Confederation of Indian Industry

25th National Award for Excellence in Energy Management 2024

JSW Steel Coated Products Limited

Vasind

Presenter : Mr. Shravan Kumar – Energy Manager
Mr. Nirutpal Saud- Assistant General Manager

Presentation Coverage

1. Introduction, Energy Team, Org Structure of JSWSCPL
2. Energy Consumption in last three years
3. Information on competitors, National & Global Benchmarking
4. Energy Saving Project Implemented in last three years
5. Innovative Projects implemented
6. Utilisation of Renewable Energy sources
7. Utilization of waste
8. GHG Inventorization
9. Net ZERO commitment
10. EMS and other requirements
11. Digitization & Industry 4.0 for Steel Industry
12. Stake holder involvement in energy efficiency
13. Beyond Steel - Any certification, Training, Awards

Introduction

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SCPL

100% Subsidiary of JSW Steel.

JSW Steel

- Vijayanagar – 13 MTPA
- Salem – 1.2 MTPA
- Dolvi – 10 MTPA
- JSWBPSL – 3.5 MTPA
- JSWISPL – 1 MTPA

MAIN PRODUCTS

1. Galvanizing
2. Galvalume
3. Colour coated coil & sheets
4. CRCA

STEEL

- India's leading integrated steel producers
- Installed crude steel production **capacity:~28 MTPA**

CEMENT

- Manufacturer of Portland Slag Cement (PSC), Ordinary Portland Cement (OPC) and Ground Granulated Blast
- Furnace Slag (GGBS) Operational capacity of **14 MTPA**

ENERGY

- Engaged across the value chain of power business
- Operational capacity: 4.6 GW

FOUNDATION

- Social development arm of JSW group
- Footprint across 11 states and 15 districts reaching out to 1 million individuals

VENTURES

- Early-stage, tech-focused, venture capital fund
- JSW Ventures' portfolio comprises of Indus OS, LimeTray, Purplle, Homelane and HealthPlix

INFRASTRUCTURE

- Engaged in development and operations of ports
- Operational capacity 113 MTPA

PAINTS

- Commenced operations in March 2019
- Annual capacity of 125 KL
- Only fully-automated, water-based plant in India

SPORTS

BENGALURU FC · DELHI CAPITALS · HARYANA STEELERS · INSPIRE INSTITUTE of SPORT VIJAYANAGARA

Vasind -2 MTPA

Rolling	Galvanizing	Colour Coating	CAL
CRM3 CRM4 PLTCM	CGL - 1 CGL – 2 CGL – 3 CGL - 4 Slitting -2 CTL - 2 Profiling - 3	CCL - 1 CCL – 2 CCL - 3 Embossing Line	Continues Annealing Line

Organisation Chart & EMT

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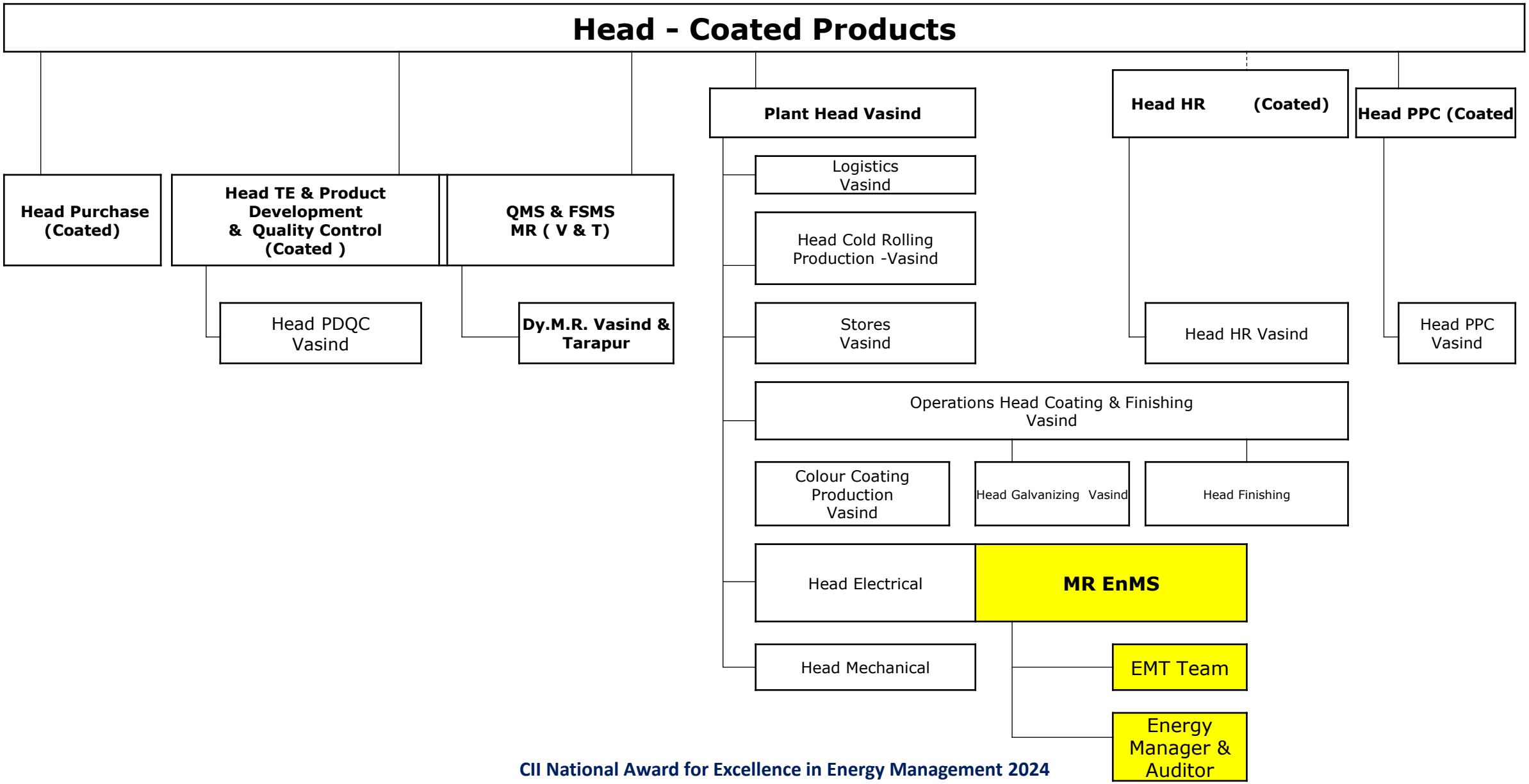
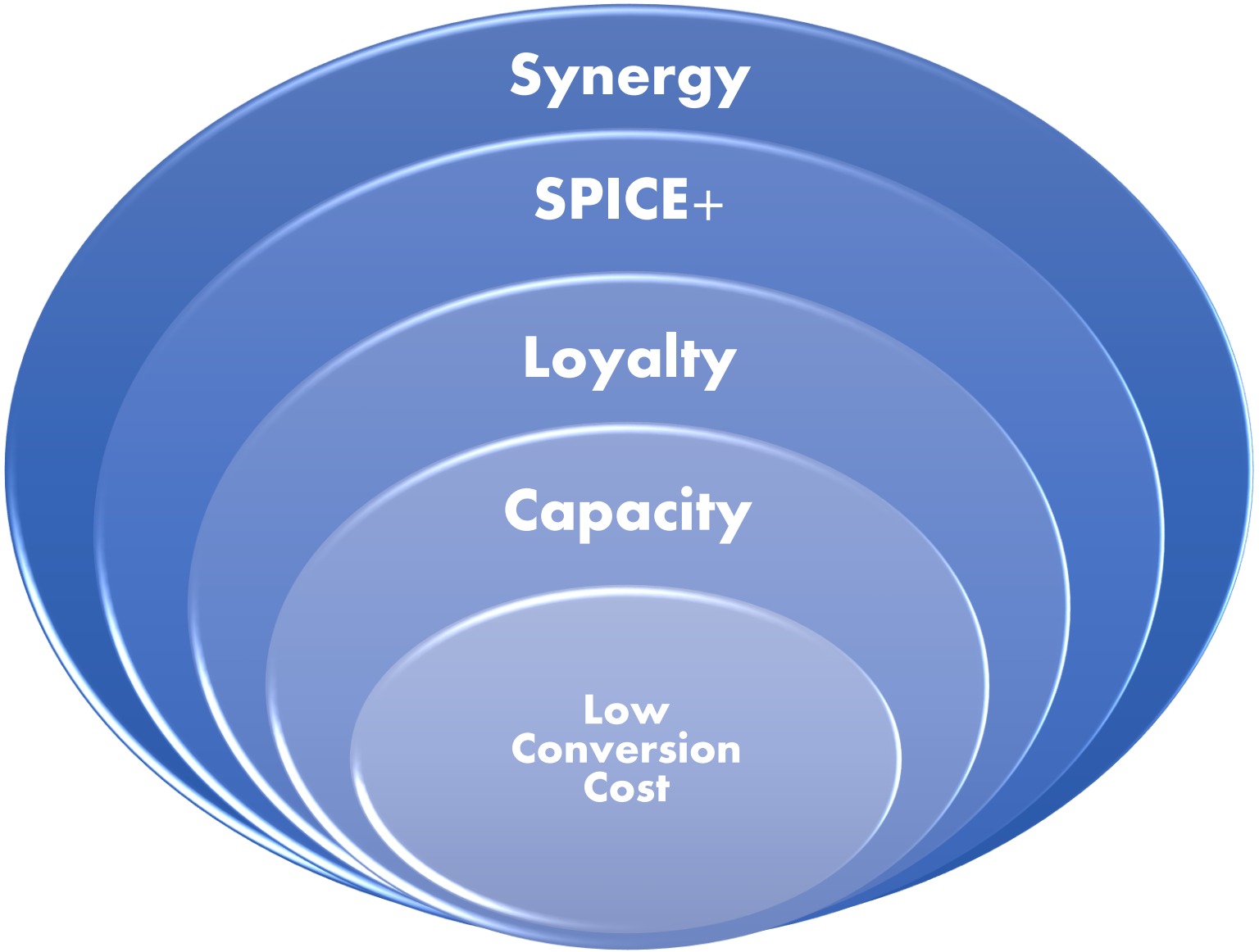


Unique Features



2. Energy Consumption Mapping

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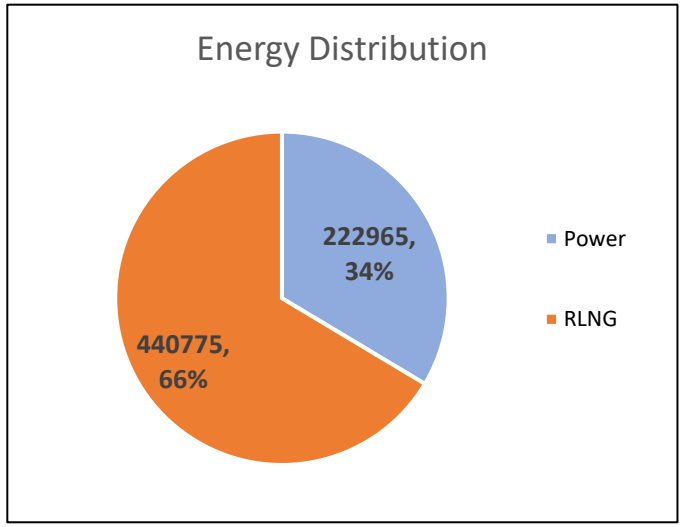
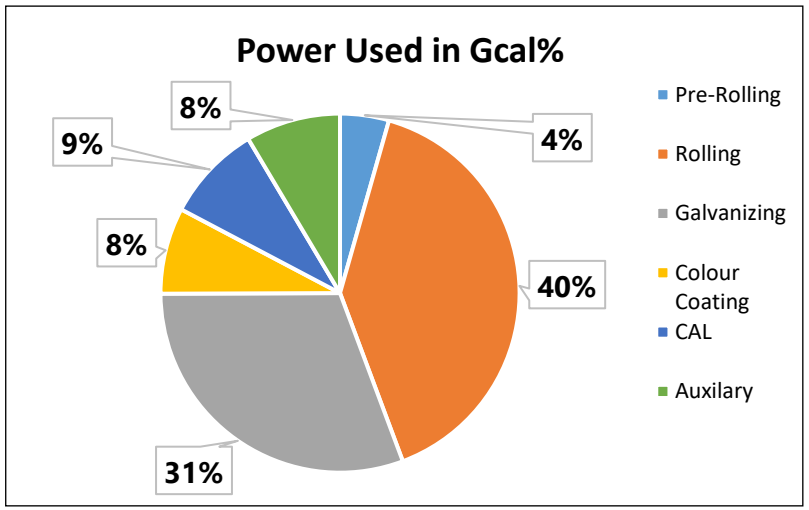


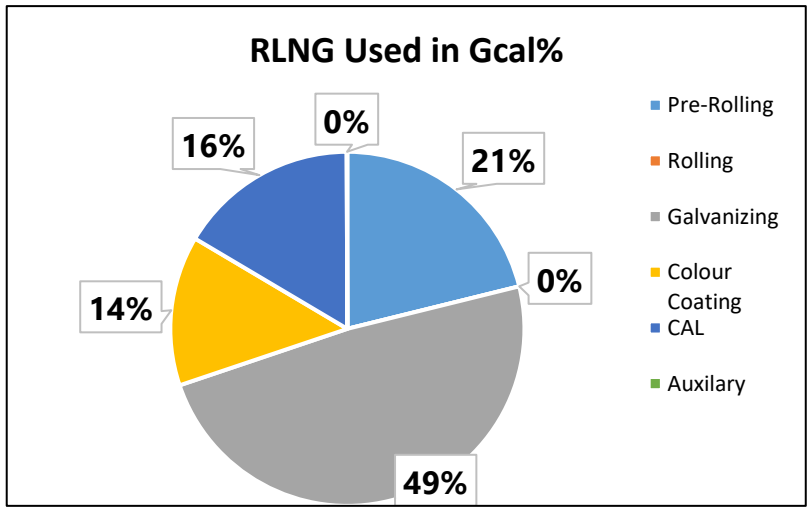
Area	Power (Lac kWh)	Power (Gcal)	RLNG (Lac MMBtu)	RLNG (GCal)	Energy in Gcal
Pre-Rolling	114	9819	3.69	93196	103015
Rolling	1035	88978	0	0	88978
Galvanizing	794	68308	8.52	214593	282901
Colour Coating	219.7	18894.2	2.39	60315	79209
CAL	226	19472	2.87	72379	91851
Auxilary	221	19047	0.01	292	19339
Grand Total	2609	224518.2	18	440775	665293

