Confederation of Indian Industry

22nd
National Award for
Excellence in Energy Management 2021

Steel Coated Product Limited, Vasind

Presenters:
Mr. Anish Karahe- Sr. Manager
Mr Ravishankar – Asst. Manager

1. Brief introduction on Company – Process & Product

JSW Steel

- Vijayanagar – 12 MTPA
- Salem – 1 MTPA
- Dolvi – 5 MTPA

JSW SCPL

- Engaged in producing the Coated Products

- First facility of JSW Group in 1982
- GI/GL 0.45 MTPA,
- PPGI/GL 0.225 MTPA
- Export oriented, located near port and west Indian market

- Kalmeshwar – 0.6 MTPA
- Tarapur – 0.76 MTPA

Vasind 0.45 MTPA

100% Subsidiary of JSW Steel. India's Leading Coated Steel Producer (1.8 MTPA)

MAIN PRODUCTS

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

Vasind 0.45 MTPA

Rolling	Galvanizing	Colour Coating
CRM3 CRM4	CGL - 1 CGL - 2 Slitting -2 CTL - 2 Profiling - 3	CCL - 1 CCL - 2 Embossing Line
PLTCM Under way	CGL-3 Under way CGL-4 Under Way	CCL 3 Under way

1. Impact of Covid-19 Pandemic

Delay in New Projects

All ongoing capacity enhancement projects delayed.

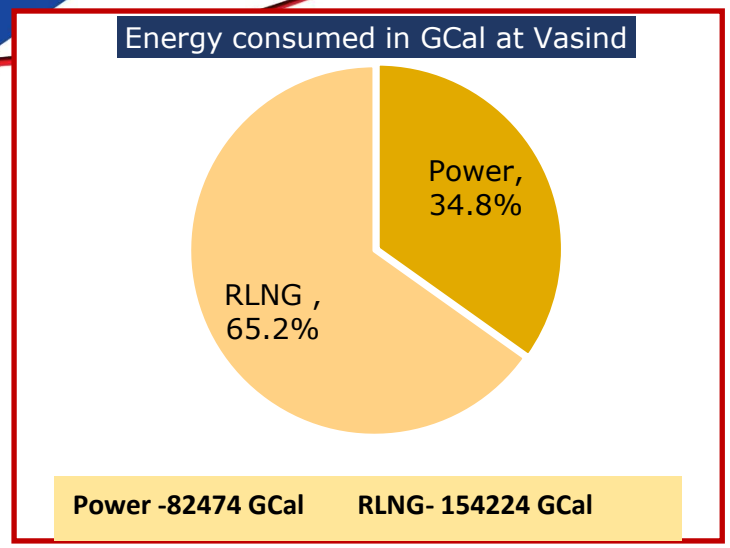
Less Utilization

Process lines were stopped for few days and resulting less production.

High SEC

Due to less utilization and new capacity enhancement project delay SEC recorded slightly high.

Energy Consumption



Area	Power(Lac kWh)	RLNG(Lac MMBtu)	Energy in Gcal
Pre-Rolling	57	1.07	31866
Rolling	328	0.06	29720
Galvanizing(GL/GI)	350	3.47	117544
Colour Coating	120	1.26	42072
Auxilary	104	0.26	15496
Grand Total	959	6.12	236698

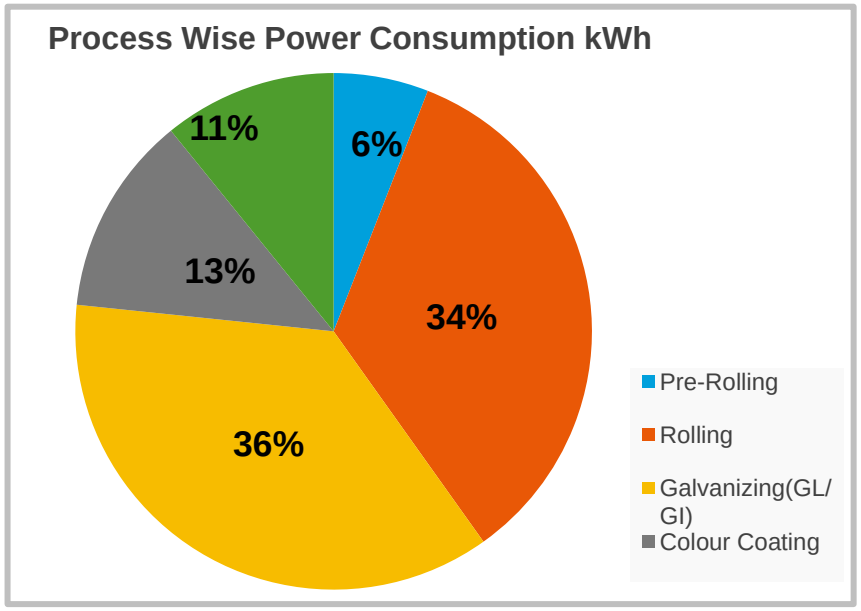
Energy Sources

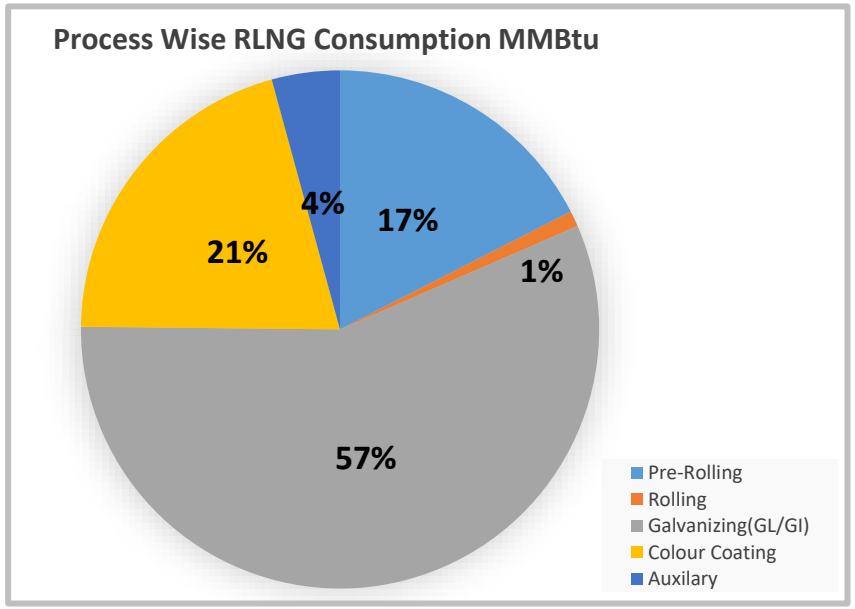
RLNG (GAIL) | Electrical Power (OA)

