



Mysuru



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BRIEF INTRODUCTION ON COMPANY



- Asian paints, Mysore plant commissioned in the year 2018 with an initial capacity of 3,00,000 KL per annum and currently we are expanding to 6,00,000 KL per annum which will make us the India's largest paint manufacturing facility.
- Manufacture Interior and Exterior Decorative Water based Paints.
- First fully Automated and technologically advanced plant of Asian paints ltd.
- Operates with almost 100 % Renewable energy since 2019-20.
- Plant comprises a Green belt of 57 acres.
- Water positive plant- 205% in the year 2022-23.



MAJOR PRODUCTS



- Mysore plant handles almost 130 product shades and 338 SKU (Stock Keeping Units)

Primers

- DecoPrime
- Exterior Wall Primer
- Utsav Wall Primer



Interior Paints

- Tractor Emulsion
- Premium Emulsion
- Royale
- Royale Shyne
- Tractor Advanced



Exterior Emulsions

- Ace
- Apex
- Apex Ultima
- Apex Advanced
- Ultima Protect



Waterproofing




- Damp Proof
- Damp Proof Advanced



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SPECIFIC TECHNOLOGIES

Mechanical Aspects:	Electrical Aspects:	Instrumentation Aspects:
		
1)Pigging Technology-Where multiple RM can be trsnaffered in single line	1)IMCC- Intelligence motor control centre used across plant which reduces cabling and improves troubleshooting	1)EOW-Extended operator workstation where a single person handles the entire water base operation
2)Clarinet- Based on line matrix , different material can be transferrd same time.	2)Erganomica elimination through automation .EMS, Ancra,AGV,Gudel,STV	2)MES- Manufacturing execution system which process the batches autonatically from Sap and DCS
3)Magneistic coupling pumps used for paint transfer which is maintenance free and leak free.	3)Power distrubution through synchronization with grid and solar	3)EWM-Exteneded warehouse management . Where the stocks are being managed automatically sortation and delivering.
4)PEB building used for faster construction.	4)PMS-People management system. Through BLE reader people head count can be monitored.	



SPECIFIC TECHNOLOGIES



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Automated Guided vehicle for Carton Pallet transfer.



Sortation Transfer Vehicle for FG Pallet Transfer to ASRS.



Auto Unloading of PMG.



Electric Monorail System for Packing Material Transfer from PMG to Line.



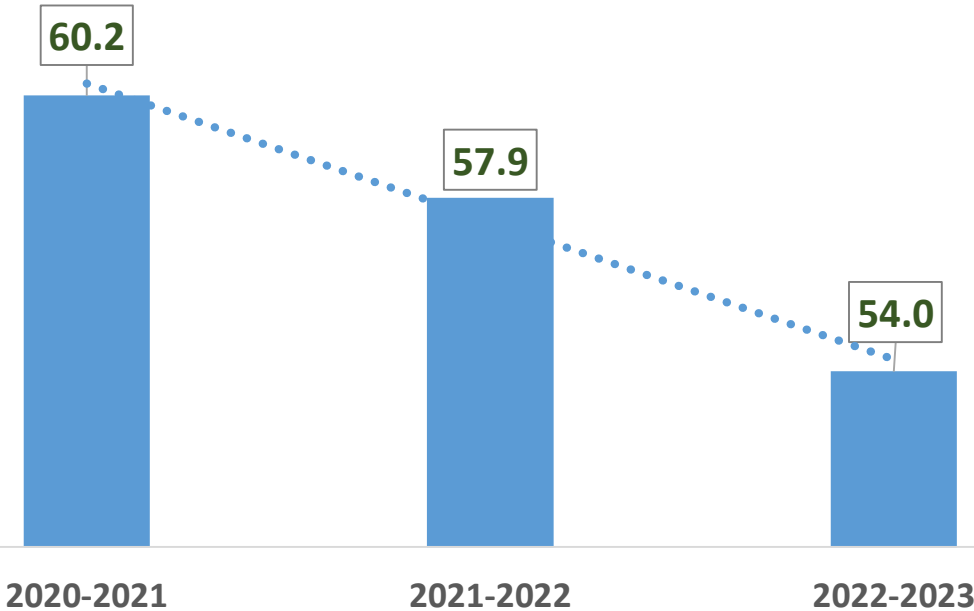
Tube-less filling machines that massively reduce change-over time and bring faster CIP (Cleaning in Progress).



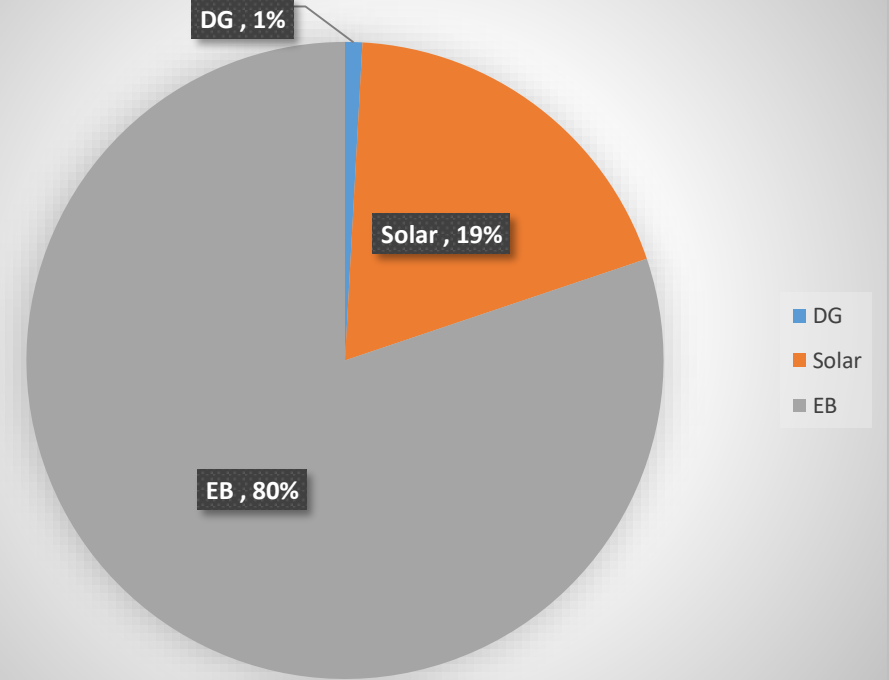
SPECIFIC POWER CONSUMPTION(SPC)



Specific Electrical Energy Consumption
(kWh)/Ton of production



Power distribution



Parameters	2020-2021	2021-2022	2022-2023
Annual Electrical Energy Consumption	9.14	11.63	13.10
Production	0.15	0.20	0.24
Specific Electrical Energy Consumption	60.2	57.9	54.0



SPECIFIC POWER CONSUMPTION(SPC)

Section	Target SPC	Actual SPC MTD
WATER BASED PAINT BLOCK	12.2	14.3
TSD	8.0	10.0
Mixer	3.20	4.3
EMULSION BLOCK	0.9	1.4
SILO	3.0	3.0
RMG	4.0	4.5
UTILITY	7.3	7.6
COMPRESSOR	4.6	5.5
RM STORAGES (WATF, PATF, PBG)	0.5	0.6
EHS	0.6	0.6
LIGHTING	3.2	3.8
PACKING	3.5	3.5
FINISHED GOODS	2.6	2.4
OTHERS(Admin+APFC)	5.7	1.3
HVAC	3.8	3.2
LOSSES & READING ERROR	0.8	0.9
SPC MTD	47.9	52.53

Processing

1. TSD CT reduction which resulted in lesser power consumption.
2. TSD Cowl replacement from 1100 to 950 mm cowl and tip speed reduction.
3. Ystral CT – 2.5 hrs achieved which helped in reducing the processing SPC.
4. 100 % SBS utilization resulted in lesser consumption of TSD.