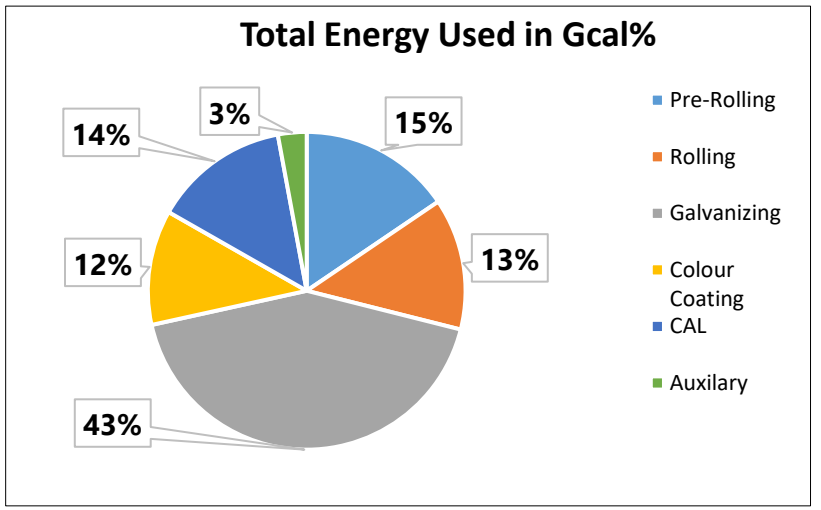
Energy Sources

RLNG (GAIL)	Electrical Power (OA)
18 Lacs MMBtu/A	2609 Lac kWh/A
440775 GCal/A	224518 GCal/A

Total : 665293 GCal



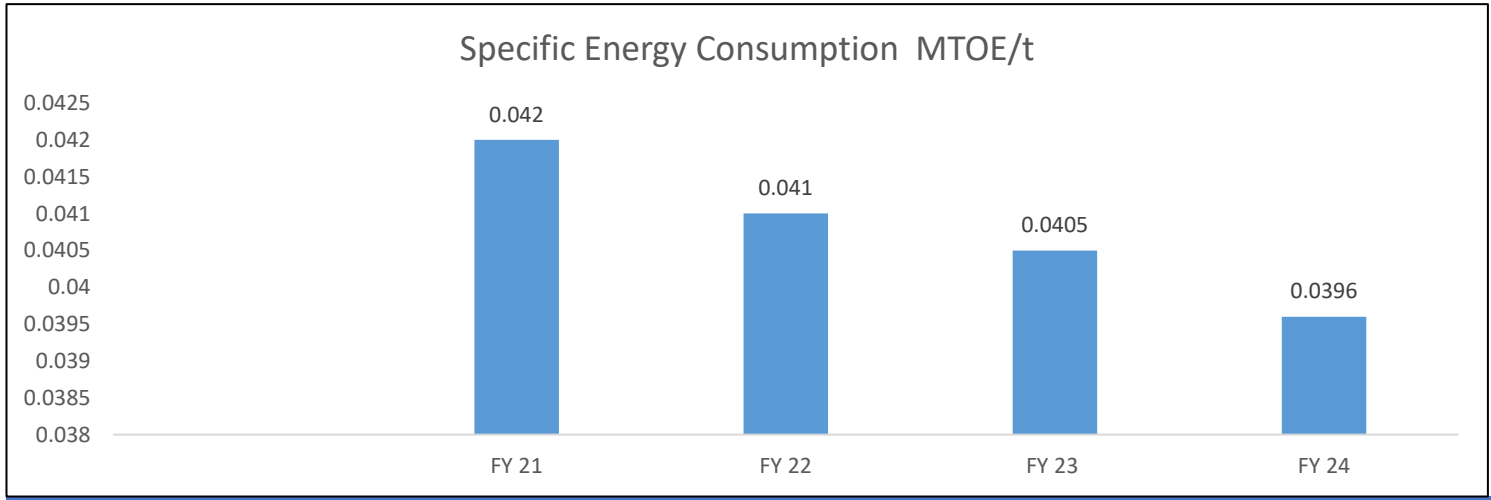


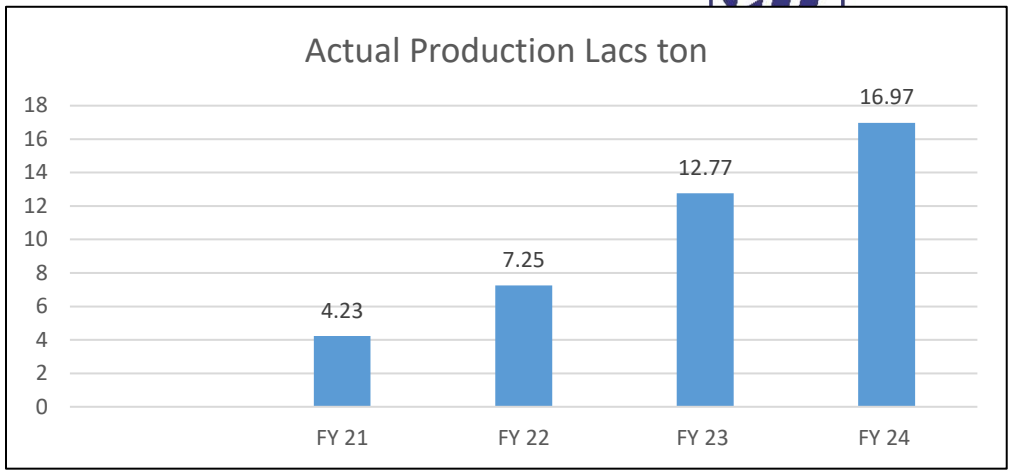


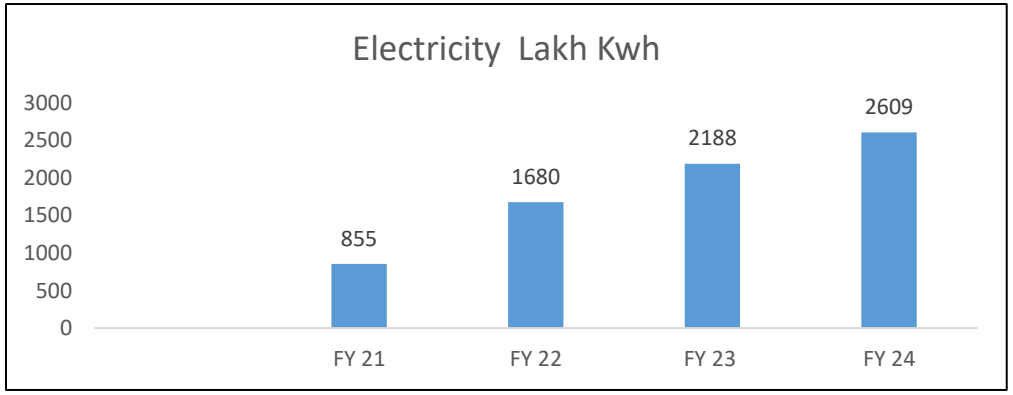
2. Specific Energy Consumption in last three years

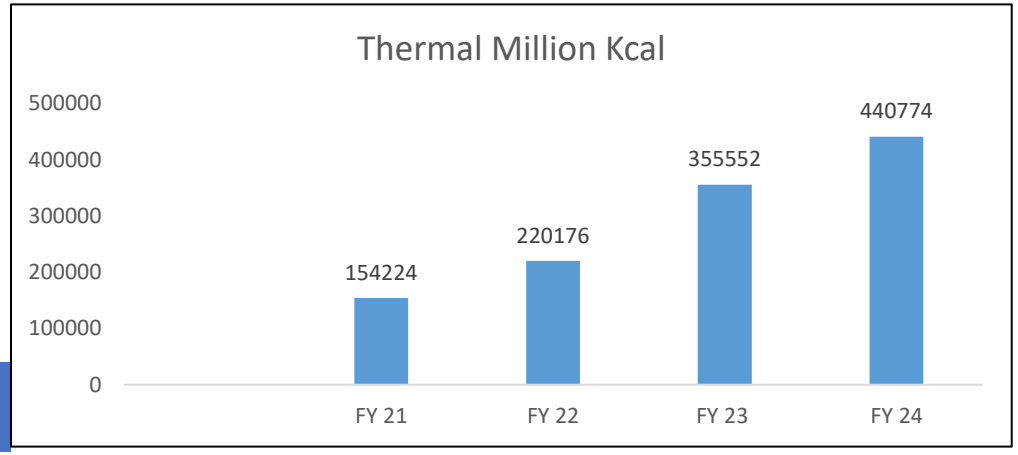
Plant Energy Consumption						
Energy	Unit		FY 21	FY 22	FY 23	FY 24
Electricity	Lakh Kwh		855	1680	2188	2609
Thermal	Million Kcal		154224	220176	355552	440774
Specific Energy Consumption	MTOE/t		0.042	0.041	0.0405	0.0396

Plant Capacity Utilization						
	Unit		FY 21	FY 22	FY 23	FY 24
Installed Capacity	Lacs ton		4.5	13.5	20.29	20.29
Actual Production	Lacs ton		4.23	7.25	12.77	16.97
Capacity Utilization	%		94.0	58.6	68.7	83.6









SEC Reduction of 5.7% achieved in last 4 years along with 4.5 fold increase in plant capacity.

2. Specific Energy Consumption in last three years

Perform Achieve Trade (PAT) Cycle

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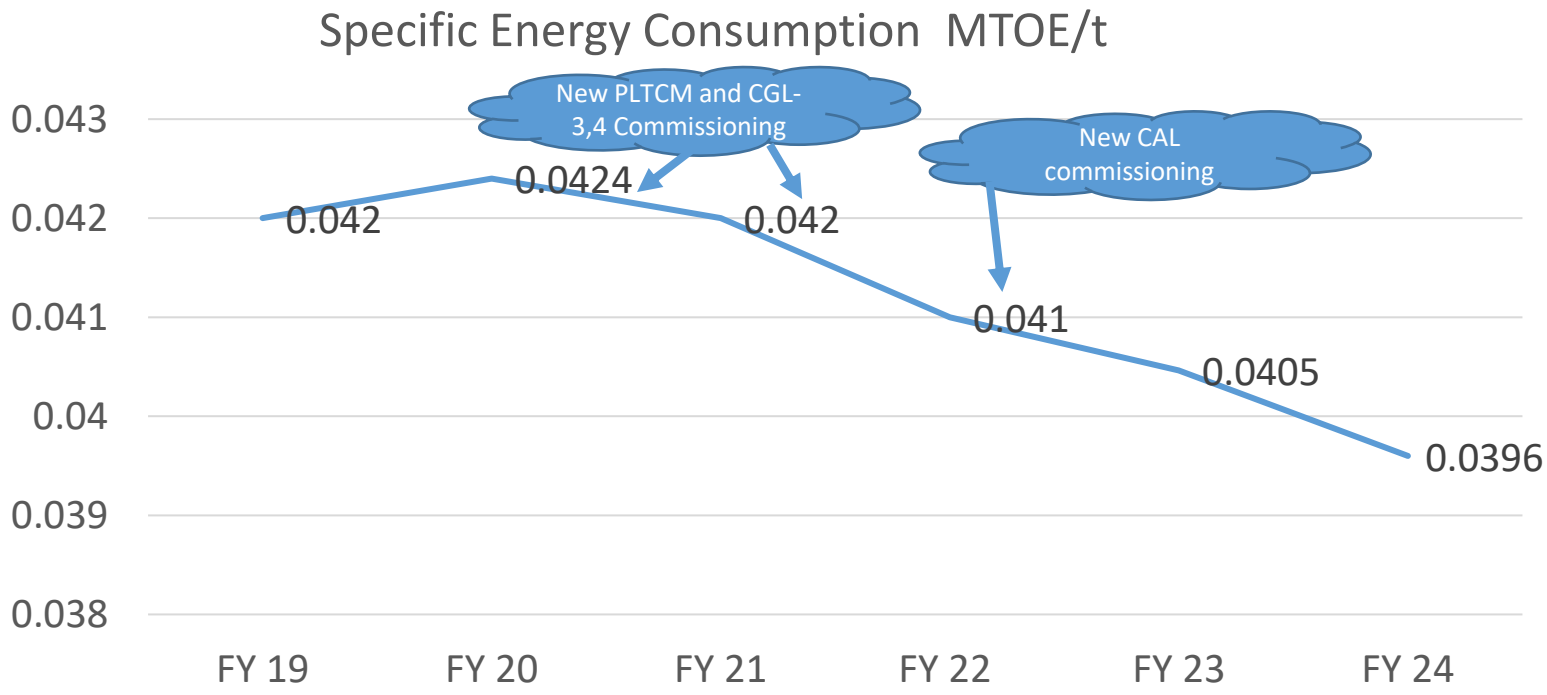
PAT-1				
Energy Consumption (MTOE/T)			Energy Saving MTOE	ESCerts Awarded
Notified	Notified Target	Achieved and Verified		
0.0594	0.0575	0.0545	2042.3	1875

PAT-2				
Energy Consumption (MTOE/T)			Energy Saving MTOE	ESCerts Recommended
Notified	Notified Target	Achieved and Verified		
0.044	0.0414	0.042	0	-294

