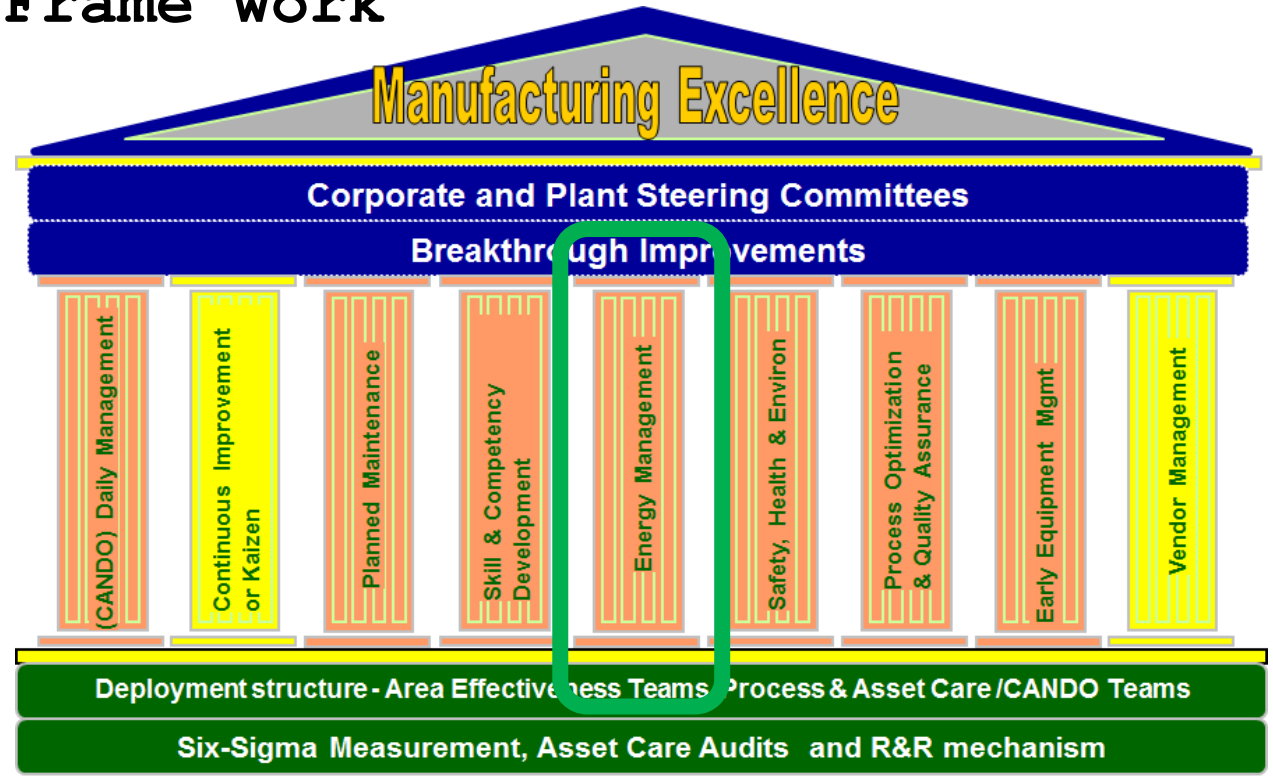
CSR Activity	12 watt Solar Street Lights in Villages near by plant (50 Nos)
Program Place	Villages nearby plant
Vicinity from Bawal Plant	500 mtr
Program Date	08-02-21
Inaugurated by	Plant Head
Beneficiaries	Nearby villagers
Media Coverage	Yes/No
Expense	635750
Area Nerolites	15

CSR Activity	Maintenance of green belt
Program Place	Near by plant
Vicinity from Bawal Plant	500Mtr
Program Date	9-2-21
Inaugurated by	Plant Head
Beneficiaries	Near by villagers
Media Coverage	Yes/No
Expense	300000
Area Nerolites	20