RMG

1. Dust collector running optimization.
2. Powder conveying rate improvement.
3. Powder tanker increased to 50 %.

Utility

1. Air leak reduction from 35 to 27 %.
2. Cooling tower fan cut off using wet bulb.
3. Chilling and cooling set point optimization.

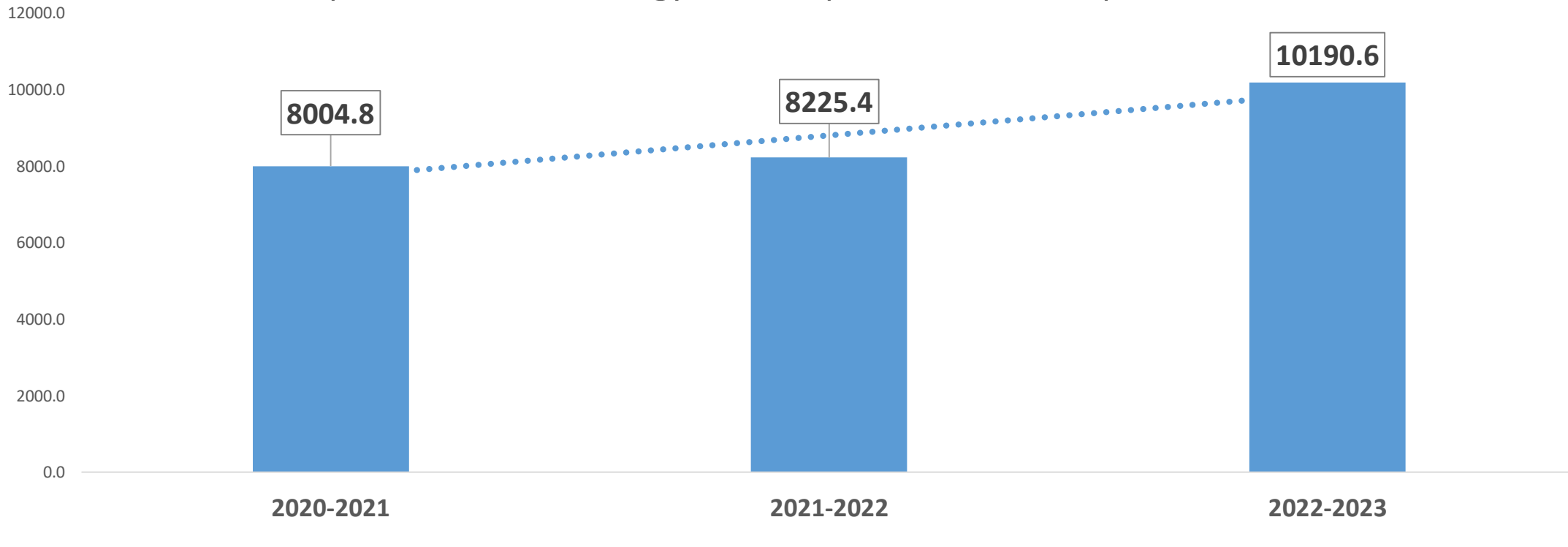
Lighting & HVAC

1. Sensor based cut off lights & HVAC
2. Timers installed for HVAC



SPECIFIC THERMAL ENERGY

Specific Thermal Energy Consumption Kcal/Ton of production



Parameters	Unit of Measurements	2020-2021	2021-2022	2022-2023
Annual Thermal Energy Consumption	Million kcal	1215.7	1652.1	2472.5
Production	Million KL	0.15	0.20	0.24
Specific Thermal Energy Consumption	Kcal/Ton of production	8004.8	8225.4	10190.6



ENERGY BENCHMARKING

NATIONAL BENCHMARKING



- Asian Paints is having lesser specific energy consumption compared to its competitors.
- Data taken from the sustainability report of other companies.

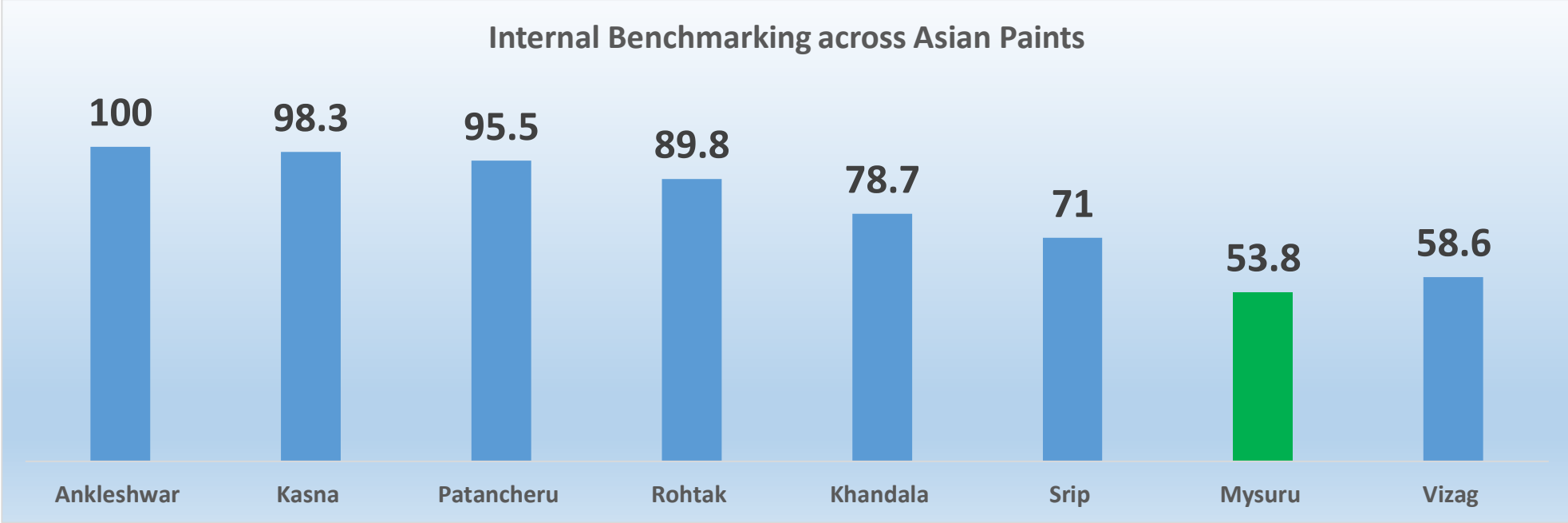
We have a central energy cell headed by GM where in month on month we meet to review