SEC Reduction in PAT-1 8.2%



SEC Reduction in PAT-2 4.54%

SEC Reduction in Last 10 Years 33.34%

3. Information on Competitors /National & Global Benchmark

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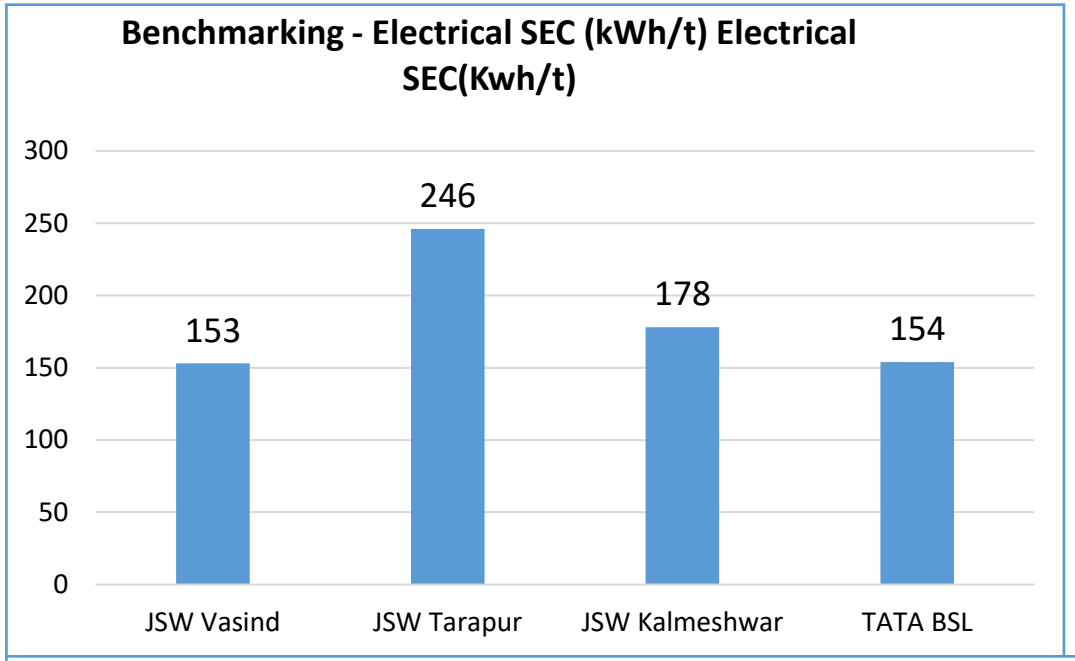
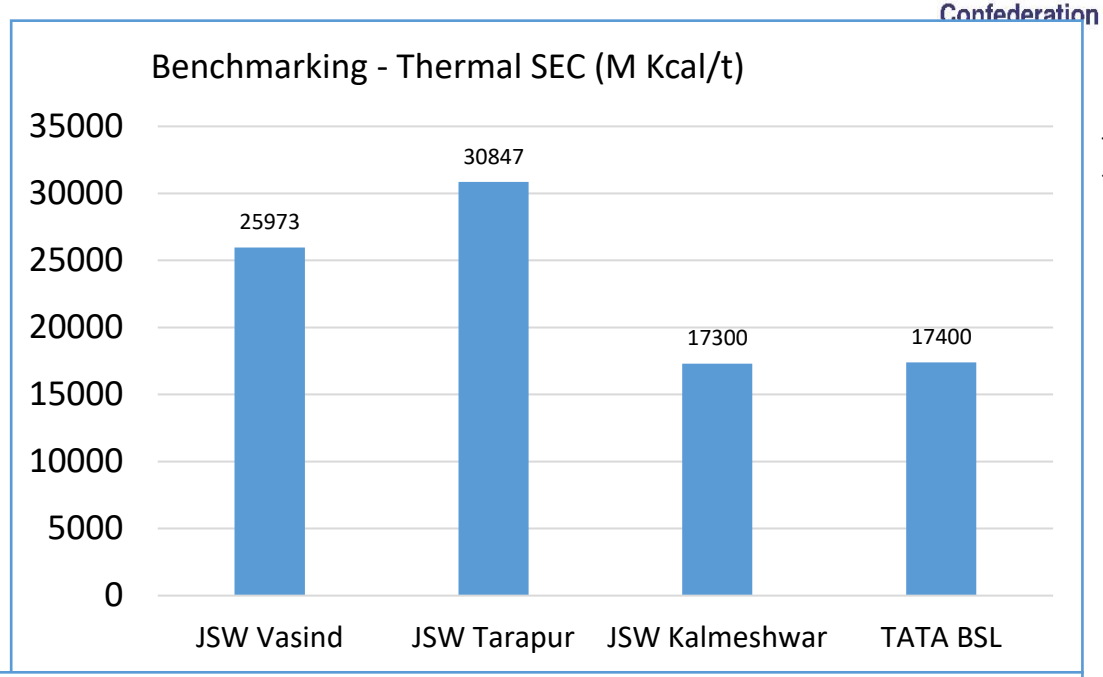
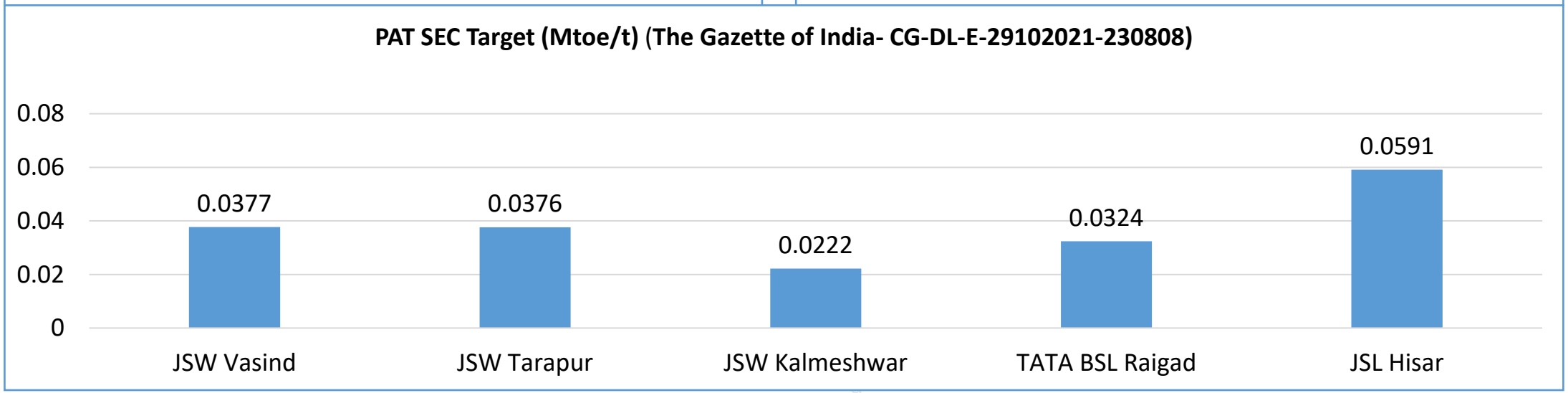




TATA BSL Data from CII ppt of FY'23



4. Energy Saving project implemented in last 3 years

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ENCON Measures FY 22

ENCON Measures	Electrical Savings (kWh)	Thermal Savings (GCal)	Savings (Rs Million)	Investment (Rs Million)	Payback (Months)
Installation of 1.3 million ton PLTCM with advance energy efficient technology	5000000	0	40.5	100	29.6
Fixed power optimization by speed increased from 65 to 100 mpm	1875000	0	15.2	70	55.3
CGL-1, Br5 M1 and Recoiler Motor cooling blowers replaced with low power high efficiency blowers.	25538	0	0.2	0.2	11.6
Reduction in Compressor Power by 1700 kWh/Day. A. Installation of Flow meter in air lines B. Leakage arrest at all unit. C. effective loading /unloading setting.	561000	0	4.5	0.7	1.8
Installation of pyrometer and close loop control of Induction oven and blower	340000	0	2.9	0.5	2.1
Total	7801538	0	63.33	171.40	4.4

With implementation of above measures we have saved 6708 Gcal of total energy & mitigated 6319 tCO_2 in FY:22

4. Energy Saving project implemented in last 3 years

ENCON Measures FY 23

Objectives (FY-23)	Potential Saving				Investment Required Rs Lac
	kWh/A	RLNG (MMBtu/A)	G Cal/A	Rs Lac/A	
Rectify the steam traps and increase the condensate recovery (2% Reduction in RLNG)	0	4080	1028	84	50
Install ControlAiR Intelligent Flow Control (IFC) System for air compressors (10% Red in Compressor Power)	620500	0	534	43	100
Replacement of Old inefficient motors with IE3/4 Motors (4% Red)	79200	0	68	6	20
Replacement of CT/LT of 5 nos. Old cranes slip ring control with VFD (20 Units/Day)	36500	0	31	3	25
CGL-2 CAG D1 blower replaced with high efficiency blower	323000	0	278	23	15
CRM-3 Fume Exhaust blower replaced with high efficiency motor	269000	0	231	19	15
CRM3-Conversion of DC to AC motors and speed increased from 450 to 1400 mpm to optimize power & increase productivity.	1250000	0	1075	88	6000
HBR and Calm section heater auto control	253440	0	218	25	10
DC to AC drive conversion system at RW 4	6558	0	6	0	60
Total	6870198	4080	6936	572	3795

With implementation of above measures we have saved 6936 Gcal of total energy & mitigated 5806 tCO_2 in FY:23

4. Energy Saving project implemented in FY'24

ENCON Measures FY 24

Sr.No	Objectives (FY-24)	Potential Saving				Investment (Million INR)
		kWh/A	RLNG (MMBtu/A)	G Cal/A	Rs Lac/A	
1	Replacement of CT/LT of Old cranes slipring control with VFD (CGL1 202	21900	0	18.8	2.0	0.5
2	CRS 1 - DC to AC conversion	184512	0	158.7	16.6	10
3	Installation of IIOT Based Predictive Maintenance Solutions	2686474	0	2310.4	241.8	8
4	CRM-4 cooling tower stopped and water taken from centralized cooling tower system	164250	0	141.3	14.8	0
5	CGL-3 Speed enhancement from 180 to 200 mpm	110477	0	95.0	9.9	0
6	Idle power consumption reduction at Plant Level:CCL3,CAL & PLTCM	3906986	0	3360	35.2	0
7	Installation of New RTO at CCL 2.	6426	25500	6426	300	55
8	Steam Optimization and Energy Efficiency Enhancement at PLTCM.	500000000	1296.65	326.76	12.32	8.2
9	Optimization of induction oven KW while line processing PPGL/PPGI material at CGL-3.	300000	0	258	24	0
	Total	6653763	26796.65	13095	656	81.7

With implementation of above measures we have saved 13095 Gcal of total energy & mitigated 6975 tCO_2 in FY:24

4. Energy Saving project implemented in last 3 years

Continual Improvement

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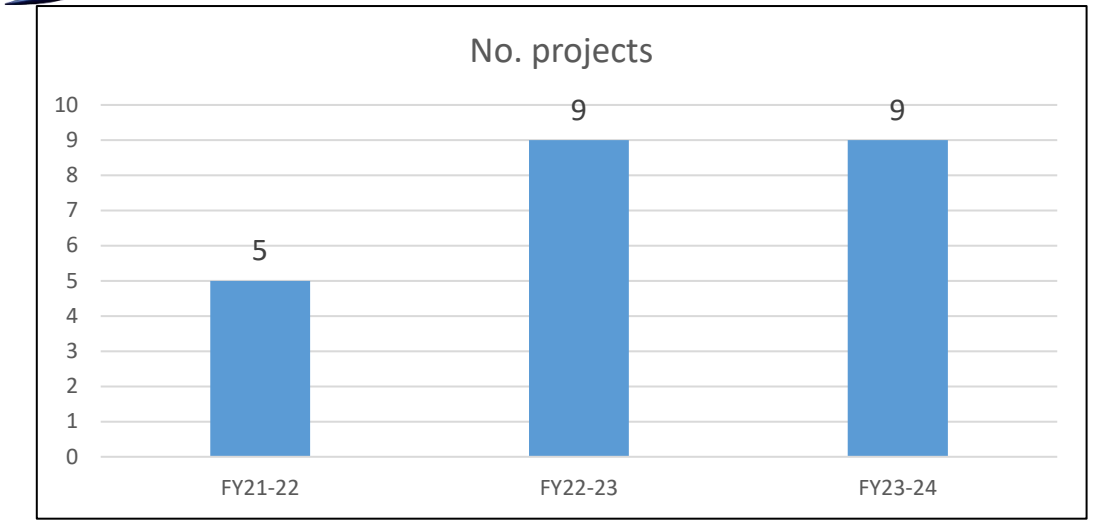