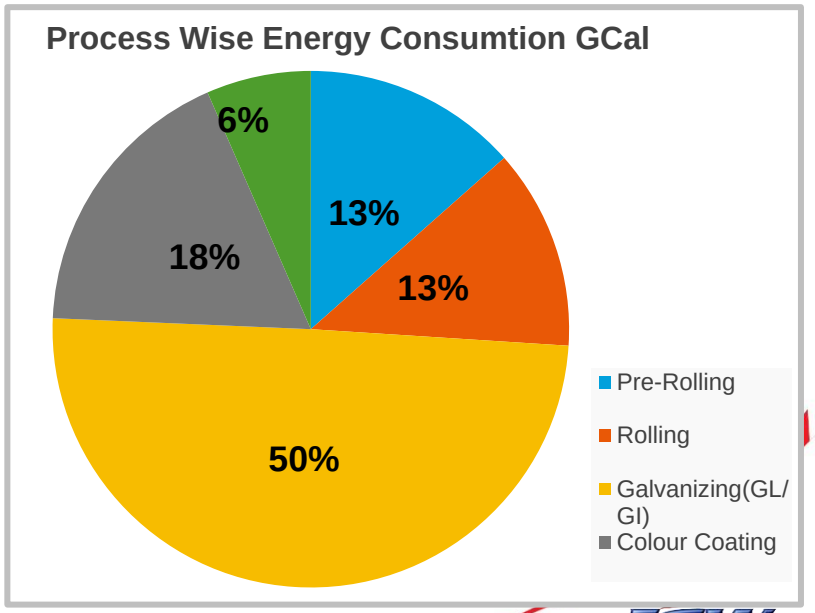
6.12 Lacs MMBtu/A | 959 Lac kWh/A

154224 GCal/A | 82474 GCal/A

Total : 236698 GCal



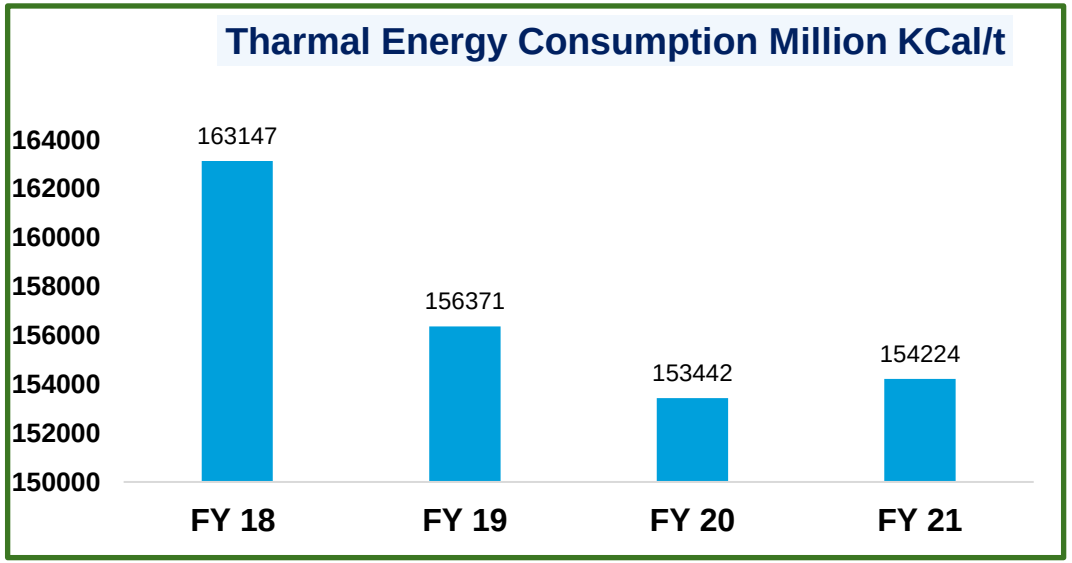


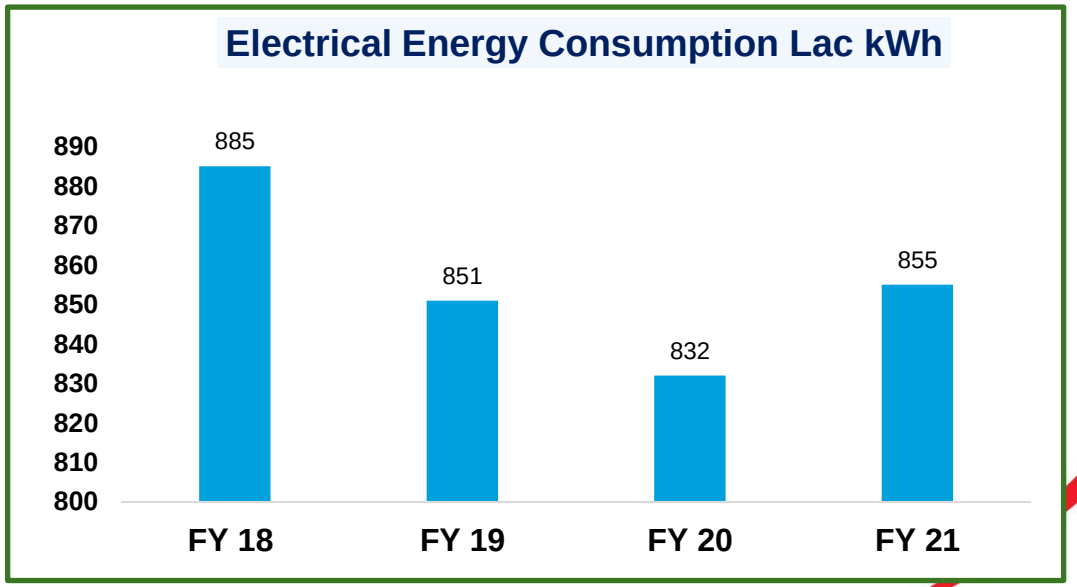


3. Specific Energy Consumption in last three years

Plant Energy Consumption					
Energy	Unit	FY 18	FY 19	FY 20	FY 21
Electricity	Lakh Kwh	885	851	832	855
Thermal	Million Kcal	163147	156371	153442	154224
Specific Energy Consumption	MTOE/ t	0.0418	0.0412	0.0399	0.04

Plant Capacity Utilization					
	Unit	FY 18	FY 19	FY 20	FY 21
Installed Capacity	Lacs ton	4.5	4.5	4.5	4.5
Actual Production	Lacs ton	4.55	4.51	4.07	4.23
Capacity Utilization	%	101.11	100.2	90.4	94.0





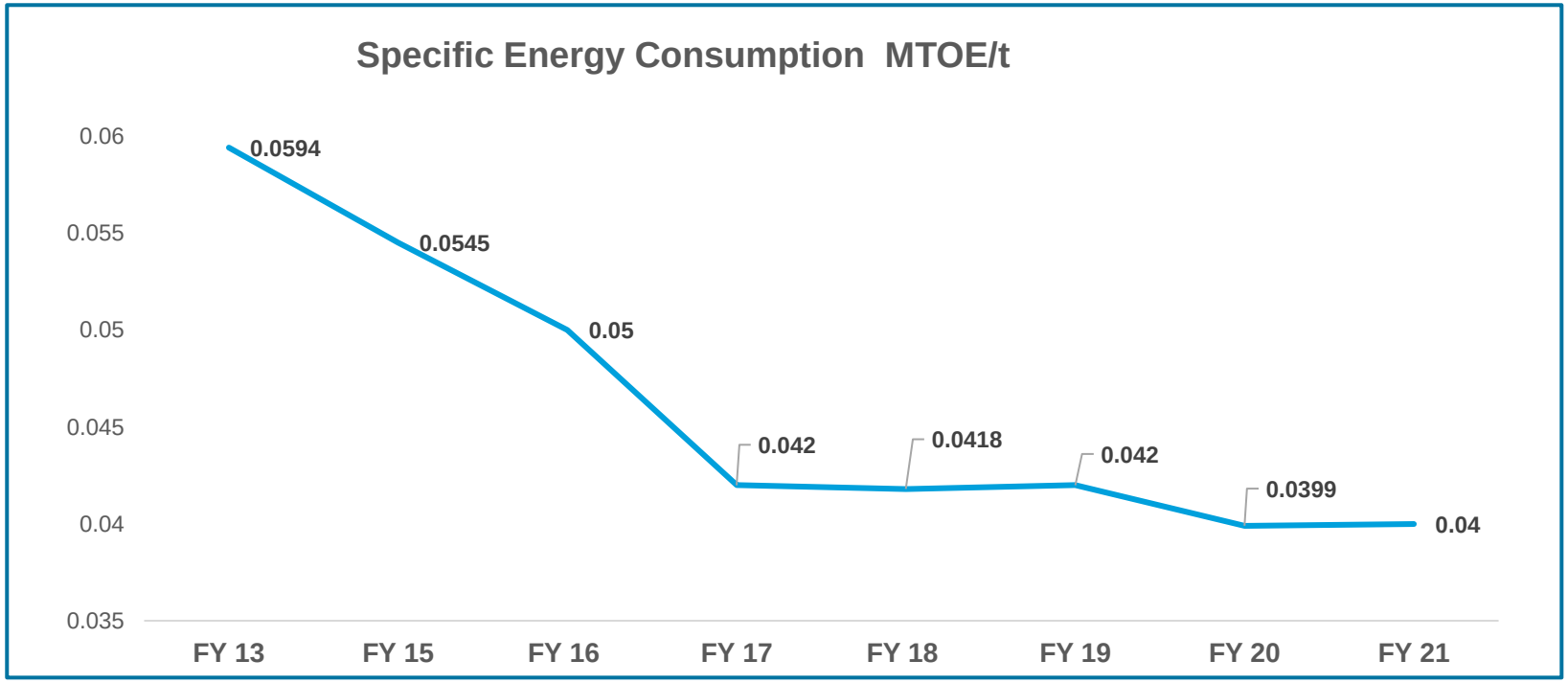
3. Specific Energy Consumption in last three years