- SPC target Vs actual review
- Cross deployment across plants.
- Energy related funding required from central

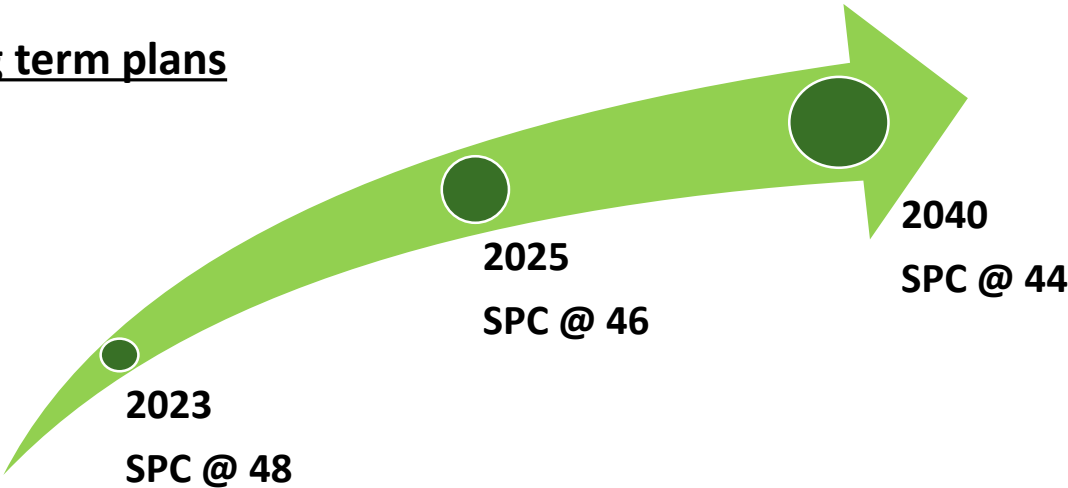


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ENERGY BENCHMARKING



Short term and long term plans





MAJOR ENCON PROJECT – 23-24



RUTILE CONTAINER TILTING STATION :-

- **POWER OPTIMISATION-** Avoids the utilization of FIBC.

Equipment	Rating	Tonne of material	Tonne/ Hr	Time of Operation	Consumption/ Day
FIBC	88.82	60	5	12.0	1066
Rutile Tilter	162	60	20	3.0	486
				Savings	580

- **PICK AND TILT TYPE TIPPLER FRAME** - Crane is eliminated by introduction of advance hydraulic tippler which can be pick and tilt the container



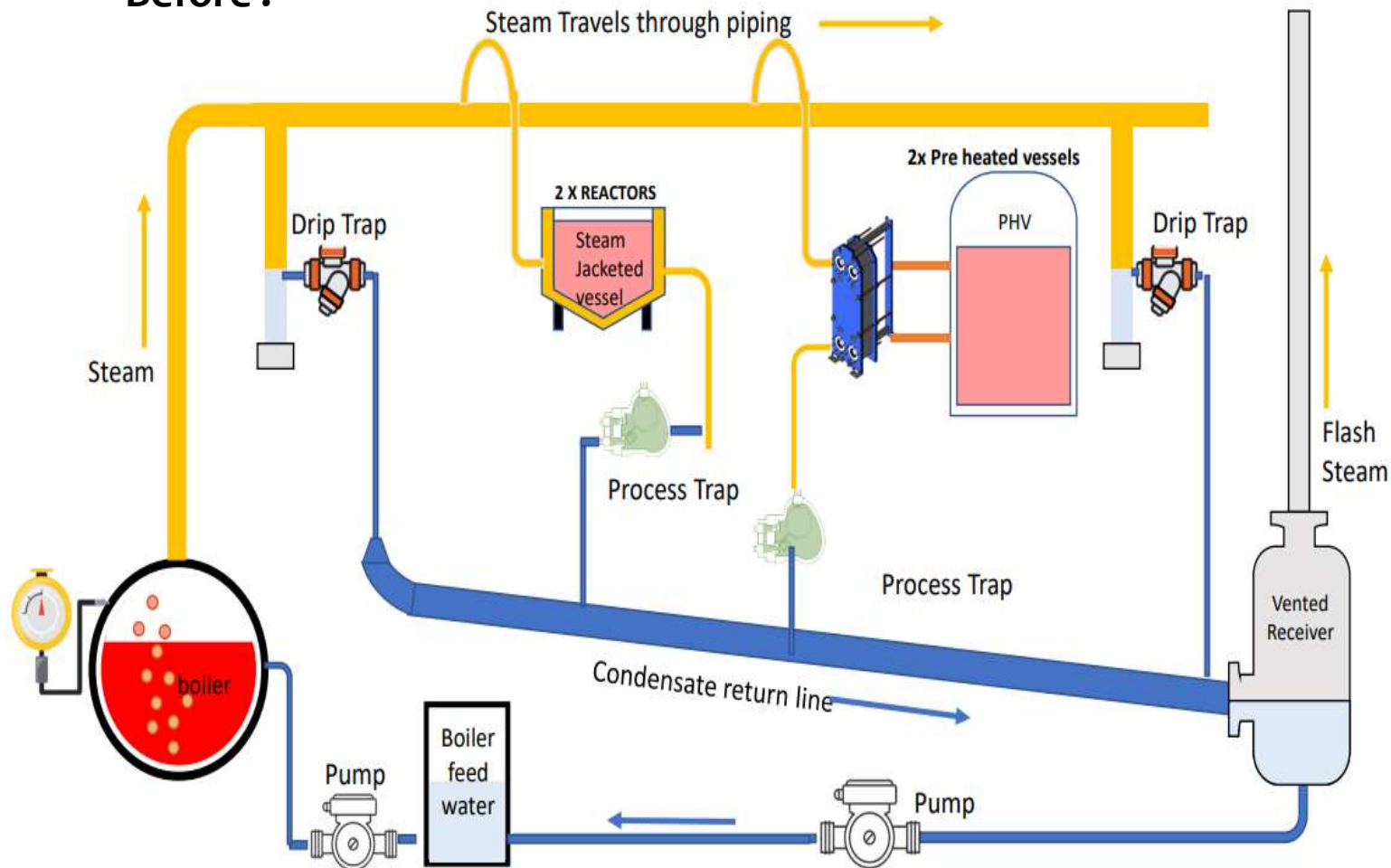
Investment (INR Million)	Electrical savings (Million kWh)	Total Savings (INR Million)	Payback period (in months)
55.00	0.21	1.67	32.94



MAJOR ENCON PROJECT – 23-24

Heat Pump and Electric Boiler:-

Before :-



Major Causes for Radiation loss:-

- 1) **Long distance of steam pipeline** from Boiler room to Reactor because of which there is a huge condensate loss through radiation.
- 2) **Start-stop losses** – Boiler taking 20-30 mins for start-up and there are 4-5 starts per day.
- 3) **Under-utilization** - Boiler generates a steam of 2600 kg per hr and the IHO steam consumption per day is around 300-400 kg.