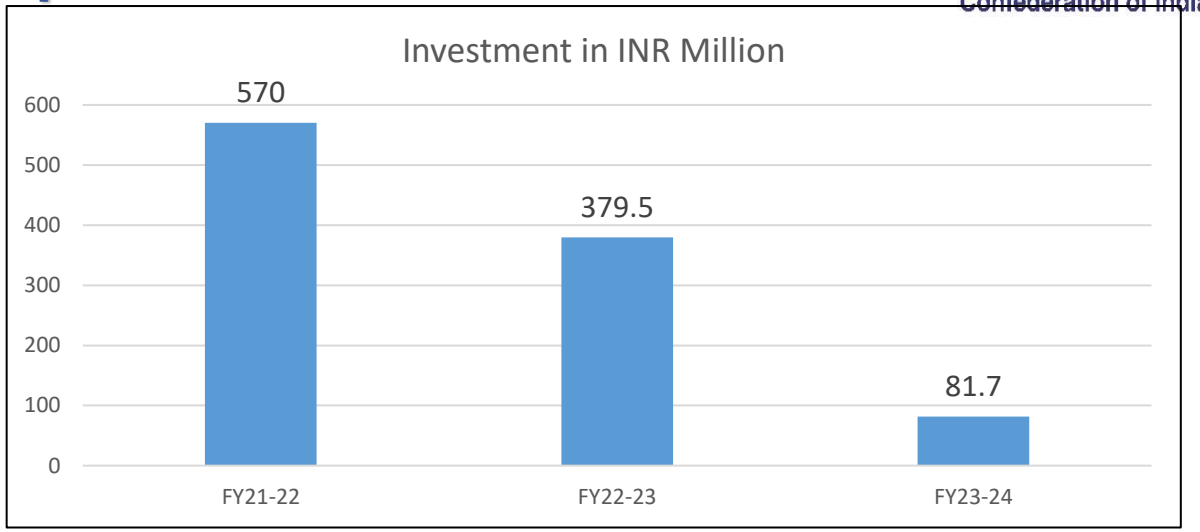

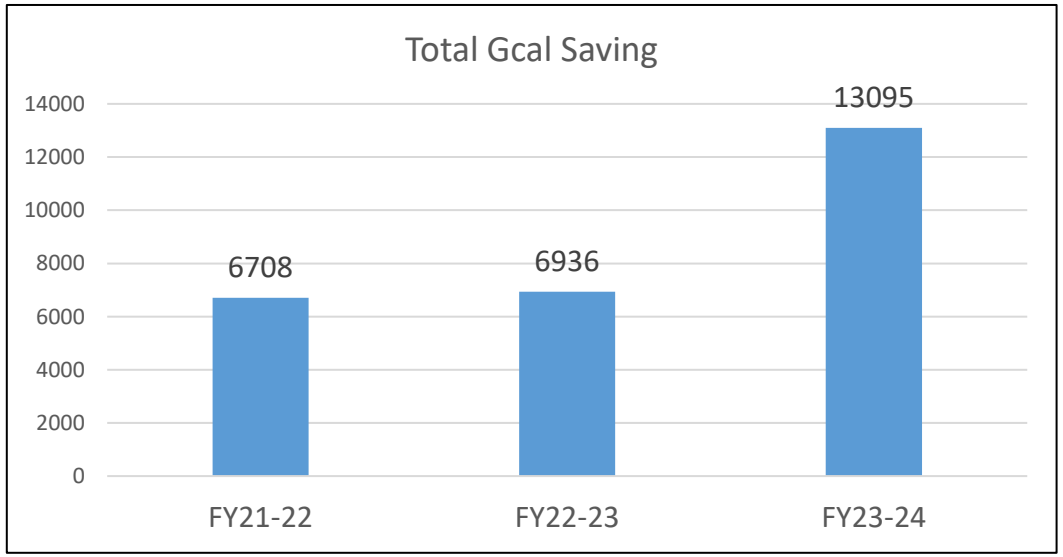

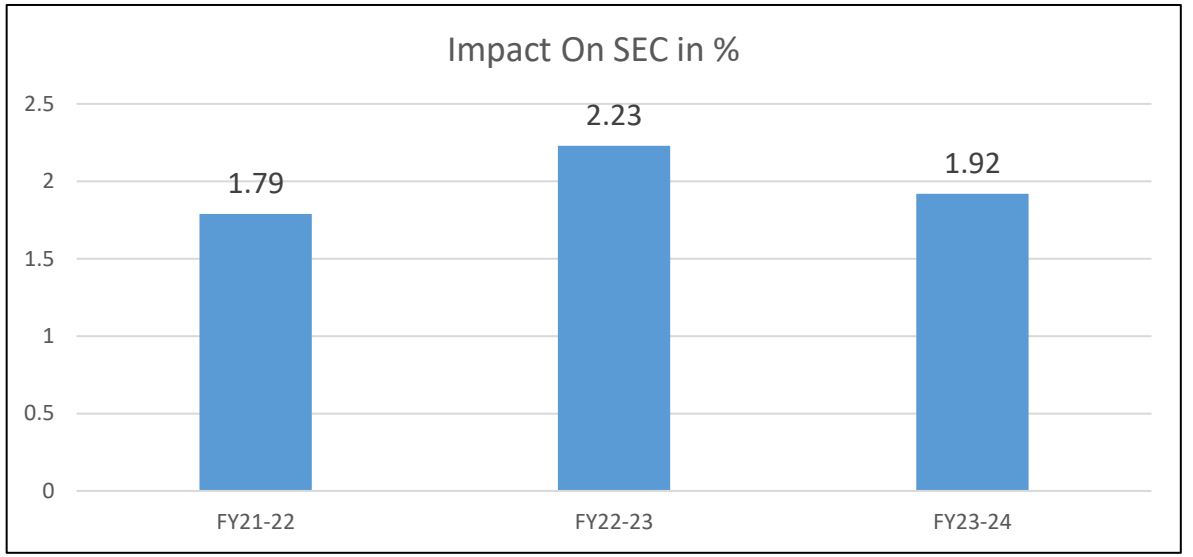

With the implementation of energy saving projects saved 26739 Gcal of total energy & mitigated 19100 tCO_2 in last three years

4. Energy Saving project planned for FY'25

Sr.No.	Process	Energy Saving Measures	Saving		Annual Energy saving	Annual Monetory Saving
			Power	RLNG		
			kWh	mmbtu	GCal	Rs
1	PLTCM	Steam Optimization and Energy Efficiency enhancement at PLTCM	36964	4604	1192	4324212
2	PLTCM	Switching off1 Compressor If CGL4/ CGL3/ PLTCM Line is down. Only 3 compressors will run	72000	0	62	576000
3	PLTCM	VFD Installation for MCC Blowers : Strip Dryer-2 nos, Blow off /Ventilation etc.	154113	0	133	1232904
4	PLTCM	VFD Installation for 75 Kw Scale breaker Exhaust Blower	65992	0	57	527936
5	PLTCM	Idle power consumption optimisation	3906986	0	3360	31255888
6	PLTCM	LP system trails to be taken with 4 pump instead of 5 pumps	695765	0	598	5566120
7	PLTCM	HP system trails to be taken with 4 pump instead of 5 pumps	749285	0	644	5994280
8	PLTCM	Entry LP system trails to be taken with 4 pump instead of 5 pumps	508443	0	437	4067544
9	Vasind	Replacement of V belt at with cogged/Flat belt	141120	0	121	1128960
10	CMR3	IR Compressor:- This compressor along with two no's of Atlas compressors are used to cater compressed air requirements of CGL#2 , CRCA , Rolling & Pre-rolling section	98885	0	85	791080

4. Energy Saving project planned for FY'25

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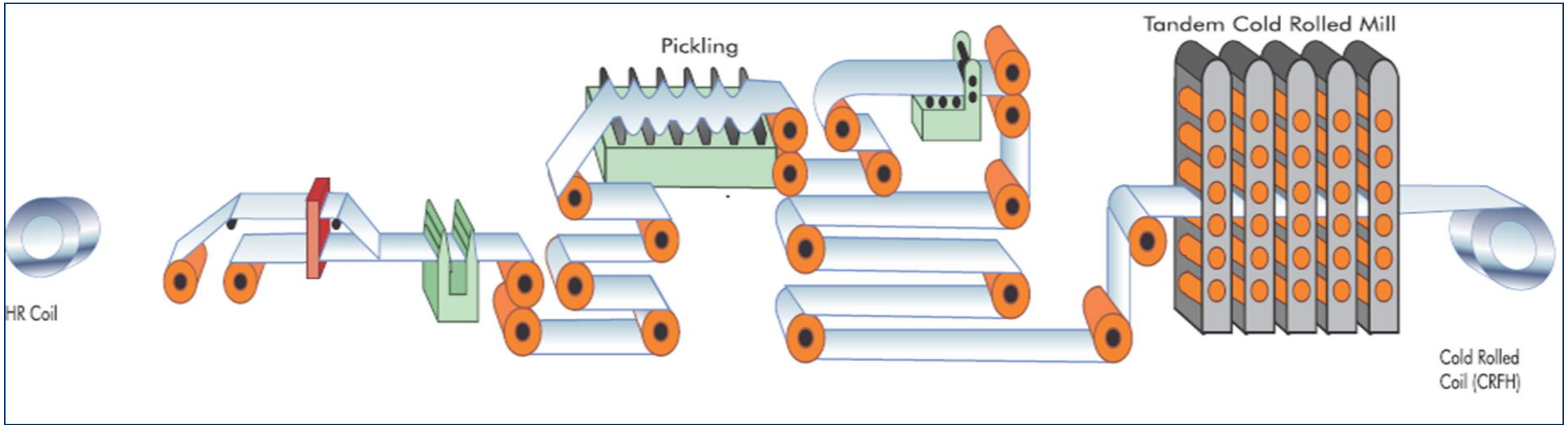
Sr.No.	Process	Energy Saving Measures	Saving		Annual Energy saving	Annual Monetory Saving
			Power	RLNG		
			kWh	mmbtu	GCal	Rs
11	CGL1&2	Reduce the radiation loss of furnace in CGL-1&2	0	11158	2812	9763250
12	CGL 3 &4	Hot air dryer auto-off while SPM is offline	381600	0	328	3052800
13	CGL 3 & 4	Coater blower auto control with pyrometer	72000	0	62	576000
14	CGL 3&4	Coater blower and oven control at max 10% while coater unit is not in use	2058000	0	1770	16464000
15	CGL 3 &4	CAG blower rmp control at 30% capacity when line speed is below 35 mpm.	3720000	0	3200	29760000
16	CAL	N2-H2 auto control to Reduce the hydrogen and Nitrogen consumption			0	0
17	CGL2	CAG D1 blower to be replaced with high efficiency blower	323000		278	2584000
18	CGL2	Installation of Inverted U type furnace at CGL 2	0	16800	4234	14700000
19	CCL-3	Looper (both) lubrication pump to be stopped after 30 minutes of line stoppage	4320	0	4	34560
20	CCL-3	Hot Air blower to be stopped after 30mint of line stoppage	21600	0	19	172800
21	CCL-3	Uses of finish coat T3 Head	500000	7500	2320	10562500
22	Plant Level	Installation of roof top solar panels in Opex model at Vasind	4032000	0	3467.5	36288000
		Total	**17542073**	**40062**	**25184**	**179422834**
		Impact on SEC			**2.21%**	

With implementation of above measures we will be able to saved 25184 Gcal of total energy & mitigated 13952 tCO_2 in FY:25

5. Innovative Project Implemented

Project-1. ENERGY SAVING FROM OPTIMIZATION OF IDLE POWER CONSUMPTION IN PLTCM LINE

- PLTCM is Consuming 35 percent of Total power in Plant So, for Optimization with Zero Investment this Step has been Taken.



PL

1. PL Hydraulic section.
2. Lubrication Units and Blowers etc.

More Energy Consuming Area

TCM

1. Compressors & TCM Hydraulic section.
2. Lubrication Units and Blowers etc.

5.Innovative Projects Implemented (Project-1)

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Energy Savings (in Kwh) after switching off Non-essential Pumps, blowers Compressors & Power Packs In SSD and breakdowns

Month	SSD (Hrs)	PLTCM Unit Consumption(Kwh)	Production MT	Sec Kw/t	Energy Unit Savings (Kwh)	Cost Savings (Lacs INR)
FY'23	486	63223600	779455	81.3		
FY'24	438	74065640.2	992837	74.6	6652008	598..7
FY'25 (Upto Aug-24)	186	30411693	433215	70.2	1906146	171.5
FY'25 (ABP) Projected			1140000		5016000	451.4

Before SOP Implementation

After Manual Idle power SOP Implementation

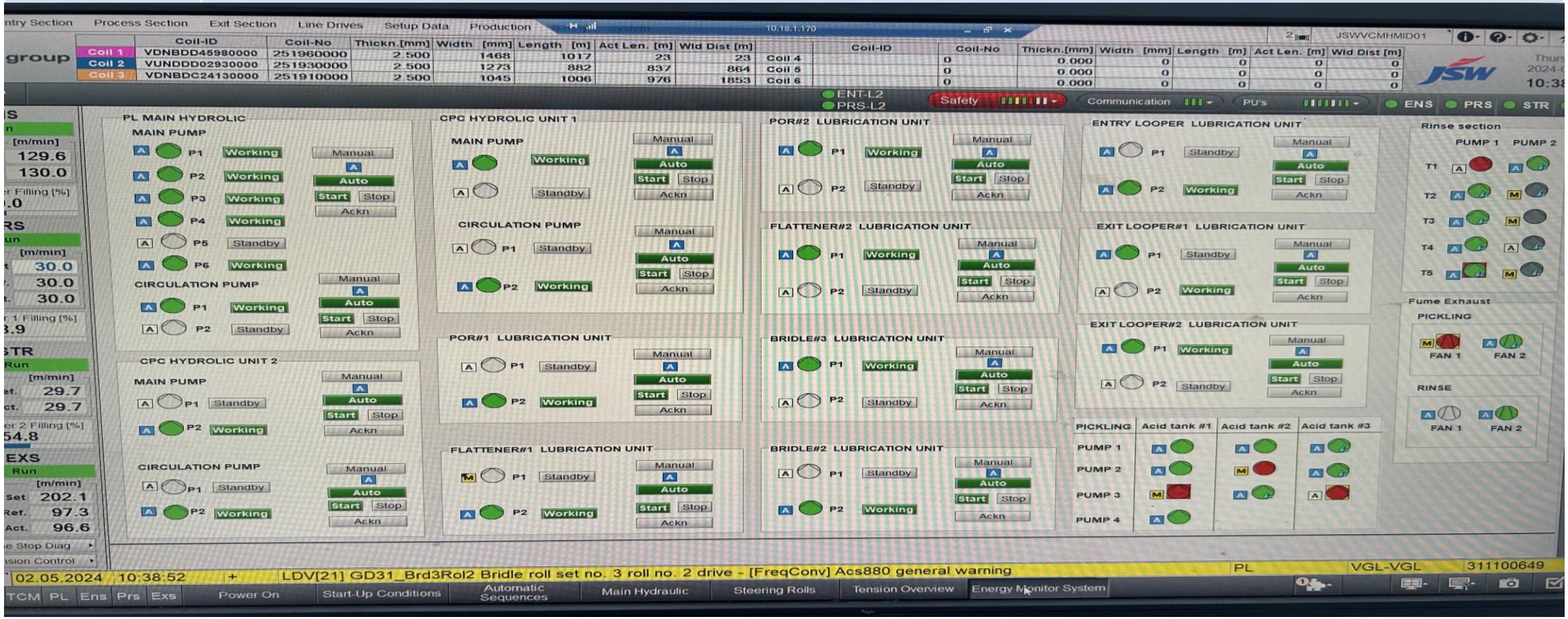
After Logic based idle power SOP Implementation

Logic based Idle power sop has been implemented in all process units and 1.5 % reduction in total power consumption is projected to be achieved in FY'25

5.Innovative Projects Implemented

Project-1. ENERGY SAVING FROM IDLE POWER CONSUMPTION IN PLTCM LINE

Equipment's	Initiative
PLTCM	In PLTCM HMI Screen Modified for Idle power and Power saving monitoring during SSD and Long breakdowns . Logic based SOP Implemented and horizontally deployed to all process units. Pic Attached



5. Innovative Project Implemented

Project-2. Installation of Inverted U-type furnace

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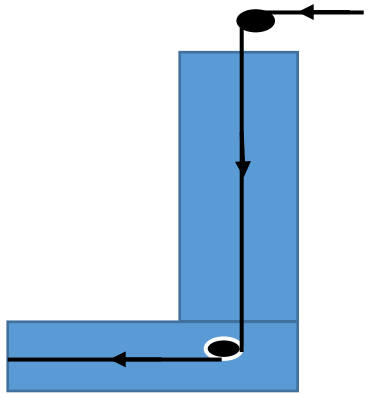
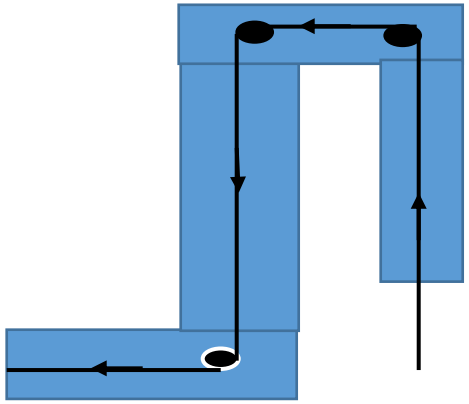
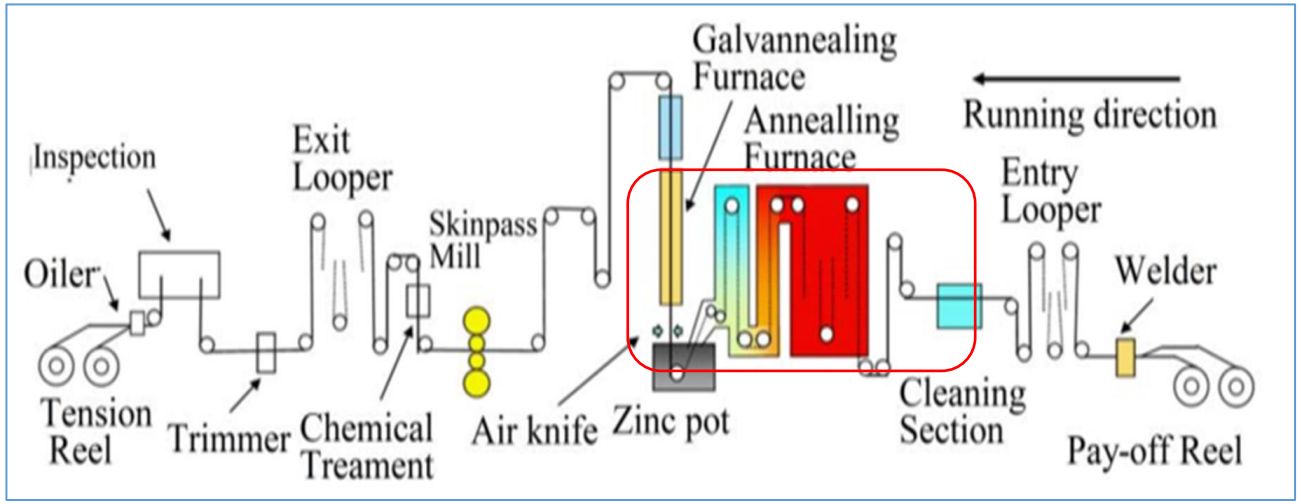
Existing "L" Type Furnace