Perform Achieve Trade (PAT) Cycle

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

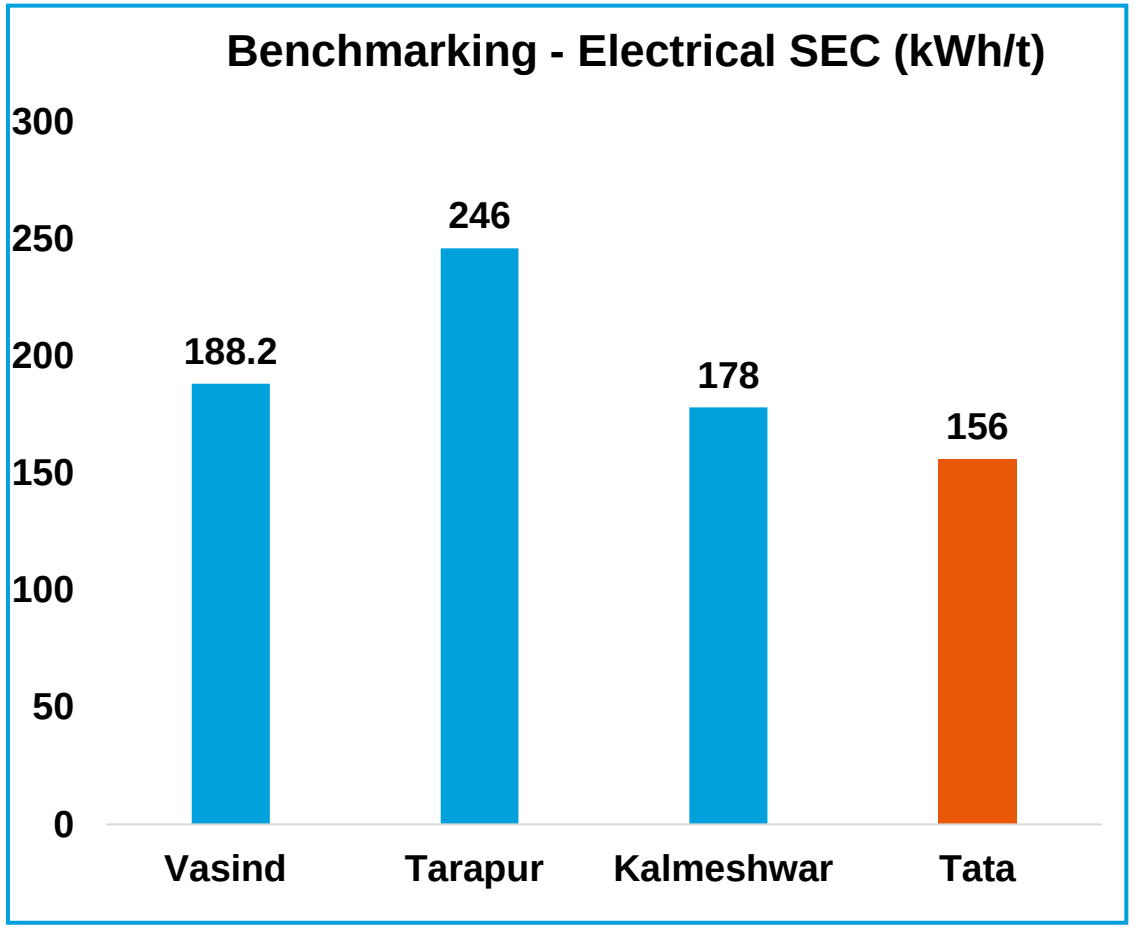
SEC Reduction in PAT-1 8.2%

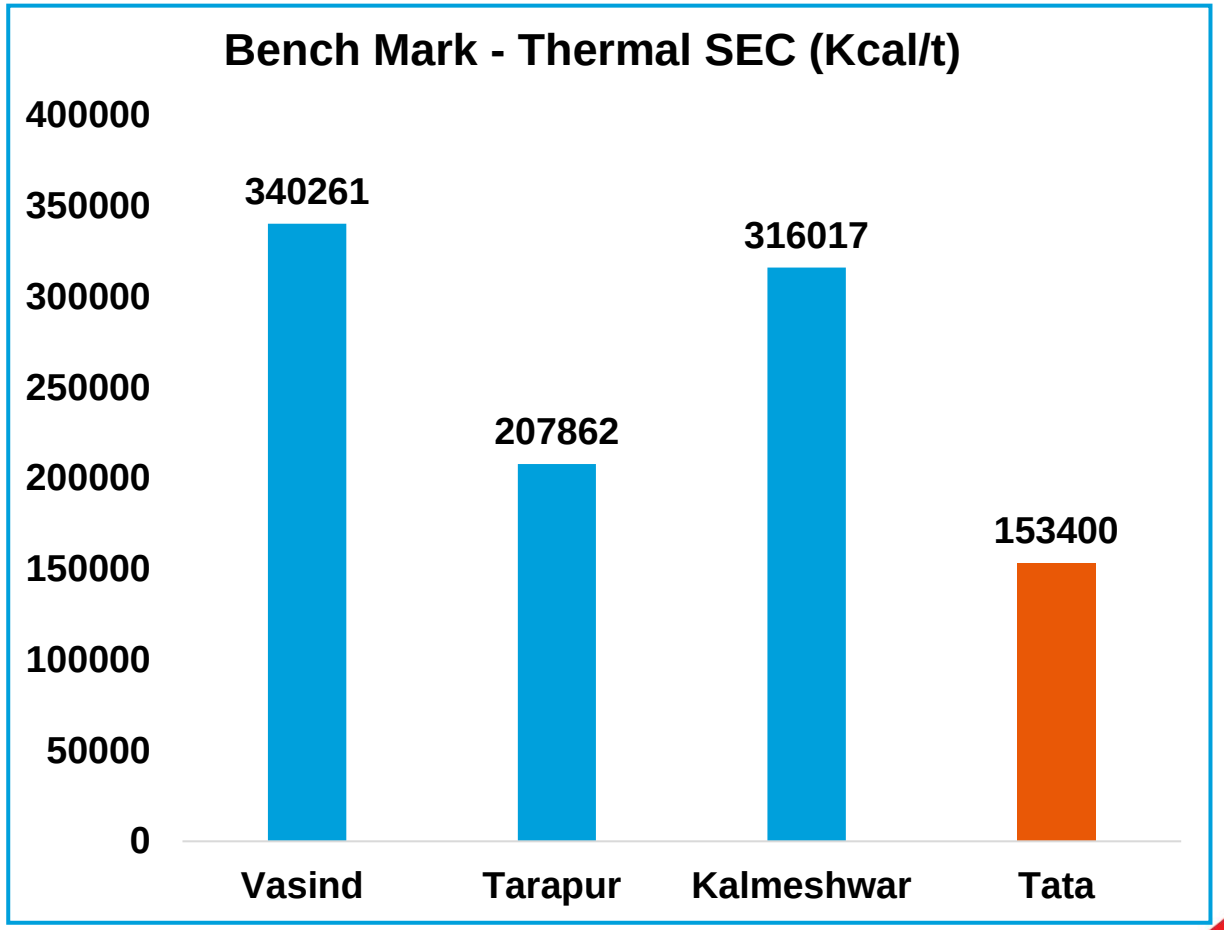


SEC Reduction in PAT-2 4.54%

SEC Reduction in Last 6 Years 12.75%

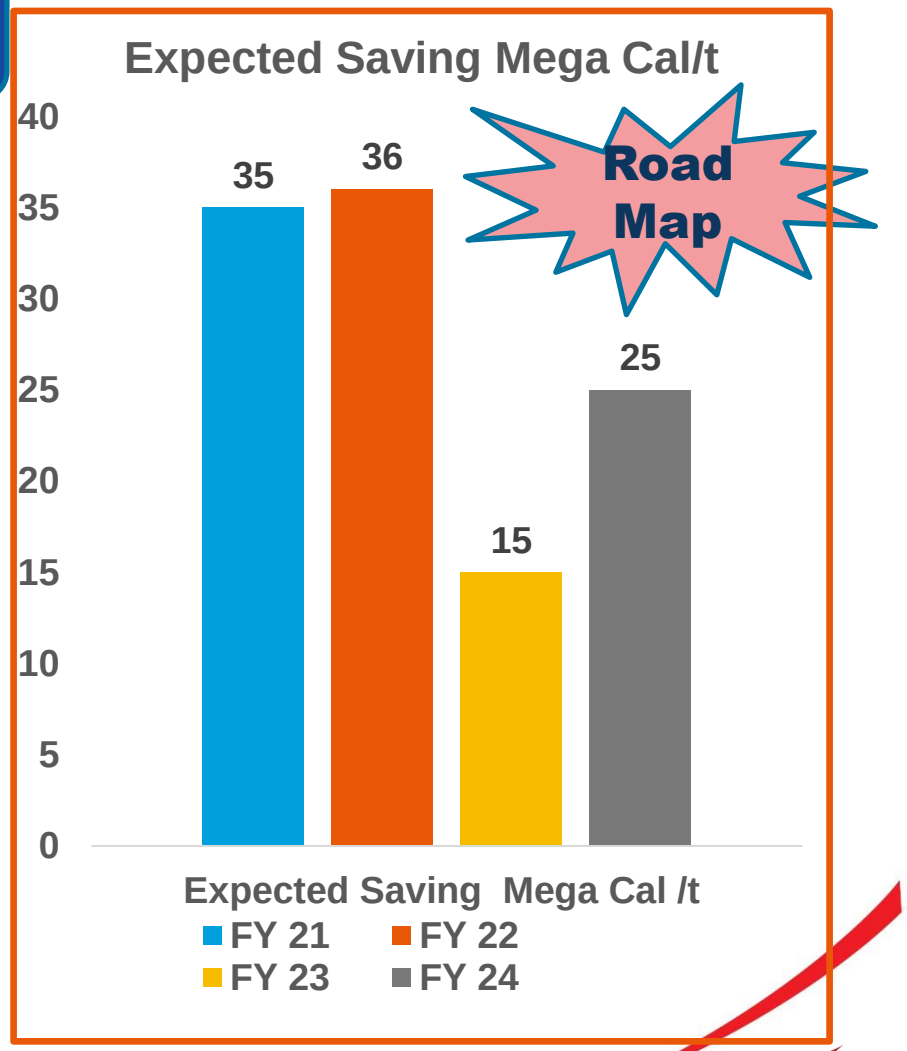
4. Information on Competitors /National & Global Benchmark





4. Information on Competitors /National & Global Benchmark

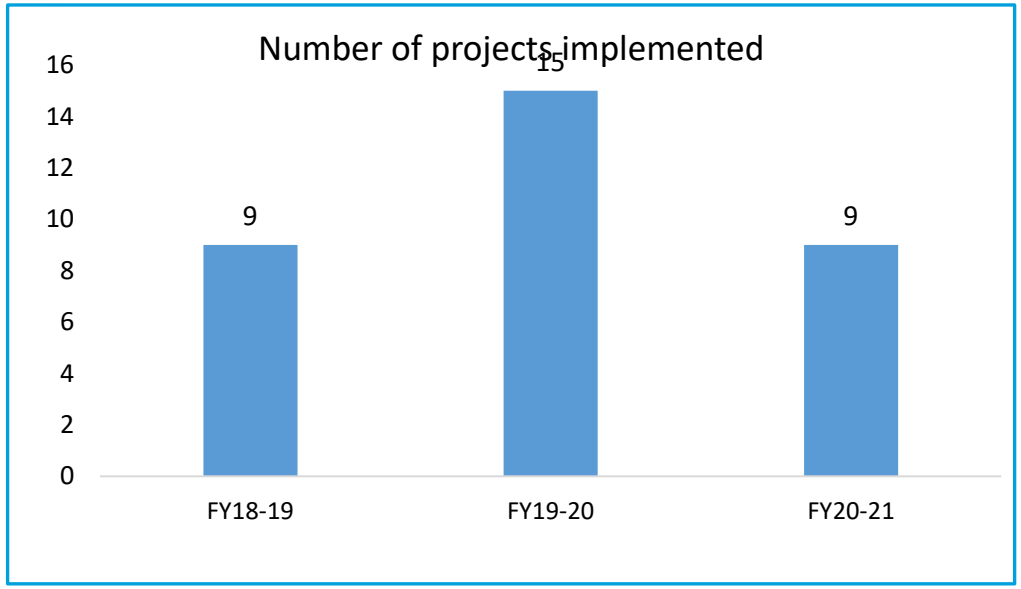
	Initiatives	Expected Energy Savings Mega Cal / t
FY 21	1. PLTCM Commissioning-World class technology 2. Capacity enhancement – new upcoming lines CGL3, CGL4, CCL3 3. IE 3 motors	35
FY 22	1. Use of Solar Power (4.5 MW)	36
FY 23	1. Conversion of 14 MW DC Motors to AC with common DC Bus 2. Energy Efficient Equipment	15
FY 24	1. Installation of 35 MW Solar Power plant by JSW Energy for Coated Business. 2. Replace all old motors with IE 3 motors	25