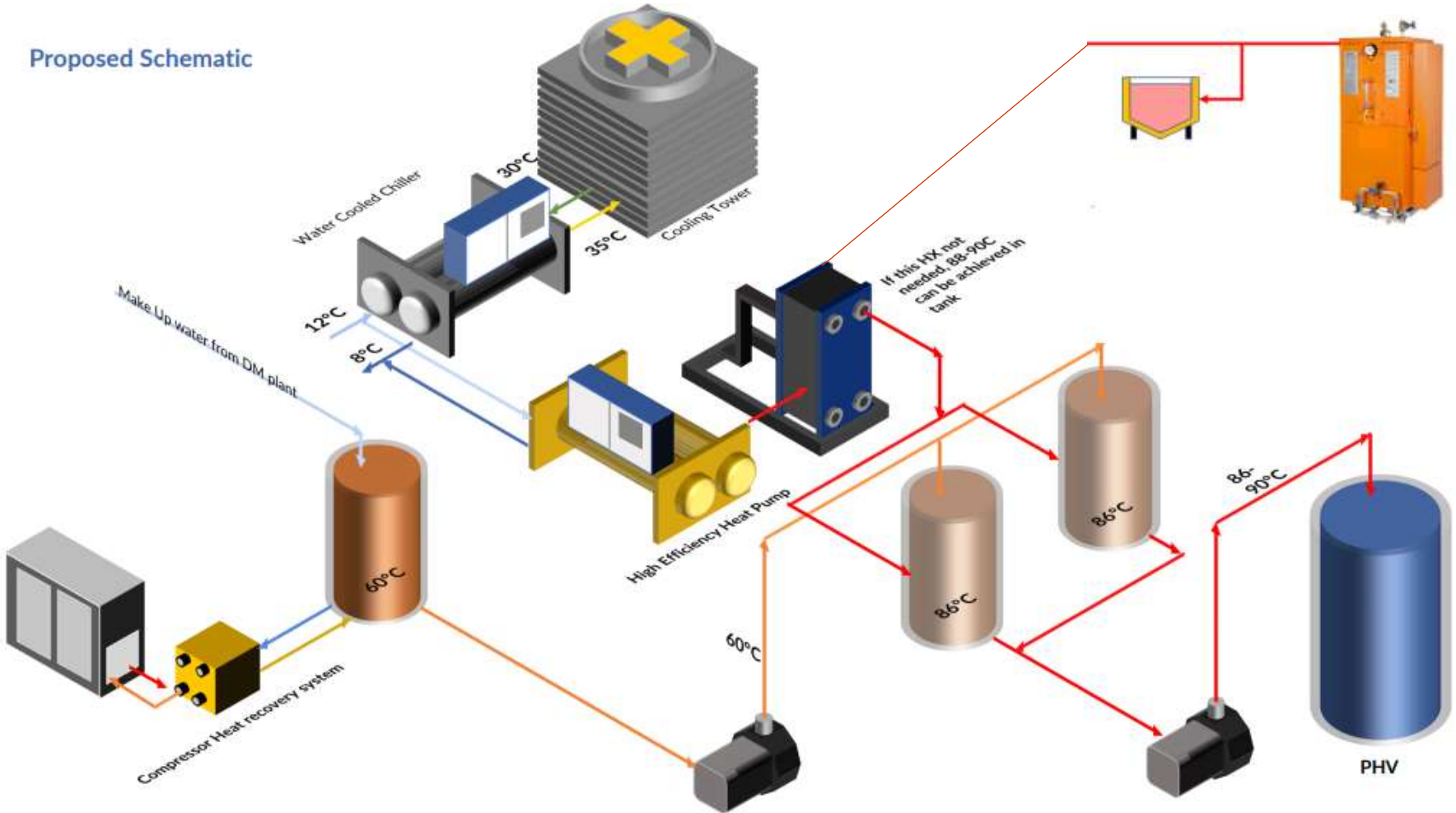


MAJOR ENCON PROJECT – 23-24



After:-

Proposed Schematic



Fuel	Fuel Consumption Before	Fuel Consumption After
Per hour	56	0
Per Day	1333	0
Per Year	400000	0

MAJESTIC

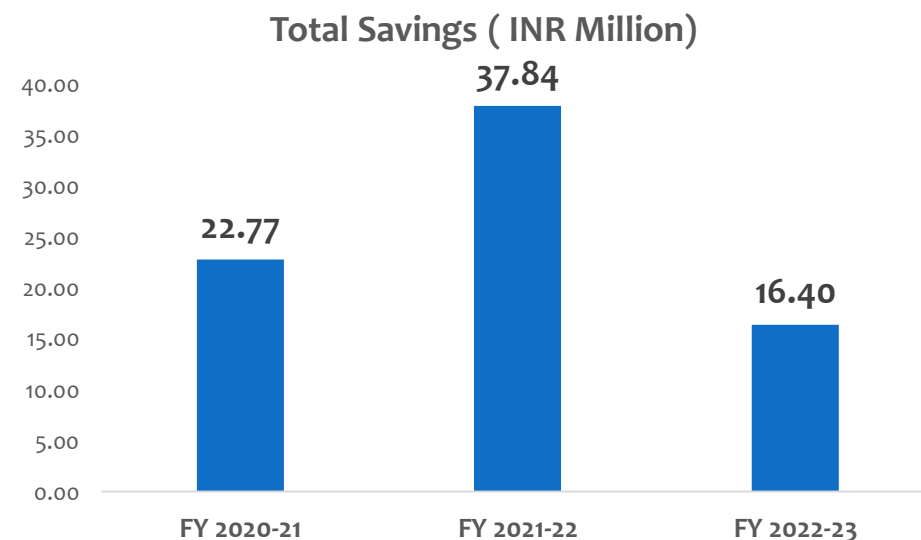
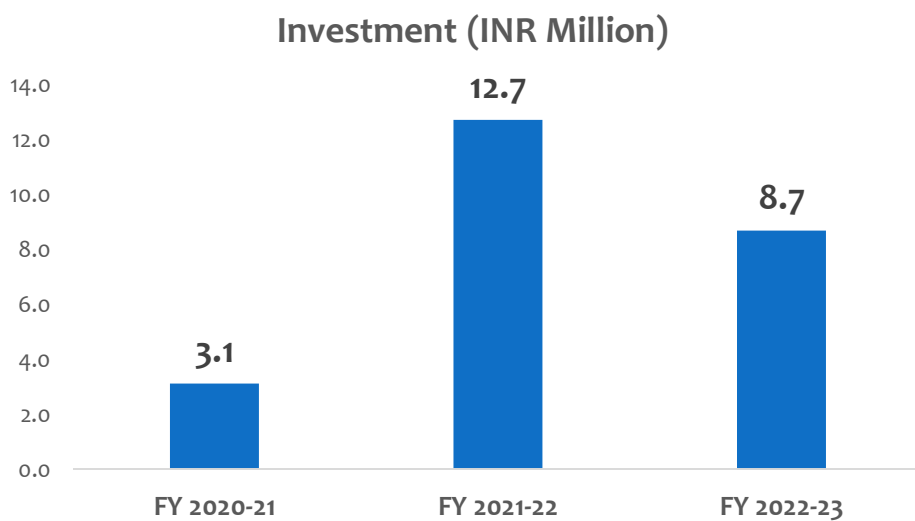