Modified Inverted U type Furnace





1. The Specific Energy Consumption at Galvanizing lines with(L type furnace) was on higher side
2. With the installation of Inverted U type Furnace and in-line skin-pass mill at our newly commissioned CGL 3 & 4 line the SEC has reduced tremendously.
3. **Reduction in SEC by 0.04 Gcal/t (10338 Gcal/A)**
4. **Quality and productivity improved and Reduction in CR Scrap by 50% as compared to CGL with L-type furnace**
5. **3 out of 4 CGL unit converted to efficient U-type furnace and one is under progress, will be completed in FY'25**

Unit	CGL(L-type Furnace)	CGL(U-type Furnace)	
Power SEC (Kw/t)	112.67	83.4	29.27
RLNG SEC (MMBtu/t)	0.80	0.71	0.09

4. Innovative Project Implemented

Project-3: Optimization of induction oven KW while line processing PPGL/PPGI material

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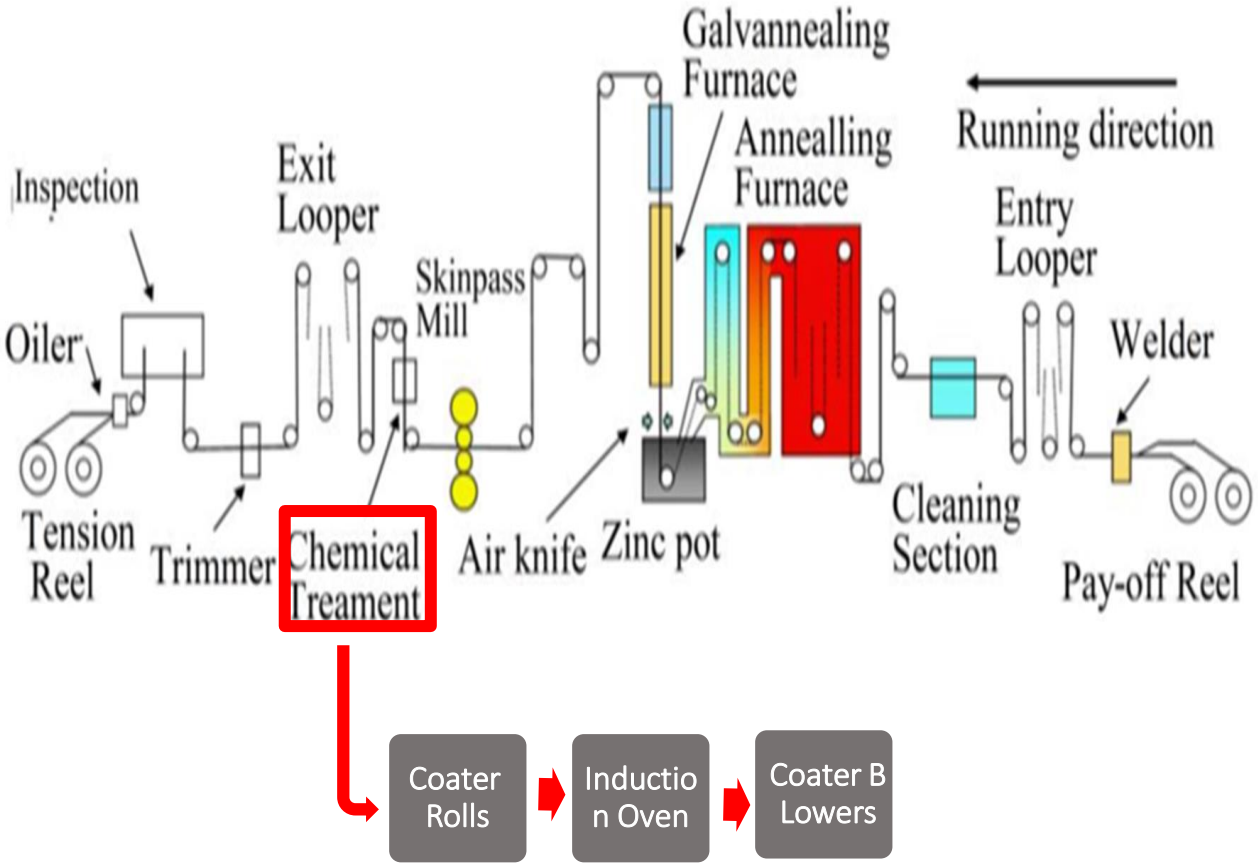

Oven KW at 50% Power Reference (475 units)

Oven KW at 10% Power Reference (95 units)

With zero Investment

Induction Oven Rated Power (in KW) = 950 KW

Average Power saving per hour = 475-95
= 380 Units

Average Power Saving Per Month = 380*245
= 93100 Units

Average Saving in Rs Per Month = 93100*8
= Rs. 837900

20 % of total GI/GL produced goes for further processing at CCL line as PPGI/PPGL finished goods, during which chemical coating is not required. So it's induction oven and blowers power can be optimized.

5. Innovative Project Implemented

Project-4: Installation of IIOT Based Predictive Maintenance Solutions

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Location- PLTCM,CGL-3&4 and Utilities

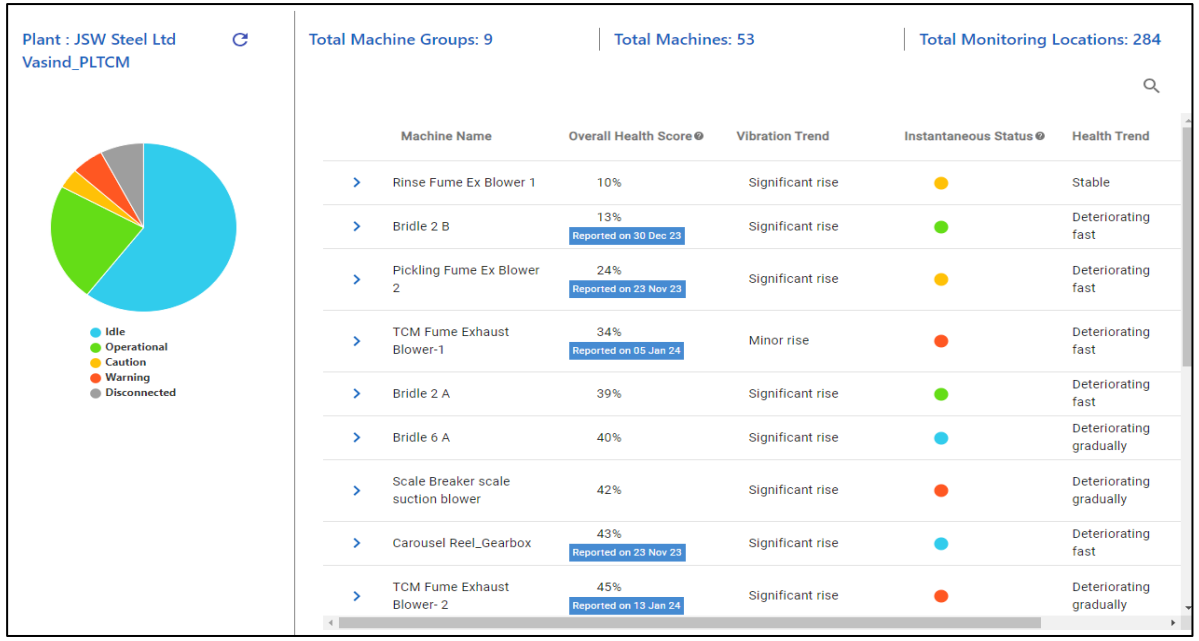
Investment: 0.55 Cr

1. Business problem:

PLTCM with total capacity of 1.3MTPA and CGL-3,4 with 1 MTPA, is critical for achieving the ABP of Vasind coated business for that line utilization should be maximum and unplanned failure should be minimum we didn't had CBM for monitoring of equipment condition and identify problem before resulting them into unplanned downtime which was impacting the line utilization and productivity

2. Solution:

Installation CBM sensors and system for monitoring of equipment condition and identify problem before resulting them into unplanned downtime which can impact line utilization and productivity



3. Benefits:

Continuous monitoring of equipment health and condition and Analysis based Diagnostic Alert incase any equipment condition deteriorate from the baseline limit so that action can be taken before resulting it into a unplanned downtime.

4. Status:

Project Started : 18th-Nov-22
Observation period : One Year
Present status : Completed
Saving: Reduced down time and increased productivity which resulted in Energy consumption reduction of 2686474 Kwh/Annum and resulted in financial saving of 241 Lakhs INR

Predictive Maintenance using infinite uptime at PLTCM, CGL-3 &CGL-4			
Sr No	Unit	Down time Saving (Hrs)	Production (t)
1	PLTCM	95	24161
2	CGL-3	94	3384
3	CGL-4	165	9900

6. Utilization of renewable Energy Sources

Renewable Energy generation

Confederation of Indian Industry

Installation of Root Top Solar Panels JVM School and cafeteria

Use of Transparent Sheet for natural lighting in plant

Use of ECO - VENTILATOR

Rain Water Harvesting

Financial year	Technology (Electrical)	Type of Energy	Onsite/ Offsite	Solar System (kWp)	Solar Power (kWh)	Total power used Million kWh	% Used
FY 21	PV	Solar	Onsite	5.5	92294	85.5	0.11
FY 22	PV	Solar	Onsite	5.5	90294	186.2	0.05
FY 23	PV	Solar	Onsite	5.5	90294	188.2	0.05
FY 24	PV	Solar	Onsite	5.5	90294	188.2	0.05

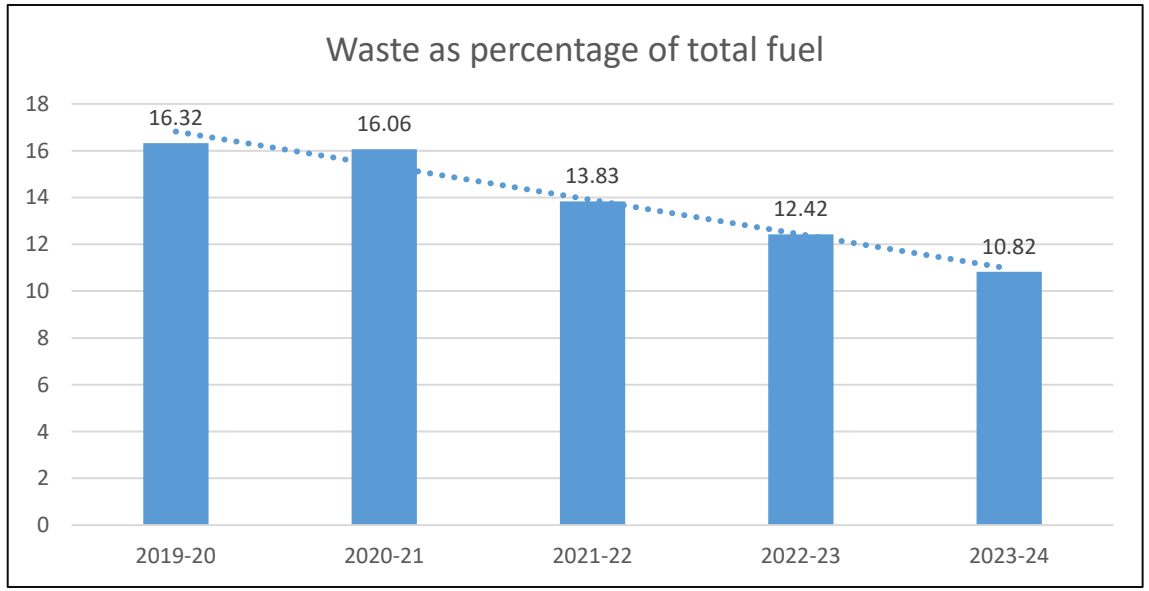
FY	Captive Power Consumption (JSW Energy+DG Set+CPP)	Applicable Composite RPO	Applicable Renewable Energy Certificates
	Vasind	Vasind	Vasind
	MU	MU	Nos
FY 2020-21	95.54	9.62	9618
FY 2021-22	186.22	19.08	19079
FY 2022-23	218.91	22.49	22487
FY 2023-24	268.82	27.61	27614
Total	**852.70**	**87.27**	**87265**

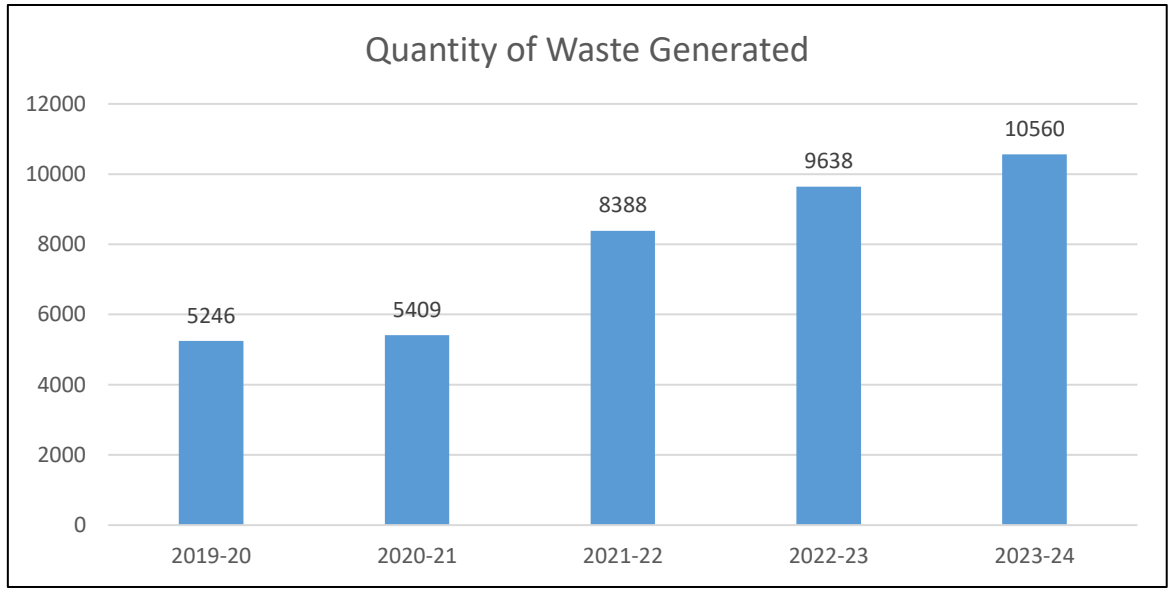
Actual FY : 21-22	Target FY-23	cumulative FY: 22-23	Target FY-24	Actual FY-24
Specific Water Consumption	Specific Water Consumption	Specific Water Consumption	Specific Water Consumption	Specific Water Consumption
M3/MT	M3/MT	M3/MT	M3/MT	M3/MT
0.26	0.37	0.23	0.26	0.29