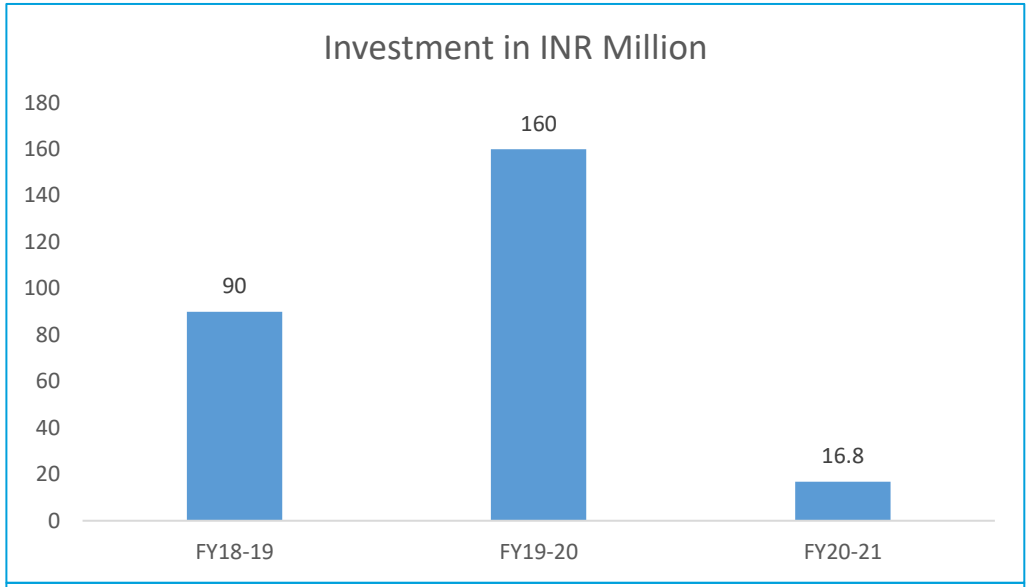


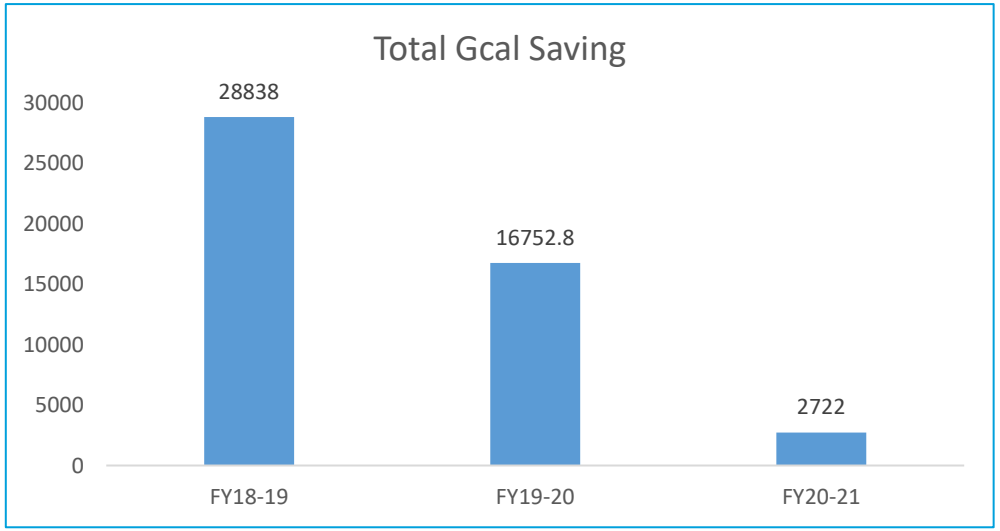
5. Energy Saving project implemented in last 3 years

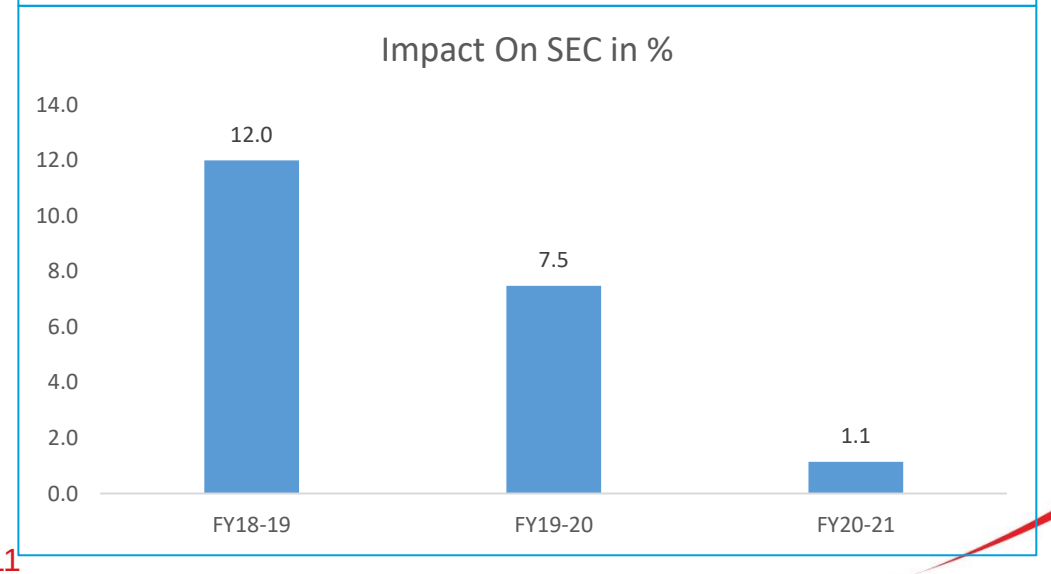
FY	No. projects	Investment in INR Million	Electrical Saving in Million kWh	Thermal Saving in Million Kcal	Saving in INR Million	Impact On SEC in %
FY18-19	9	90	4.7	24796	410	12.0
FY19-20	15	160	2.93	14233	470	7.5
FY20-21	9	16.8	1.7	1260	157	1.1

5. Energy Saving project implemented in last 3 years









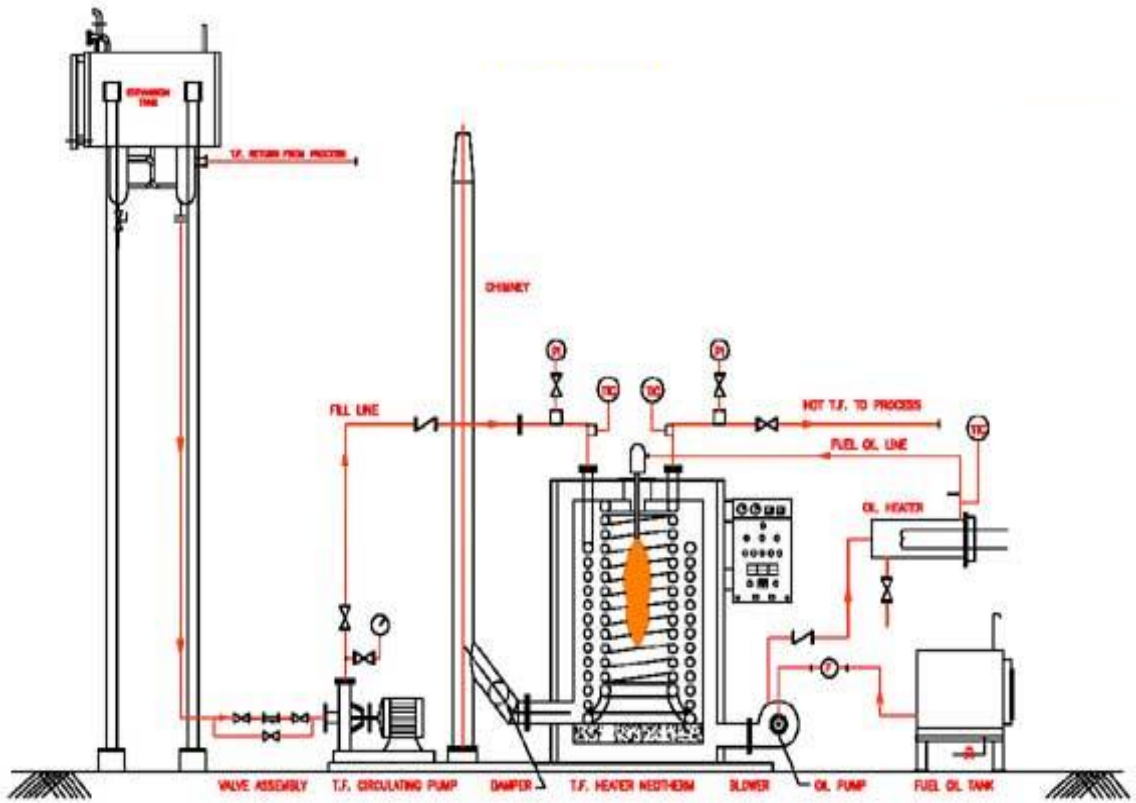
No 1 Projects Implemented

Use of WHR Steam in place of RLNG fired Thermic Fluid heater for Mill Coolant

PROBLEM STATEMENT

- Using thermic flued heater to heat the Mill Coolant which is Consuming 600 MMBtu RLNG.
- First heat the Flued oil by RLNG and heated oil transferred the heat to Mill coolant by circulating the hot oil in heating coils.
- Indirect heating of coolant encored the high losses