ENERGY SAVING PROJECTS IMPLEMENTED IN LAST THREE YEARS



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Year	No of Energy saving projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
FY 2020-21	3	3.12	2.85	-	22.77	0.14
FY 2021-22	5	12.72	4.73	-	37.84	0.34
FY 2022-23	7	8.69	2.05	-	16.40	0.53





ENCON PROJECTS- 20-21



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S.No	No of Energy saving projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
1	Energy Efficient Cooling Tower fan	0.30	0.06	-	0.48	0.06
2	Aluminium Piping for Air line	2.16	0.17	-	1.38	1.56
3	Powder Tanker efficiency	0.66	2.61	-	20.91	0.00



ENCON PROJECTS- 21-22



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S.No	No of Energy saving projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
1	Ystral Utilisation	10.22	4.07	-	32.53	0.31
2	Powder Conveying efficiency	0.00	0.16	-	1.32	0.00
3	TSD small Cowl replacement project	2.50	0.30	-	2.43	1.03
4	Process Optimisation	0.00	0.20	-	1.57	0.00



ENCON PROJECTS- 22-23

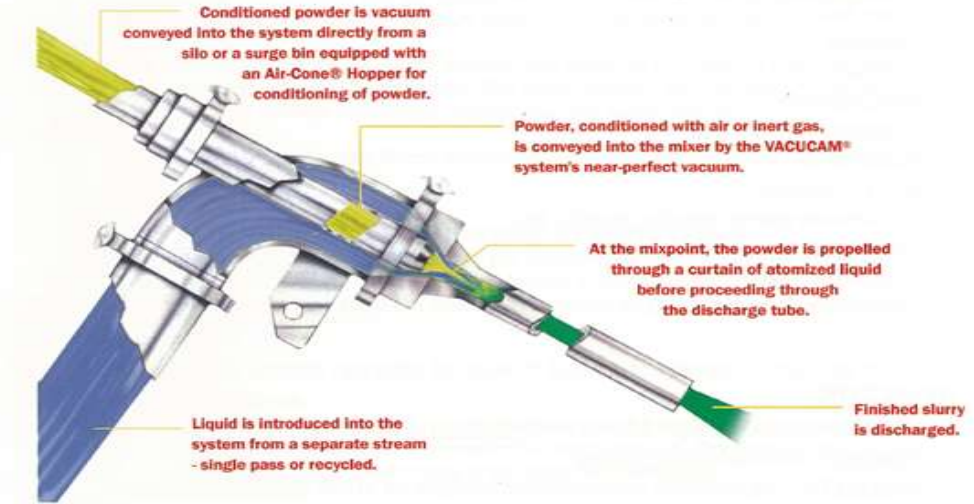
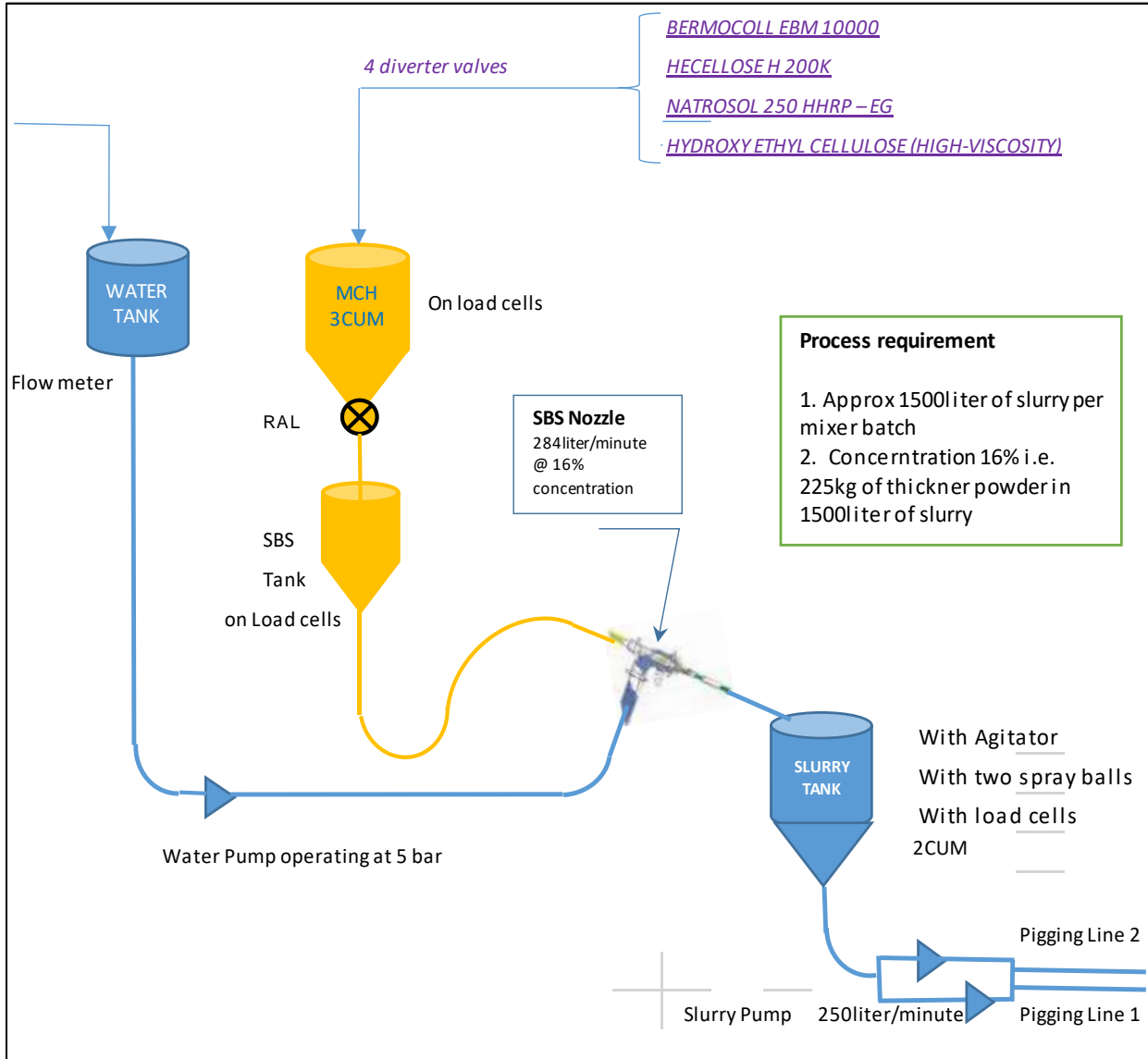