Installed ZLD unit of 1500 KLD and achieved 45% reduction in fresh water consumption

7. Waste Utilization and Management

S. No.	Year	Waste Details	Quantity	GCV kCal	Heat Value M kCal	Waste as percentage of total fuel
1	2019-20	Paint VOC	5246	7000	36722	16.32
2	2020-21	Paint VOC	5409	7000	37863	16.06
3	2021-22	Paint VOC	8388	7000	58720	13.83
3	2022-23	Paint VOC	9638	7000	67466	12.42
3	2023-24	Paint VOC	10560	7000	77586	10.82





*VOC- Volatile organic compound

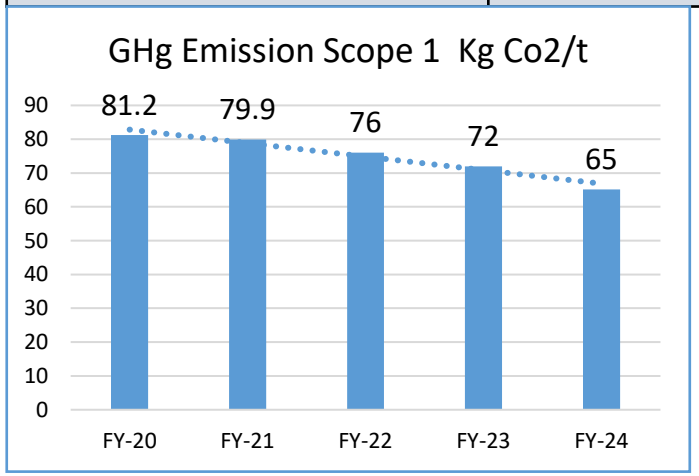
8. GHG Inventorization

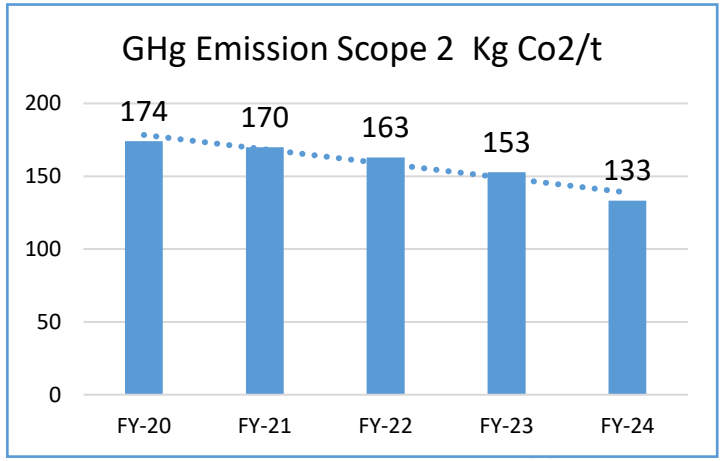
Confederation of Indian Industry

Sr No	Detail of Area Green Zone	Area (Sq Mtr)	Total Trees	Shrubs	Lawn Sq Mtr
1	Factory inside	40676	1800	8500	25800
2	R.C Farm House, Guest House	91475	2500	8000	85000
3	SVTC, Other open Space	42000	350	100	1500
4	Colony 1,2,3	21866	650	1500	21866
5	Miyawaki & Bio diversity Park	24276	24474	6800	24276
		220293	**29774**	**24800**	**158442**

As on Date --->	8568	17235	102555
Total Tree planted -→	**153132**		
CO2 t / year Offset	30626.4		

Calculation based on Carbonify.com 5 trees for 1 ton of CO2 /year





Sustainability and GHG CO2 emissions

Target to reduce the CO2 Emission by 3% in FY-25 and to become Carbon neutral plant by Fy-30, by adopting following initiatives-

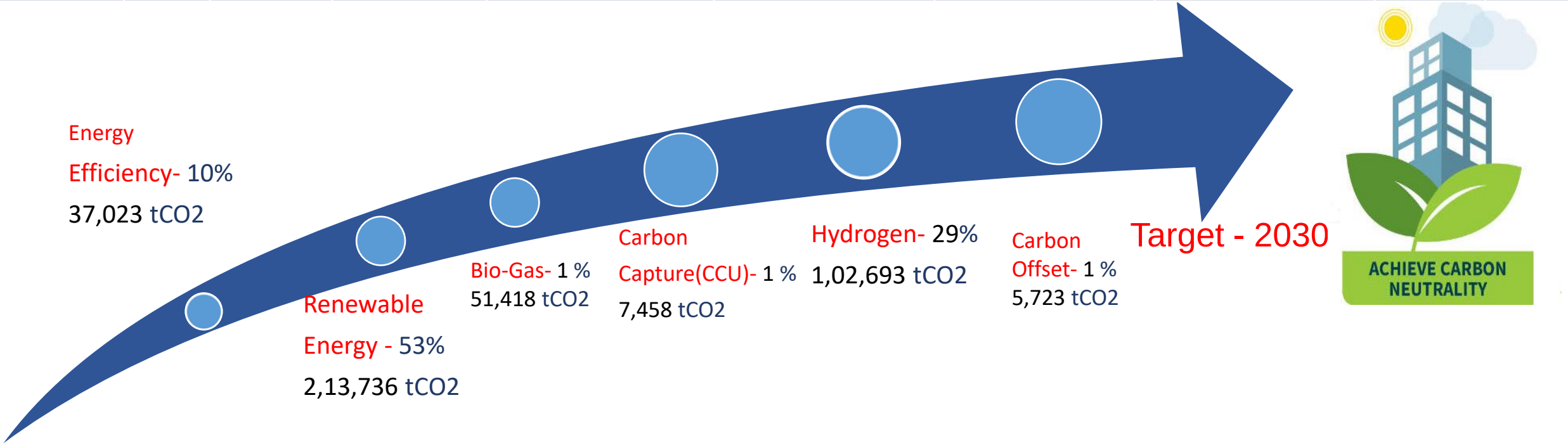
1. **Conversion of DC to AC for both the Old Cold rolling Mills- FY-23(CRM-3 revamping completed)**
2. **Installation of 35 MWp Solar power plant by JSW Energy for coated business-FY-25**
3. **Use of Hydrogen in Furnace**
4. **Replacement of all the old AC motors with IE-3 Motors- FY-26(more than 70% motors are IE3/4)**
5. **Plantation of 500000 trees till FY-30 every year -5000**
6. **Miyawaki & Bio diversity Park – 24474 trees of 35 verities have been planted in FY'24 on 6 Acre land allotted by Forest dept.**

We report GHG data to JSW group's headquarters every year, same is being reported in Annual JSW-Climate-Action-Report

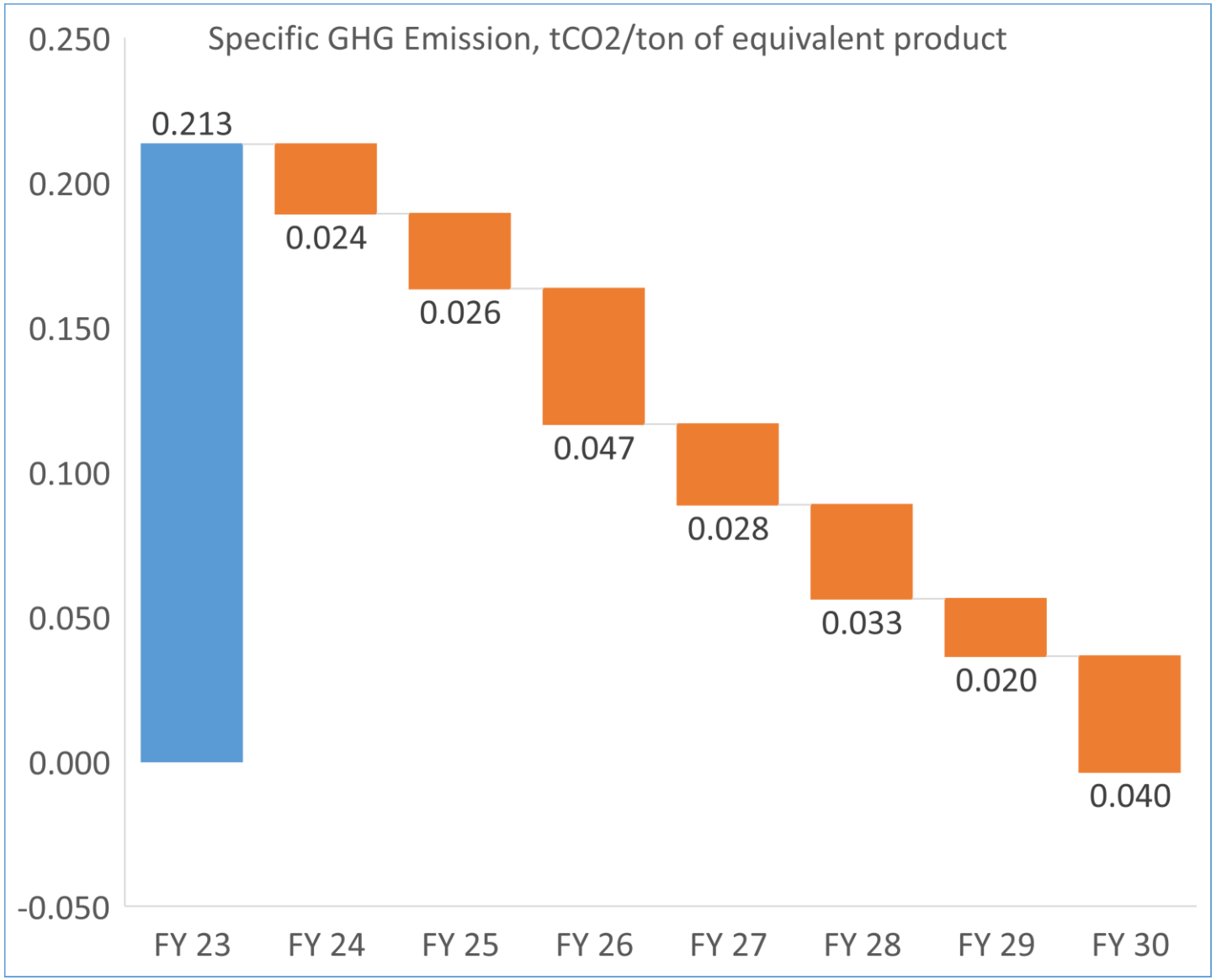
9. Roadmap towards Net-Zero emissions – Carbon Neutrality

Confederation of Indian Industry

Parameter	Unit	VASIND	Reduction in 10% Energy Consumption	Replacement of 59% Electrical Power by Renewable Energy	Reduction in 13 % GHG emission using Bio-Gas	Reduction in 1 % GHG emission using CCU	Reduction in 29 % GHG emission using Green Hydrogen	Reduction in 1 % GHG emission using Carbon offset	Final Carbon Emission
CO2 Emission	tCO2	4,00,539	- 37,023	- 2,13,736	-51,418	-7,458	-1,02,693	- -4,143	0
	%	100	10	53	13	1	26	1	0



9.Roadmap towards Net-Zero emissions – Carbon Neutrality

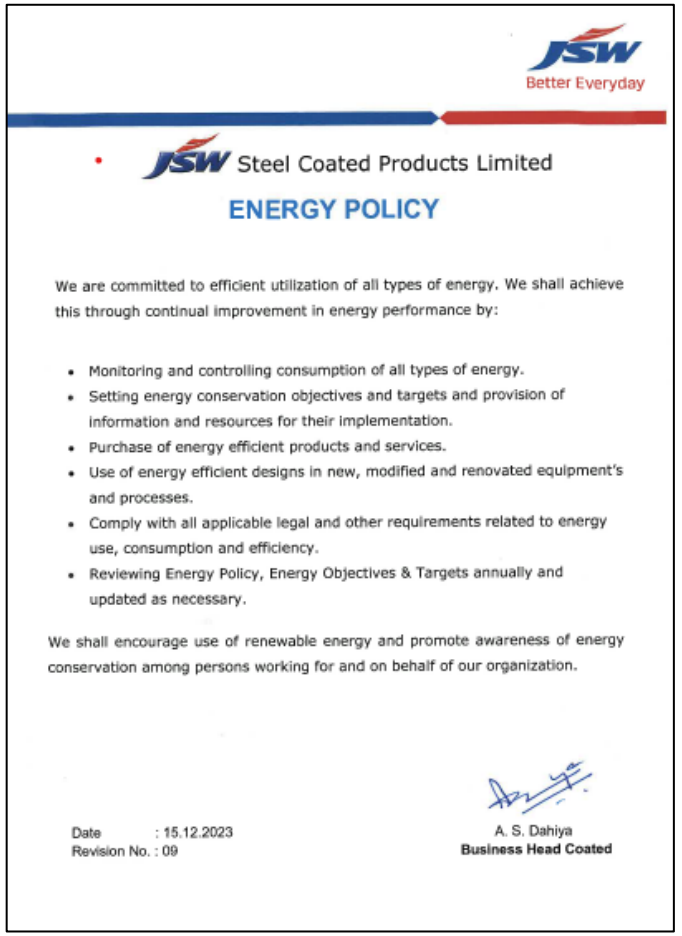


Month Year	Project	Reduction, TCO2/TCS
Aug-26	53 MW Solar Renewable power	0.065
FY26	CCU	0.003
FY23-FY30	Energy Efficiency	0.025
FY27	Hydrogen use in furnace - CDS5	0.015
FY28	Hydrogen use in furnace	0.014
FY29	Hydrogen use in furnace	0.021
FY28	RE part-2	0.043
FY29	RE part-3	0.032

10. EMS and Other requirements

ISO System Implementation

Energy Policy	Board Displayed, Awareness sessions
ISO 50001	Energy Review, SEU , EnPI
Annual Objective	EC--> COC→ OPCOM→ Individual KRA
Audits	Internal Cross location audits, External Audits
Review	SPICE, Daily, Weekly, Monthly
Monitoring	Power & Fuel consumption Monitoring through EMS
Training	Internal, External, Technical, EnMS trainings



JSW Better Everyday

JSW Steel Coated Products Limited

ENERGY POLICY

We are committed to efficient utilization of all types of energy. We shall achieve this through continual improvement in energy performance by:

- Monitoring and controlling consumption of all types of energy.
- Setting energy conservation objectives and targets and provision of information and resources for their implementation.
- Purchase of energy efficient products and services.
- Use of energy efficient designs in new, modified and renovated equipment's and processes.
- Comply with all applicable legal and other requirements related to energy use, consumption and efficiency.
- Reviewing Energy Policy, Energy Objectives & Targets annually and updated as necessary.