(Before) Coolant heating system of Mill



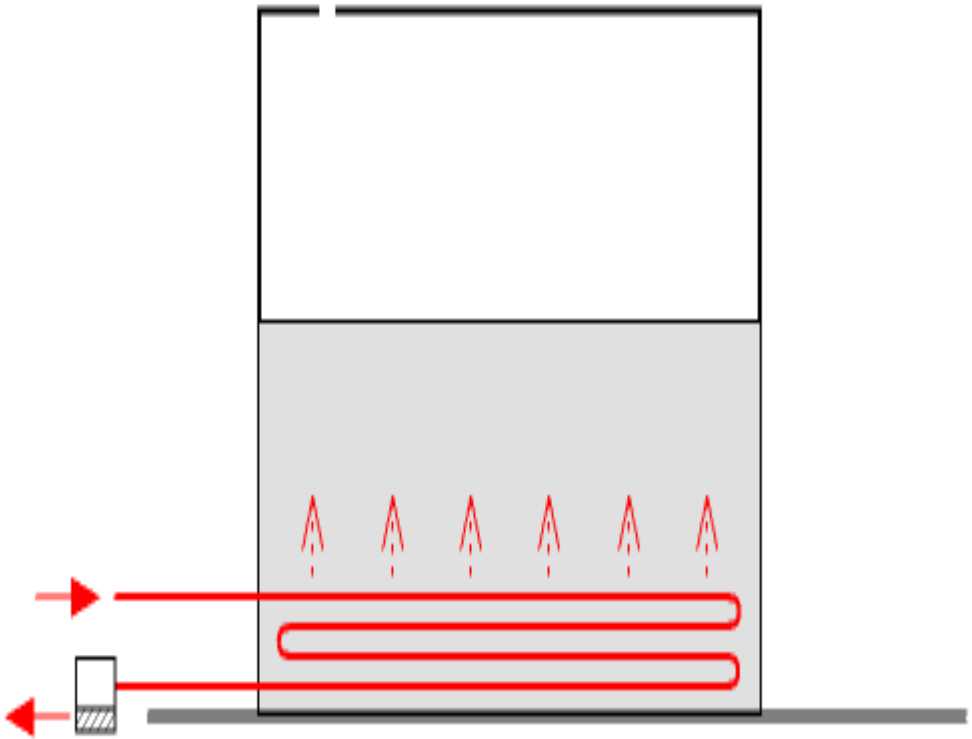
No 1 Projects Implemented

Use of WHR Steam in place of RLNG fired Thermic Fluid heater for Mill Coolant

Solution Proposed

- Excess steam available at Color Coating line WHR Boiler
- The quantity 0.2 ton/hr of steam available is sufficient to heat the Coolant at Mill 150 KL to maintain the temperature @ 55 Deg
- Both the units are nearby 95 mtr distance so that it is easy to connect the Steam line and less investment required INR 1 Lac.
- The heating coil will remain same no need to change it
- Total investment required INR 1 Lac and potential saving per Annum 0.6 Lac kWh Electrical power, 7000 MMBtu RLNG and INR 5.7 million.

(After) Coolant heating system of Mill



7. Utilization of renewable Energy Sources

Roof top Solar Power

Project is on progress to install 4500 kWp (DC) roof top solar power system

Project Name	Investment made (Rs. In Million)	Benefits
Renewable Energy – Solar & Wind Power Plant	600	Reduction in Carbon Emission & reduction in power cost
Stopped Plastic usage in packing	0	Reduce use of 350 t/A Plastic
Stopped usage of Guard Film on metal sheet	0	Reduce use of 150 t/ A of guard film

7. Utilization of renewable Energy Sources

Renewable Energy generation

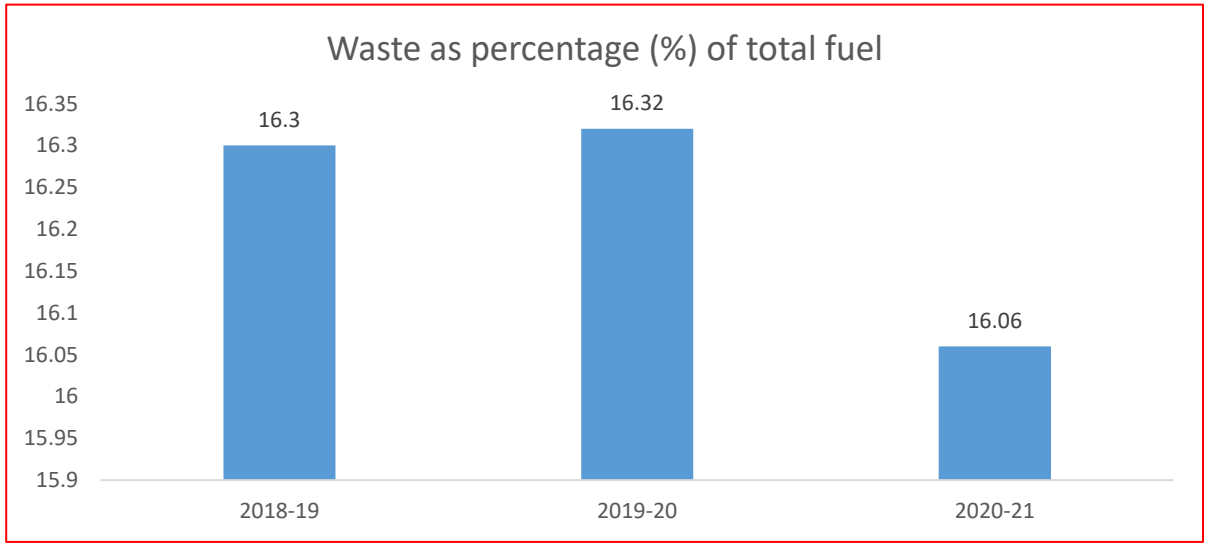
Financial year	Technology (Electrical)	Type of Energy	Onsite/ Offsite	Solar System (kWp)	Solar Power (kWh)	Total power used Million kWh	% Used
FY 19	PV	Solar	Onsite	5.5	14454	81	0.01
FY 20	PV	Solar	Onsite	5.5	93294	80	0.11
FY 21	PV	Solar	Onsite	5.5	92294	85.5	0.11

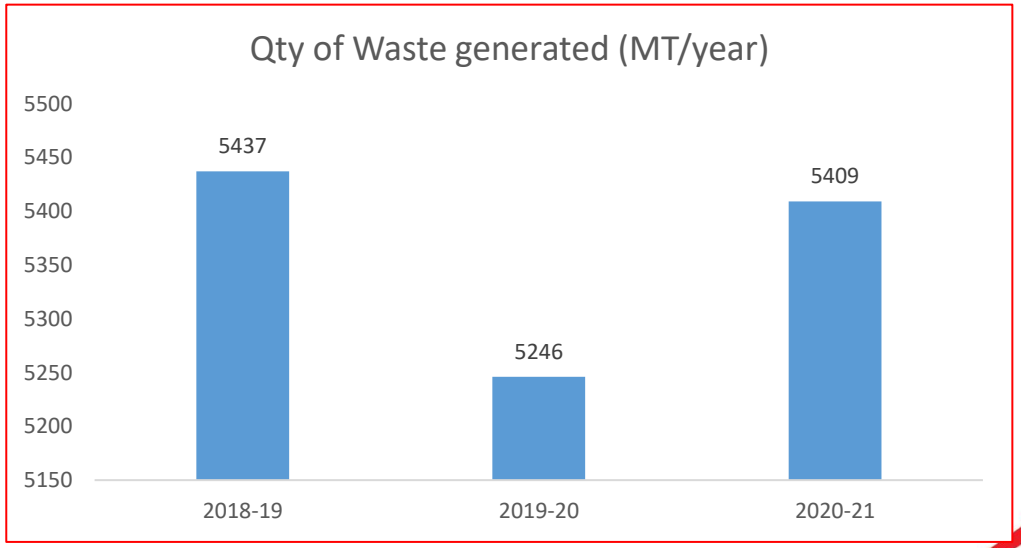
RPO Target

FY	Total Power (MU)	RPO TARGET		REC PURCHASED		Value Rs Lac
		SOLAR	NON SOLAR	SOLAR	NON SOLAR	
FY 19	80.7	2275	10190	2275	10200	191
FY 20	78.6	2751	9969	2751	9969	228
FY 21	87.3	874	7863	0	0	0
TOTAL	**246.6**	**5900**	**28022**	**5026**	**20169**	**419**