S.No	No of Energy saving projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
1	SBS utilization	5.36	0.20	-	1.62	3.31
2	Air leak drive	0.50	0.07	-	0.53	0.94
3	Reduction of tip speed from 22m/s in cowl operation	0.00	0.38	-	3.01	0.00
4	HVAC optimisation	0.20	0.59	-	4.72	0.04
5	Lighting Optimisation	0.13	0.08	-	0.67	0.19
6	Process Optimisation	0.00	0.59	-	4.72	0.00



INNOVATIVE PROJECTS

SOLVENT BASED SLURRY UTILIZATION PROJECT:-



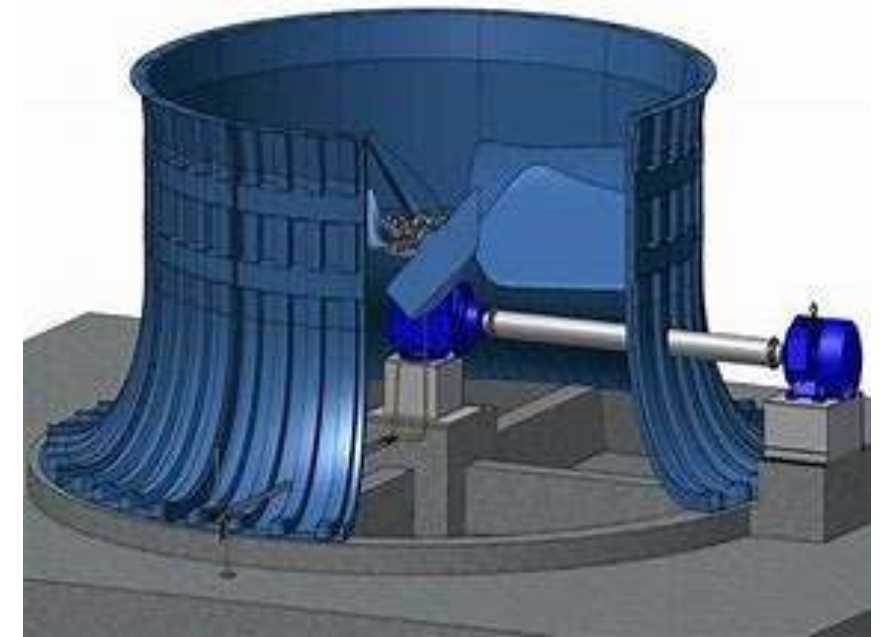
- Thickener is made as a slurry is being added in the next stage mixer which reduces the load on TSD and pumping of mill base from TSD to mixer.
- Cost benefit in terms of reduced usage of thickener and of cowl lesser consumption.
- 20% reduction in power consumption and 7% saving in thickener addition**



INNOVATIVE PROJECTS

ENERGY EFFICIENT COOLING TOWER FAN:-

- Hollow FRP fan with high grade epoxy resin lowers Cooling tower energy consumption by 20-25%.
- Superior finish results in lesser drag effect on the surfaces of blades, hence reduction in energy consumption.
- Eddie formation is reduced considerably as Cutting of the air is much smoother.
- Smooth flow reduces vibrations and noise.
- With improved aerodynamic design bypassing in between the hub and shoulder of blades is reduced.
- **43% energy saving in power consumption**

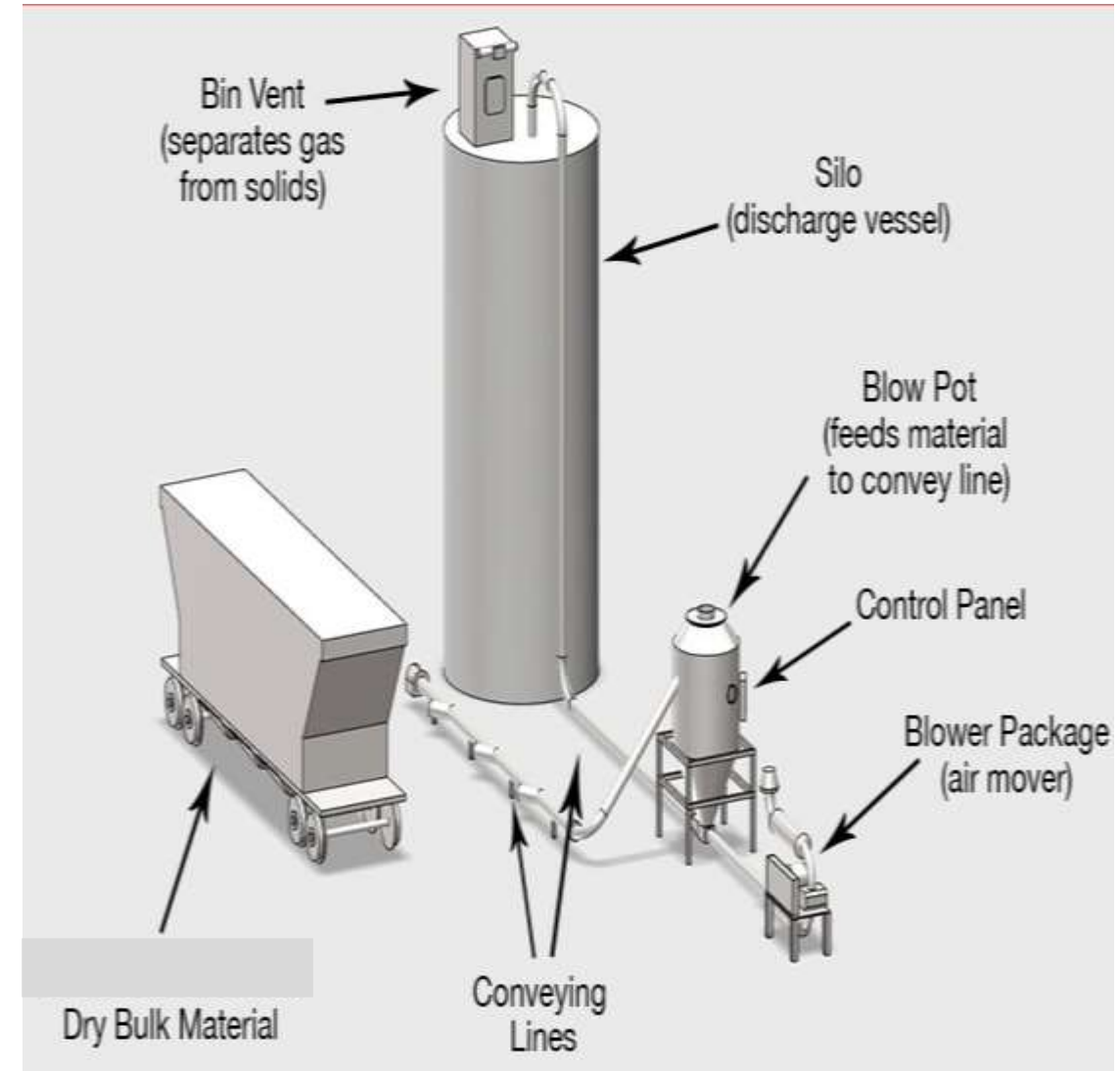




INNOVATIVE PROJECTS

POWDER TANKER UTILISATION:-

- Powder raw materials stored in silo which used to come in jumbo bags of sizes 500 Kg / 1 Ton.
- Time taken to transfer this powder was around 5 hours for a transfer of 20 T material which becomes a bottleneck for production load requirement.
- By introducing this powder tanker 20 T material will be transferred in one hour.
- **92% saving in energy in unloading of material.**