We shall encourage use of renewable energy and promote awareness of energy conservation among persons working for and on behalf of our organization.

Date : 15.12.2023
Revision No. : 09

A. S. Dahiya
Business Head Coated

10. EMS and Other requirements

ISO System Implementation

Confederation of Indian Industry

Audit

- BEE Energy Audit
- ISO Audits
- External Audits

Review

- S — Safety Systems, Compliance & Governance
- P — People
- I — Innovation & Quality Management
- C — Customer Delight
- E — **Energy,** Environment & Safety


IRCLASS SYSTEMS AND SOLUTIONS PRIVATE LIMITED
CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Quality Management Systems of
Organisation: JSW Steel Coated Products Limited
Address: Head Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051
Vasind Site: At Post Vasind, Tal. Shahapur, Dist. Thane - 421 604
Tarapur Site: B-6 & B-7/1, MIDC, Tarapur, Industrial Area, Navapure Road, Boisar, Taluka & District Palghar - 401 506
Support Locations & Scope: Refer Annexure
has been assessed and found conforming to the following requirement
Standard: ISO 9001:2015
Scope: Manufacture, Marketing and Supply of Steel Rolled Products, Coated Products and Tin Plated Products
Certificate No.: IRQS/200100798
Original Certification Date: 20/12/1996
Current Date of Granting: 17/12/2020
Expiry Date: 16/12/2023

Shashi Nath Mishra
Head IRQS

Head Office: 52A, Adi Shankaracharya Marg, Opp.Powai Lake, Powai, Mumbai - 400 072, India.

QMS
ISO 9001 2015


IRCLASS SYSTEMS AND SOLUTIONS PRIVATE LIMITED
CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Occupational Health & Safety Management Systems of
Organisation: JSW Steel Coated Products Limited
Address: Site 1: Vasind, Tal: Shahapur, Dist: Thane, Pin Code - 421 601
Site 2: B-6, Tarapur MIDC, Navapur Road, Boisar, Tal:Palghar, Dist: Palghar, Pin Code - 401 506
has been assessed and found conforming to the following requirement
Standard: ISO 45001:2018
Scope: Vasind: Manufacture & Dispatch of Cold Rolled, Cold Rolled Close Annealed, Galvanized, Galvalume, Colour Coated Steel Products. Tarapur: Manufacture & dispatch of Cold Rolled, Cold Rolled Close Annealed, Tin Mill Black Plates, Galvanized, Galvalume, Colour Coated Steel Products, Tin Plate and Tin Free Steel Products
Certificate No.: IRQS/32040046
Original Certification Date: 31/03/2016
Current Date of Granting: 29/03/2022
Expiry Date: 28/03/2025

Shashi Nath Mishra
Head IRQS

OHSAS
ISO 45001 2018


IRCLASS SYSTEMS AND SOLUTIONS PRIVATE LIMITED
CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)

This is to certify that the Environmental Management Systems of
Organisation: JSW Steel Coated Products Limited
Address: Village: Vasind, Tal: Shahapur, Dist: Thane, Pin Code - 421 601
Tarapur: B-6, Tarapur MIDC, Navapur Road, Boisar, Tal:Palghar, Dist: Palghar, Pin Code - 401 506.
has been assessed and found conforming to the following requirement
Standard: ISO 14001:2015
Scope: Vasind: Manufacture & Dispatch of Cold Rolled, Galvanized, Galvalume, Colour Coated Steel Products. Tarapur: Manufacture & Dispatch of Cold Rolled, Galvanized, Galvalume, Colour Coated Steel Products, Tin Plate and Tin Free Steel Products
Certificate No.: IRQS/2103006662
Original Certification Date: 16/04/2018
Current Date of Granting: 15/04/2021
Expiry Date: 14/04/2024

Shashi Nath Mishra
Head IRQS

EMS
ISO 14001 2015


IRCLASS SYSTEMS AND SOLUTIONS PRIVATE LIMITED
CERTIFICATE OF APPROVAL
Issued by Indian Register Quality Systems
(A Division of IRCLASS Systems and Solutions Private Limited)
This is to certify that the Energy Management Systems of
Organisation: JSW Steel Coated Products Limited
Address: Tarapur Works: B-6, M.I.D.C., Tarapur, Boisar, Dist. Thane - 401 506. Maharashtra,India
Vasind Works: Village-Vasind, Taluka : Shahapur, Dist. Thane - 421 604
has been assessed and found conforming to the following requirement
Standard: ISO 50001:2018
Scope: Manufacture of Steel Rolled, Coated Products and Tin Plated Products Tarapur Location Manufacture of Steel Rolled, Coated Products and Tin Plated Products Vasind Location Manufacture of Steel Rolled and Coated Products
Certificate No.: IRQS/221000358
Original Certification Date : 07/04/2016
Granting of NABCB Certificate: 10/07/2019
Current Date of Granting : 05/04/2022
Expiry Date : 04/04/2025

Shashi Nath Mishra
Head IRQS

EnMS
ISO 50001 2018

Identification of SEU's For-Fy 23-24 Location - Vasind Process - All

DCN Plant Code -Department Code-Process Name-Serial No. Rev- XXX Rev Date...xxxxxx

Sr. No.	Process / Equipment	Production (t)	Consumption /Year				Thermal Consumption/year in Gcal				Total Energy	Consumption in %			Annual Saving Potential of Energy Consumption			% Annual Saving Potential of Energy Consumption			Legal requirement	Top Management guidelines	Significant Energy Use (SEU)	Selection Criteria (Select 1,2 or 3, 4 as given below)
			Power	RLNG	FO	Steam	RLNG	FO	Steam	Total		% of Total Power	% of Total Thermal	% of Total Energy	Electrical Energy	Thermal Energy	Total Energy	Electrical Energy	Thermal Energy	Total Energy				
			KWh	MMBtu	t	Kg	Gcal	Gcal	Gcal	Gcal	GCal	%	%	%	Lakh kWh	GCal	GCal	%	%	%	Y/N	Y/N	Y / N	
	Total		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!				

Criteria -1 : More than 8 % of total power or total thermal or total energy used to be considered as Significant.*(Applicable for Vasind)*
Criteria -2 : 2% Annual Saving of Energy Consumption. **Criteria 3** - Legal requirements other than PAT & RPO **Criteria -4** : Top management guidelines .

Methodology for deciding the SEU's priority

Name of SEU	Annual Saving Potential of Energy Consumption	Investment Required	Required Down Time	Annual Saving Potential of Energy Consumption (Gcal)	Investment required	Required down time	Score	Priority (P1..P2... etc..)
	GCal	Rs in Lacs	Days	A	B	C	A X B X C	*
							0	P1
							0	P2
							0	P3
							0	P4
							0	P5
							0	P6
							0	P7

* * = Priority of SEU to be decided based on above methodology in descending order of score . Eg. P1 top priority and so on...

A) Annual Saving	
5	More than 1000
4	More than 500
3	More than 250
2	More than 100
1	Less than 100
0	Not Identified

B) Investment required (Rs.	
5	Less than 10 lacs
4	More than 10 lacs
3	More than 15 lacs
2	More than 25 lacs
1	More than 50 lacs
0	Not Identified

C) Required down time	
5	Less than One day
4	Less than three days
3	Less than five days
2	Less than seven days
1	More than seven days
0	Not Identified

Methodology for deciding the SEU on % Annual Saving Potential of Energy Consumption

% Annual Saving Potential of Energy Consumption in Electrical Energy or Thermal Energy or Total Energy in respective process	2%

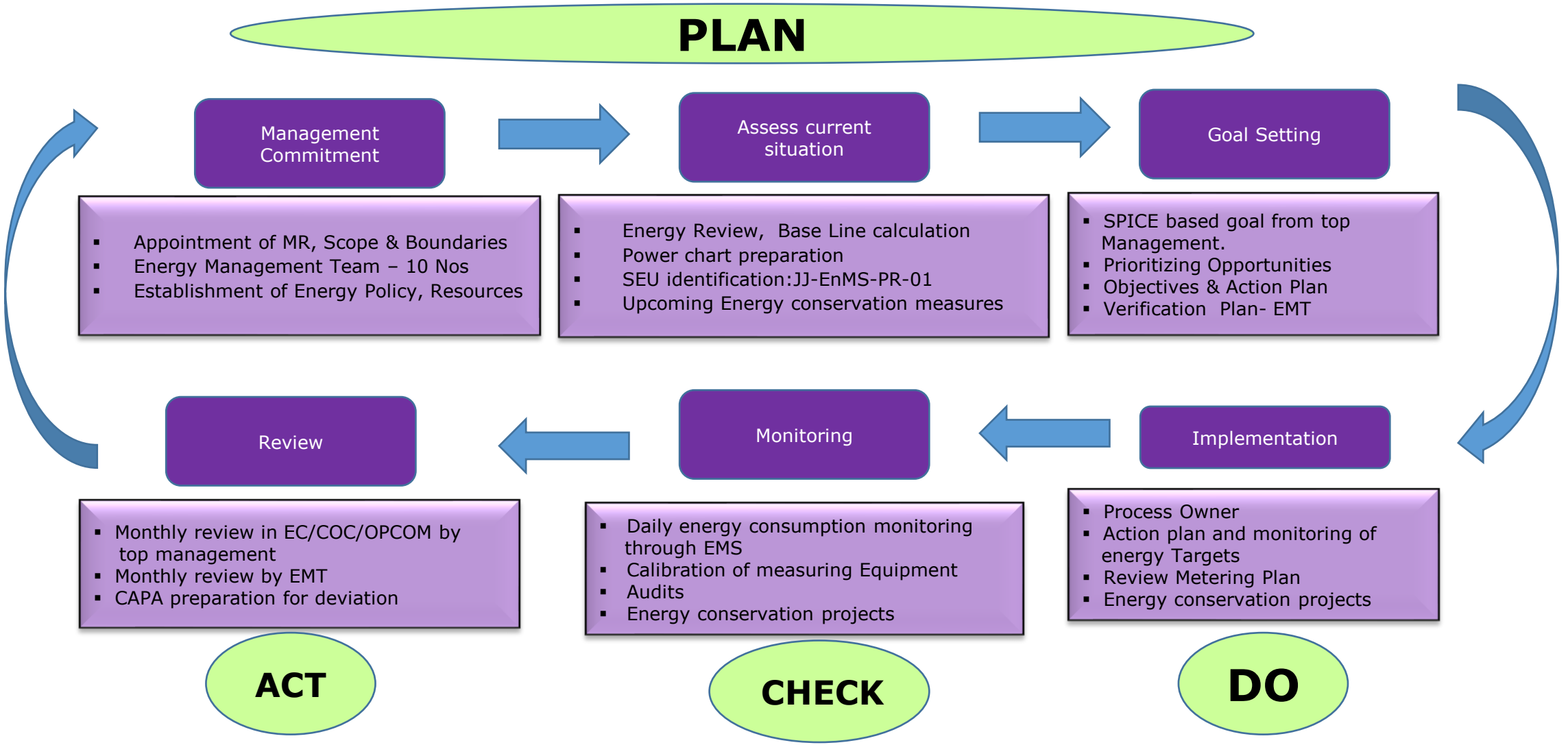
Prepared and Verified EMT — APPROVED BY HOD