8. Waste Utilization and Management

S. No.	Year	Waste Details	Quantity	GCV kCal	Heat Value M kCal	Waste as percentage of total fuel
1	2018-19	Paint VOC	5437	7000	37429	16.3
2	2019-20	Paint VOC	5246	7000	36722	16.32
3	2020-21	Paint VOC	5409	7000	37863	16.06





8. Waste Utilization and Management

1) Metal sleeve (for WIP)
2) Paint – Left over Paint(LOP)

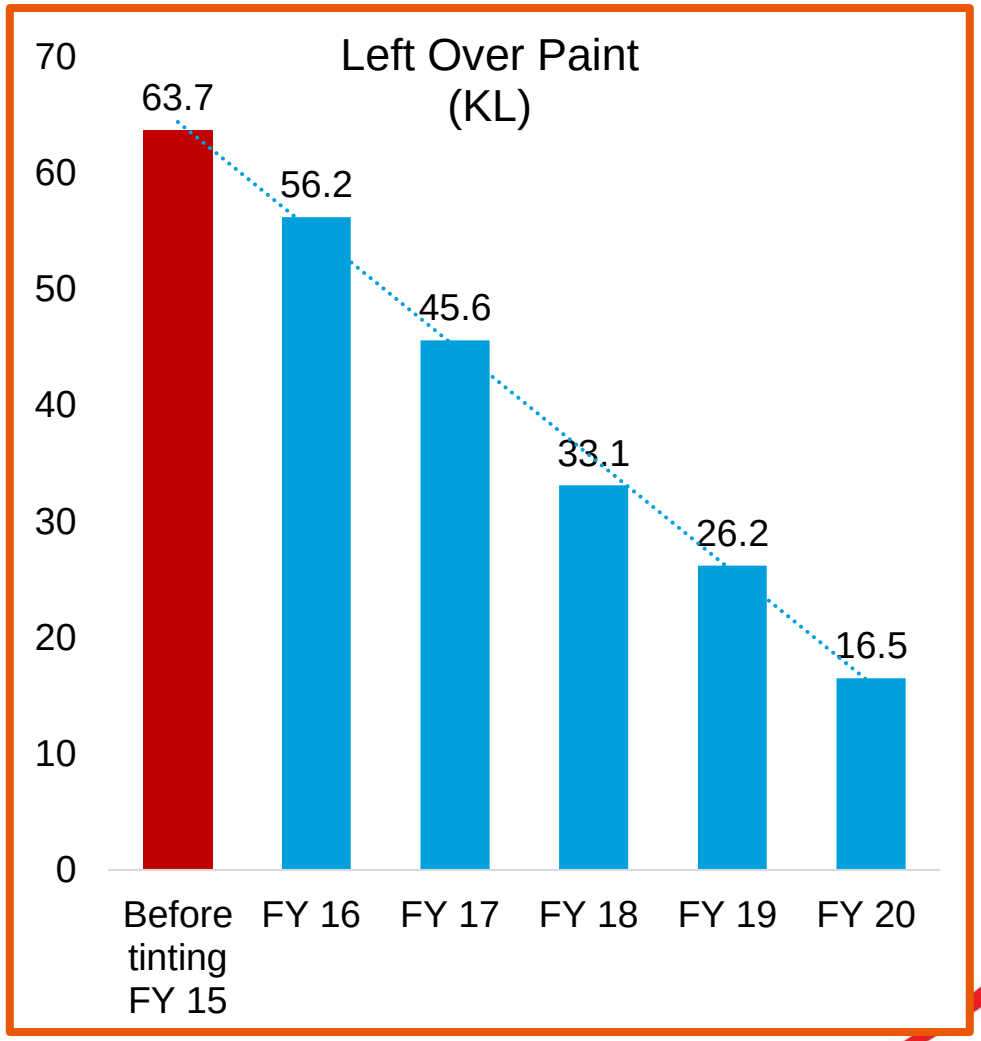
Reduction of MS sleeve consumption : Replacing 10 mm sleeve for internal uses

Month	Production	No. of Coils	Rotation/50 Nos.
Oct'19	1315	404	8.08
Nov'19	758	190	3.8
Total	2073	594	11.88

One sleeve is @ 35 kg

Total wt. of 594 sleeves 20790 kg

Saving of 20.790 t Fresh HR.



9 GHG Inventorization – Carbon Neutrality

Carbon Neutrality refers to achieving net zero carbon dioxide emissions by balancing carbon emissions with carbon removal by carbon offset or eliminating carbon emission altogether

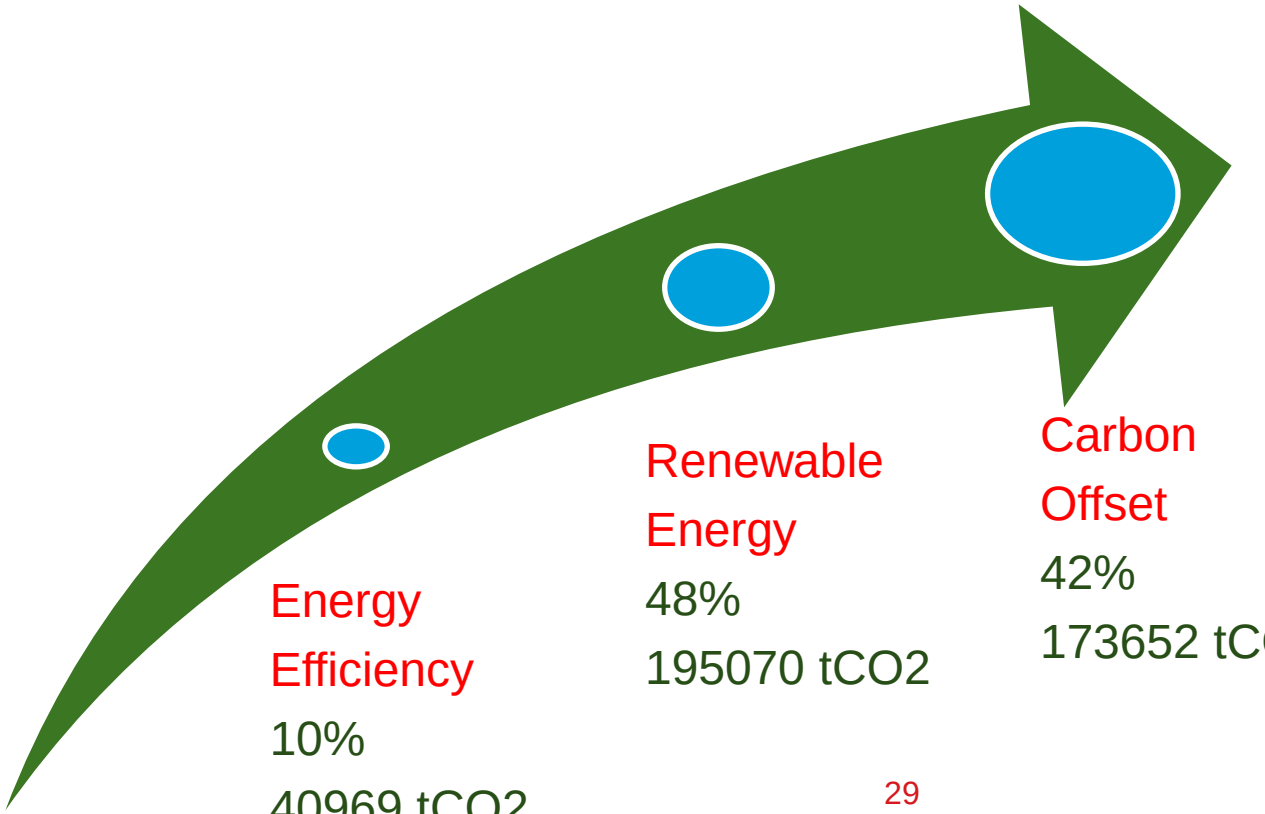
PARAMETERS	VSD	TPR	KLM	COATED
Energy Consumption (GJ)	903588	1602358	1408565	3914511
CO2 Emission (tCO2)	78937	148550	143774	371261