UTILISATION OF RENEWABLE ENERGY SOURCES

2018

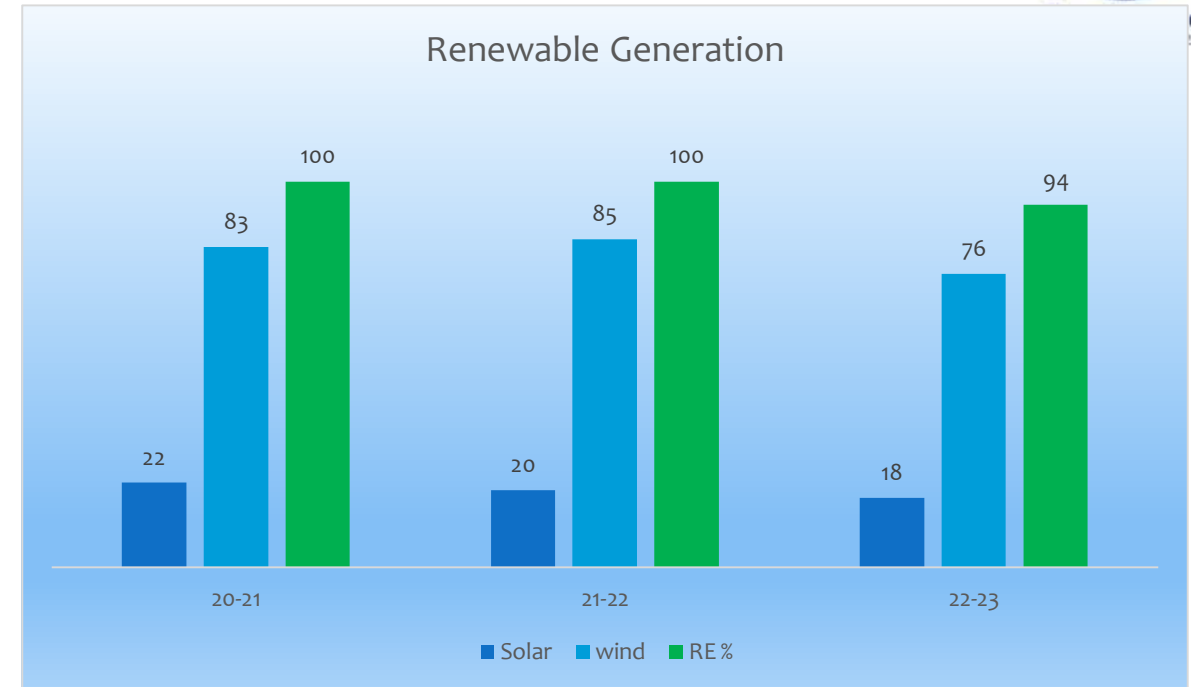
2 MW Solar Roof top Power plant Commissioned
Investment – 12 Cr.

2020

4.2 MW ON Grid offsite Windmill installed
Investment – 26 Cr.

2023

Additional 1 MW Roof top solar Power plant
commissioned
Investment – 4.7 Cr.





UTILISATION OF RENEWABLE ENERGY SOURCES



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ONSITE GENERATION

Year	Technology	Installed Capacity (MW)	Consumption (million kWh)	% of overall electrical energy consumption
2020-21	Solar	2	2.06	22%
2021-22	Solar	2	2.34	20%
2022-23	Solar	3	2.31	18%

OFFSITE GENERATION

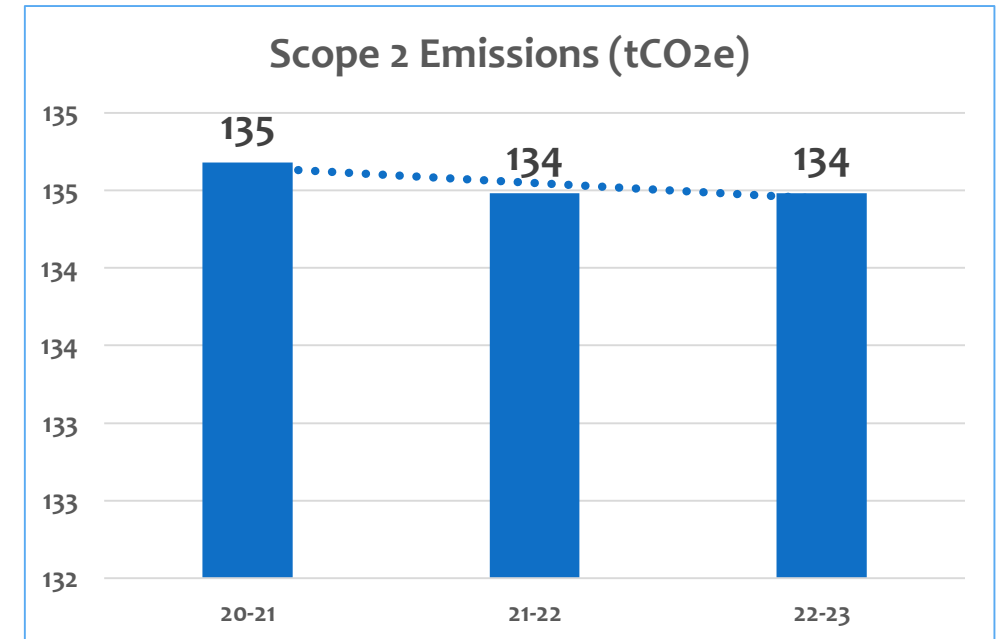
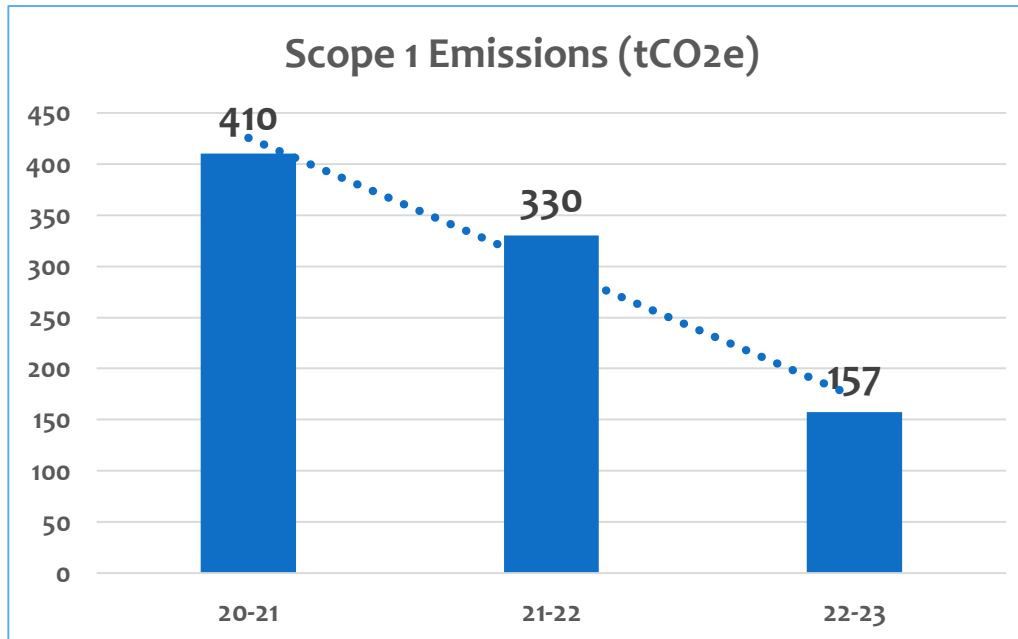
Year	Technology	Installed Capacity (MW)	consumption (million kWh)	% of overall electrical energy consumption
2020-21	Wind	4.2	6.35	124%
2021-22	Wind	4.2	8.31	92%
2022-23	Wind	4.2	9.73	83%