Distribution through E-mail to concerned HOD's

DCN : JJ-EnMS-PR-01, Rev.1, Effective from 1st Oct,2021

10. EMS and Other requirements

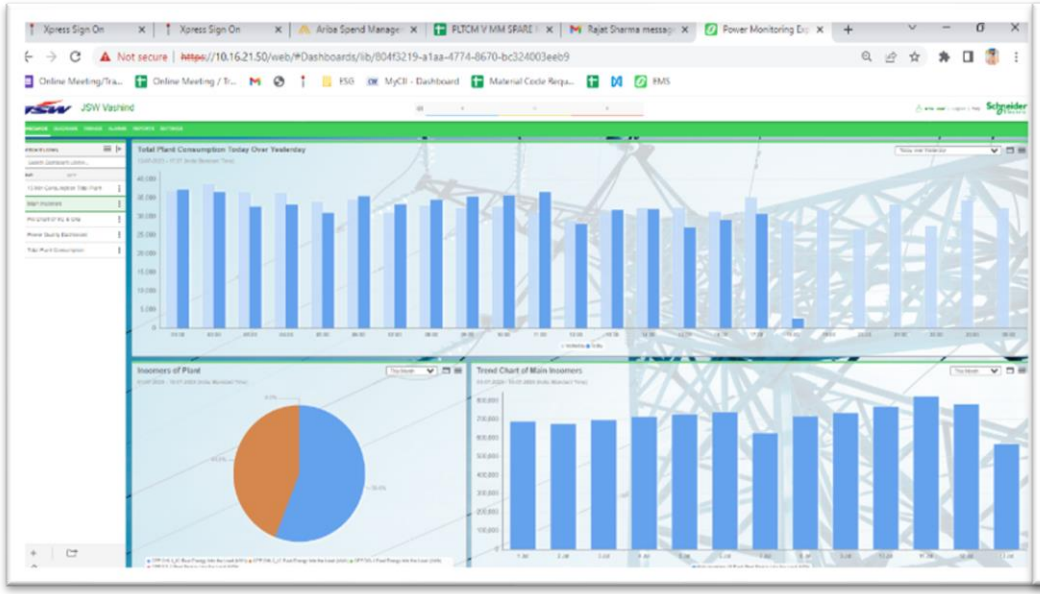
Monitoring of EnMS

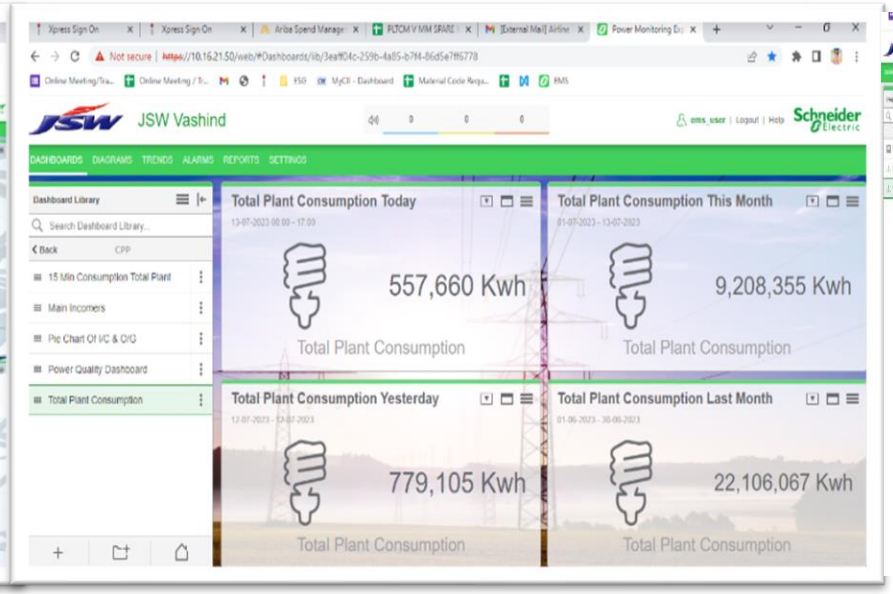


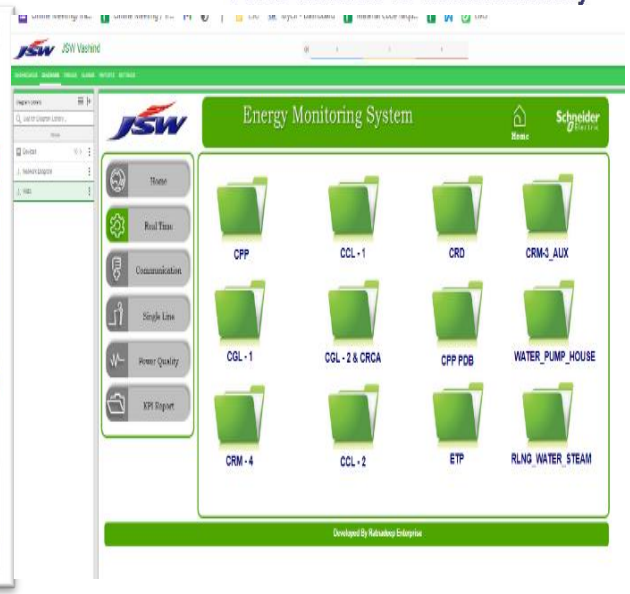
10. EMS and Other requirements

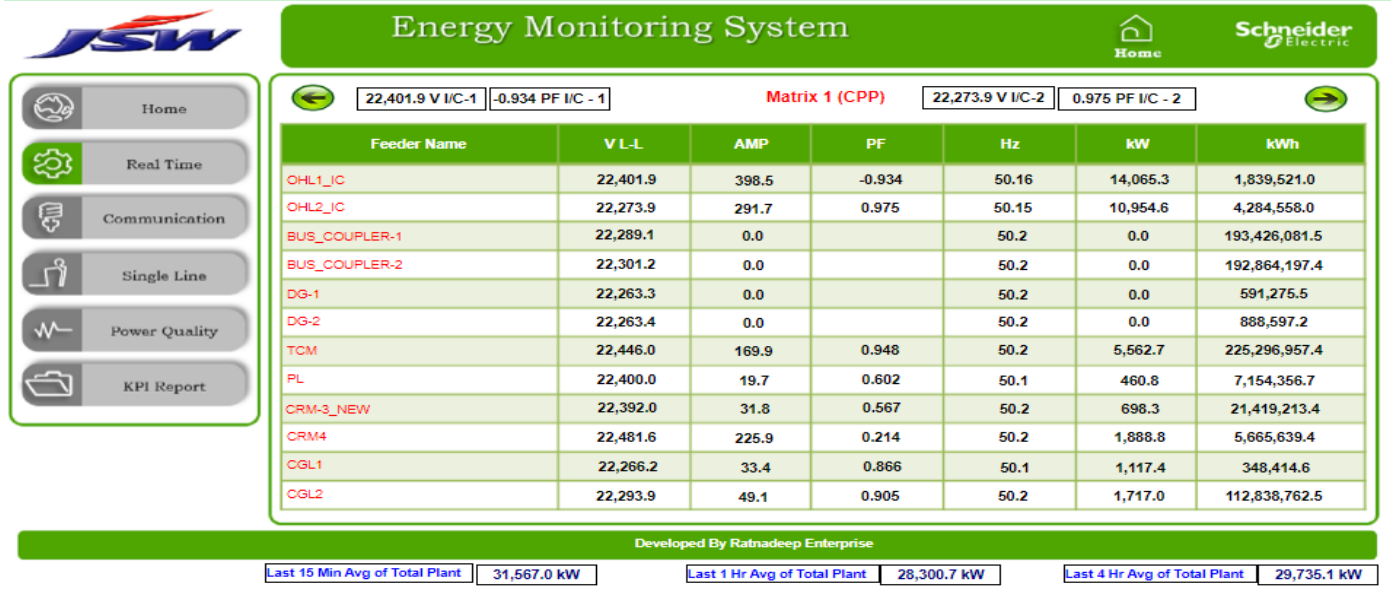
Energy Monitoring System

Confederation of Indian Industry









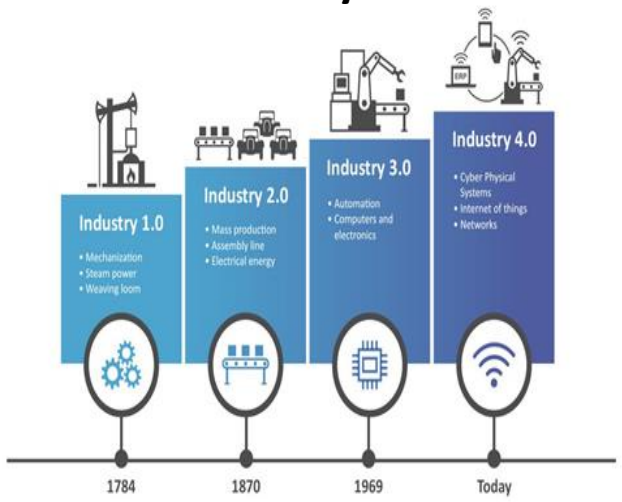
Feeder Name	V L-L	AMP	PF	Hz	kW	kWh
OHL1_IC	22,401.9	398.5	-0.934	50.16	14,065.3	1,839,521.0
OHL2_IC	22,273.9	291.7	0.975	50.15	10,954.6	4,284,558.0
BUS_COUPLER-1	22,289.1	0.0		50.2	0.0	193,426,081.5
BUS_COUPLER-2	22,301.2	0.0		50.2	0.0	192,864,197.4
DG-1	22,263.3	0.0		50.2	0.0	591,275.5
DG-2	22,263.4	0.0		50.2	0.0	888,597.2
TCM	22,446.0	169.9	0.948	50.2	5,562.7	225,296,957.4
PL	22,400.0	19.7	0.602	50.1	460.8	7,154,356.7
CRM-3_NEW	22,392.0	31.8	0.567	50.2	698.3	21,419,213.4
CRM4	22,481.6	225.9	0.214	50.2	1,888.8	5,665,639.4
CGL1	22,266.2	33.4	0.866	50.1	1,117.4	348,414.6
CGL2	22,293.9	49.1	0.905	50.2	1,717.0	112,838,762.5

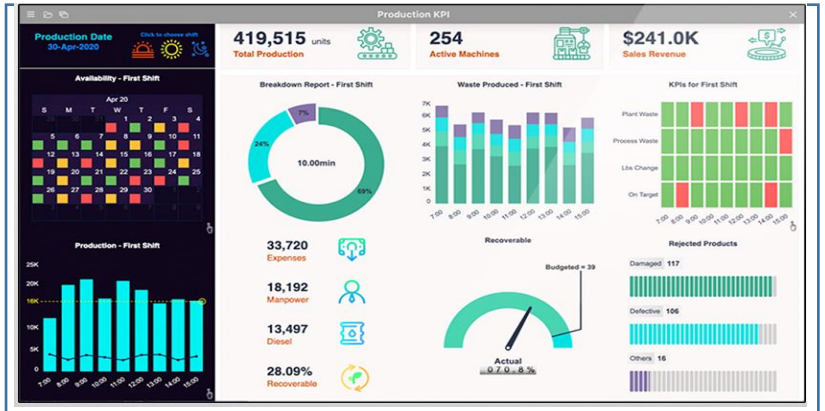
11. Digitization & Industry 4.0

CURRENT STATE

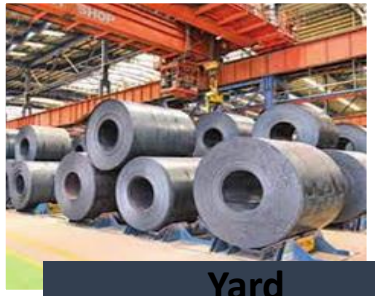
Confederation of Indian Industry

Industry 4.0



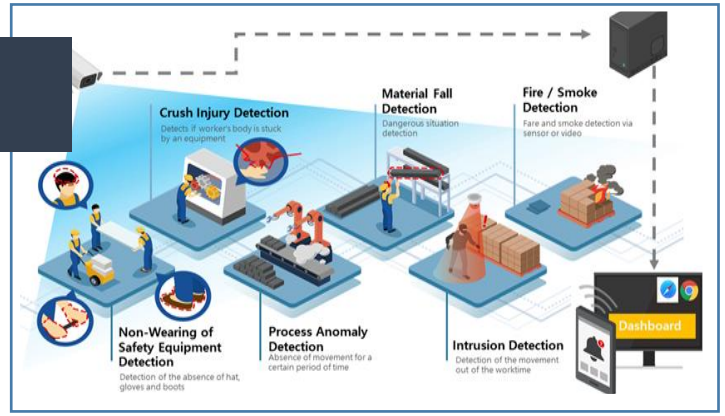


Dash Board

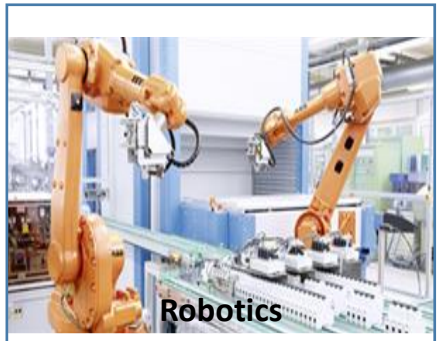


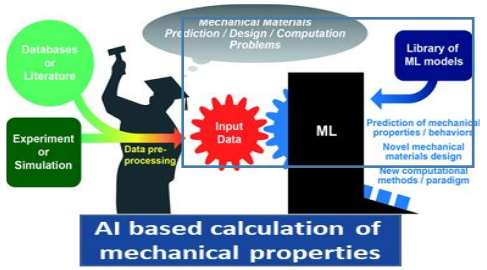
Yard Management

Logistics



AI based Safety





Predictive Maintenance

11. Digitization & Industry 4.0

Digitalization Road Map 2023 - 2027: VASIND					
	2023	2024	2025	2026	2027
Manufacturing	IOT based Predictive Maintenance				
		Compressed Air Optimisation			
		Robotics - Dross removal & Sleeve loading			
		Process optimisation using Big Data/ AI ML (Process Data Historian and OI Platform for Data Visualization and Analytics)			
		Roll Shop Management			
PPC	APS - Advance Planning and Scheduling Algorithm				
	MES				
		ICT - Dash board			
Logistics	YMS				
		Logistics Sampark project - (Inboud/ Outbound / Truck inenting/ Gate Entry			
Finance		Inventory - digital monitoring and optimization			
		EC Dashboard		Costing Automation	
				Profitability Analysis Dashboard	
Safety		AI enable Safety & Security - Shark Project			
			Visitor and Employee - Gate Management		
Quality		Surface inspection system (SIS) - CAL & CCL 2			
	DFT measurement at CCL 2				
HR			Contractor Management system		
			Online Skill and Competency Mapping system		
		Training and employee management			

12. Stake Holder Involvement

Confederation of Indian Industry

Stake Holders	Initiatives
Employee	Energy Awareness, Paper less Invoicing, e-NFA,
Customer	Awareness, product catalogue, CCMS Customer Audit , Desk top Audit , Google meetings
Supplier	ARIBA, EnMS –ISO 50001, Energy Efficient procurment
Society	Awareness – Skit, Training

LED CONVERSION - CSR			
Impact	**Quantity**	**Power Consumption**	**Saving**
BEFORE	Total HPSV Lights Installed 1800 Nos.	173 kW	Power Saving 4.54 Lacs kWh / Annum Potential saving Rs.26.37 Lacs/Annum
AFTER	Installed LED Lights 958 Nos.	84 kW	

12. Stake Holder Involvement – Employee

Confederation of Indian Industry

Energy awareness

Energy week Celebration

Energy week Celebration

Energy Conservation Skit

Energy Exhibition

Energy Quiz

Recognition

CII National Award for Excellence in Energy Management 2024

13. Beyond Steel : Awards & Certification

Confederation of Indian Industry

FY	Name of Award	Location	year	Awarded by
FY24	Received 2nd Runner-up award for CII National Energy Efficiency Circle Competition 2023	Vasind	July-23	CII
FY23	Received "Gold" position for SEEMs National Energy management 2022	Vasind	Sept-23	SEEM
FY23	2 Teams won "Par Excellence", 2 Excellence, in National Convention On Quality Concepts (NCQC - 2022) held at Aurangabad. There were about 2200 Teams from all over India.	Vasind	Dec'22	QCFI
FY23	23rd National Energy Award for Excellence in Energy Efficient 2022- Vasind has been recognized as "Excellent Energy Efficient Unit"	Vasind	Sept, 2022	CII, Hyderabad
FY24	24th National Energy Award for Excellence in Energy Efficient 2023- Vasind has been recognized as "Excellent Energy Efficient Unit"	Vasind	Sept, 2023	CII, Hyderabad
FY23	Gold Medal in India Green Manufacturing Challenge 2021-22 & 1st Runner Up IGMC Apex Award.	Vasind	April, 2022	IRIM , Chennai
FY23	Platinum Award - Apex India Green Leaf Award 2021 for Energy Efficiency	Vasind	April, 2022	Apex India Foundation, Delhi
FY23	Received 2nd Runner-up award for CII National Energy Efficiency Circle Competition 2023 Received "Gold" position for SEEMs National Energy management 2022	Vasind	July-23 Sep-23	CII SEEM
FY24	4 Teams won ENERGY WARRIOR 5 STAR AWARD with the Theme of Energy Conservation.	Vasind	July,2024	QCFI

CII National Award for Excellence in Energy Management 2024

What we Earn is not important,
but what we Save is most important…

Conserve Energy ..!!!!! Save Earth…..!!!

Thank You