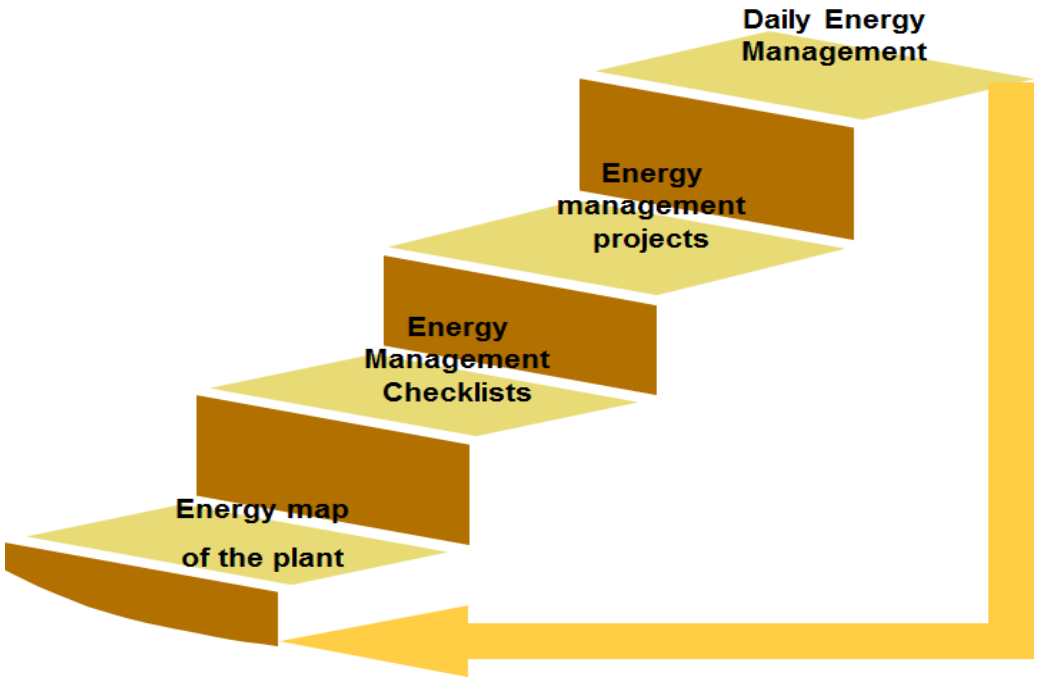
Sample

Energy Management- Frame work

Frame work



Deployment Process



Review Process- Energy Pillar

Energy Champion (Head Office) → Plan Head (Facilitator) → Energy Leader (Plant) → Energy Leader (Section) → Energy Team (Section)

Energy Kaizen- 100+/Year

Team Involvement & Motivation

Brain Storming session

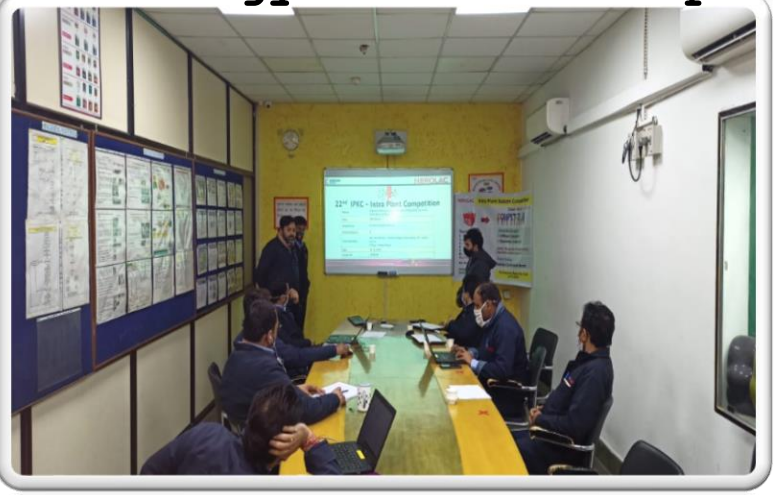
Energy Performance Review- Top Management

Training

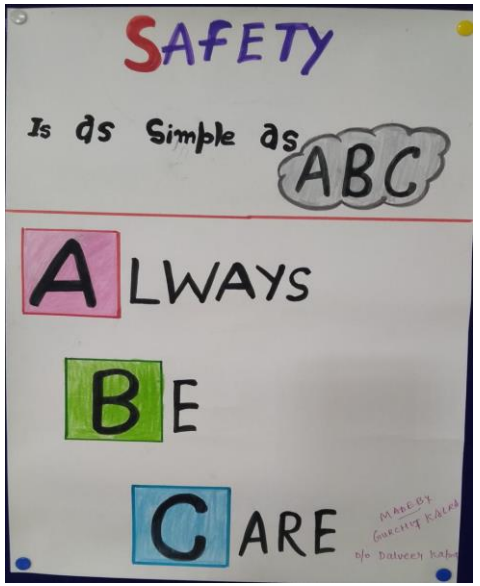
Brain Storming session

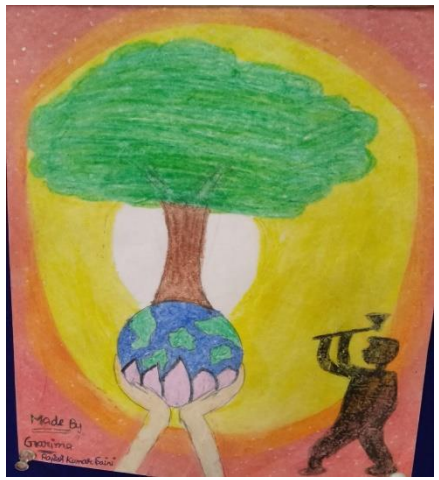
Energy Month Celebration

Energy Kaizen- Competi



Poster & Slogan Competition





Thanks

Committed to Beautify living environment & Saving the Earth

AAJ Careful to Kal Colorful