GHG INVENTORISATION

- Information on GHG Inventorisation and public disclosure

GHG Emissions	20-21	21-22	22-23
Scope 1 Emissions (tCO ₂ e)	410	330	157
Scope 2 Emissions (tCO ₂ e)	135	134	134





RETROFIT FOR DIESEL GENERATOR.



Carbon Cutter Machine utilizes electrostatic precipitation (ESP) principle as a working fundamental. ESP parameters and machine construction is optimized to suit Diesel particulate matter separation. The device also incorporates mechanism to collect precipitated soot and separately collect into isolated soot bin that needs to be emptied periodically

Project cost: Rs.1.14 Cr

Number of RECD installed:-4(2x200kVA & 2x1010kVA).



RESULTS:-

DG	Rating(kVA)	Results		Reduction in PPM
		Before CCM	After CCM	
DG-1	2000	44.3	7.85	-82%
DG-2	2000	46.1	8.0	-83%
DG-3	1010	55.8	10.4	-81%
DG-4	1010	57.6	11	-81%



GREEN SUPPLY CHAIN MANAGEMENT



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S.No	Projects Implemented	Investment Made (Rs In Million)	Benefits Achieved	Description
1	95% of the packaging materials that are procured has 82% of PPCP, 15% of RCPP, and 3% of compounding agent. 5% of the packaging materials that are procured has 93% of PPCP, 7% of RCPP and 3% of compounding agent.	0.2	Cost saving due to inclusion of recycled polymer in the composition which benefits both company and the supplier.	Packing materials are procured has 7-15% of Recycled polymer to reduce the cost and enable the reuse of Polymers.
2	Green Channel Vendor evaluation	0.1	Quality of raw materials and packing materials are evaluated in a systematic way and time saving through outsourcing of evaluation.	Packing materials and raw material vendors are evaluated and certified by Green channel for proper material composition and quality.



EMS AND OTHER REQUIREMENTS



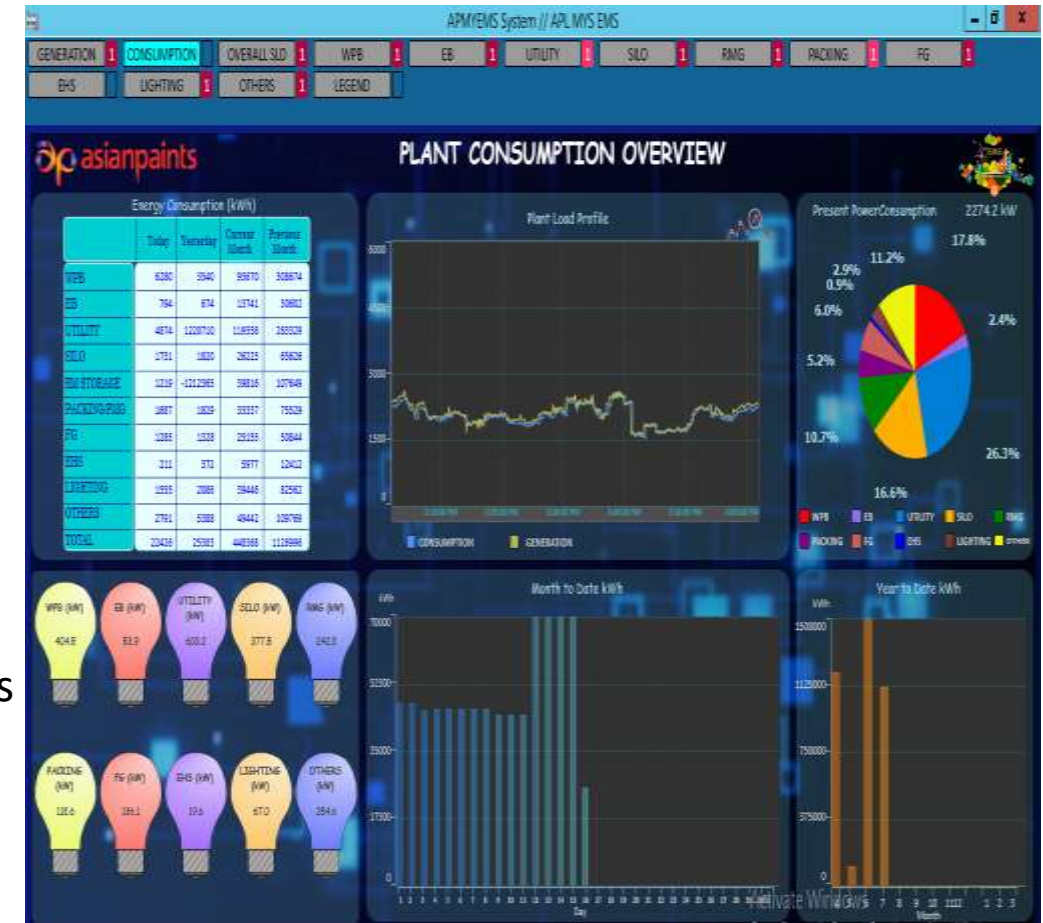
Energy Monitoring System

Energy Generation by different Sources and Consumption for loads more than 30KW are tracked on daily basis.

- ❑ Fetches energy consumption and generation data automatically and generates report
- ❑ Compare energy consumption across individual section.
- ❑ Monitor generation and consumption at a single place
- ❑ Analyse and act on the higher consumption then and there.

Upgradation:-

EMS to be integrated with Sight Machine which uses both production and energy consumption data and provides insights on energy consumption with respect to load is to be implemented.





NET ZERO COMMITMENT



RE-100% by 2025

- Solar 100 % utilization.
- Additional 2.1 MW Windmill Installation- 2024



Water positive by 2025

- In collaboration with the organizations **NAF** and **Credit I**, 40 water sites of capacity **4.55** lakh KL have been created and the same pace is initiated for the current FY.



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IGBC ACCREDITATION



IGBC Accreditation- platinum rated received from CII





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THANKYOU!

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