1.8 MTPA to 4 MTPA

PARAMETERS	VSD	TPR	KLM	COATED
Energy Consumption (GJ)	7835359	5660080	3135920	17296061
CO2 Emission (tCO2)	409692	296236	190078	930291

9 GHG Inventorization – Carbon Neutrality

Parameter	Unit	VASIND	Reduction in 10% Energy Consumption	Replacement of 90% Electrical Power by Renewable Energy	Replacement of 90% Thermal Energy Emission by Carbon Offset	Final Carbon Emission
CO2 Emission	tCO2	409692	40969	195070	173652	0
	%	100	10	48	42	0



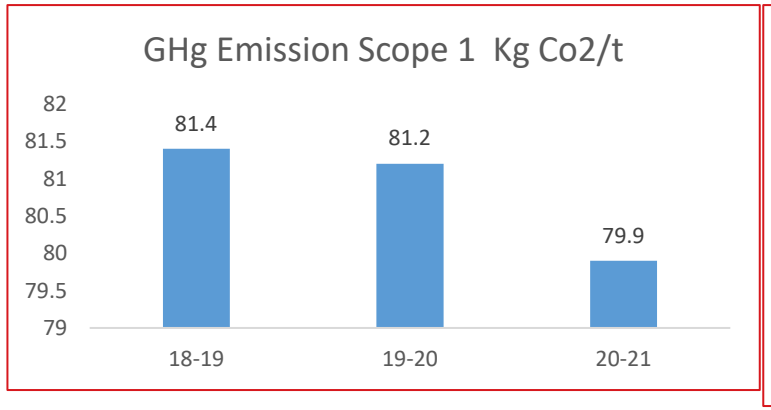
Target - 2030

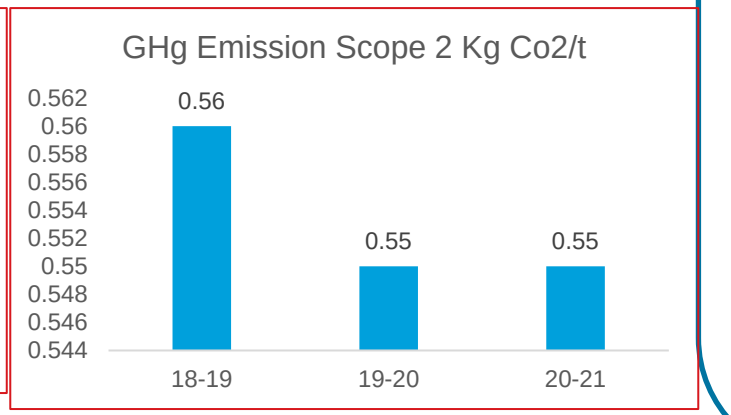
9 GHG Inventorization – Inventorization

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
		196017	**5300**	**18100**	**134166**

As on Date --->	8568	17235	102555
Total Tree planted -→	**128358**		
CO2 t / year Offset	25671.6		

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





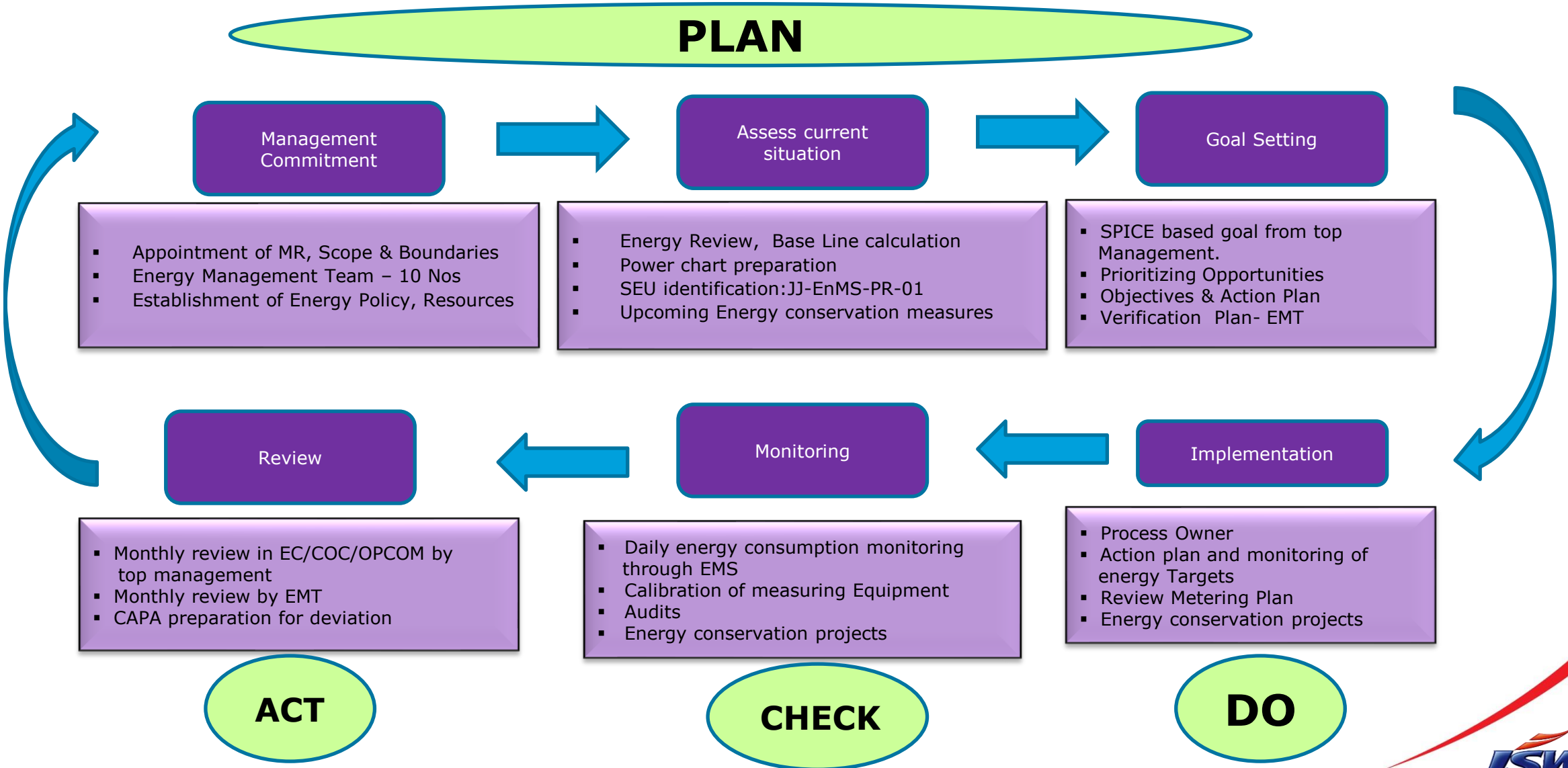
Sustainability and GHG CO2 emissions

Target to reduce the CO2 Emission by 3% in FY-21 and to become Carbon neutral plant by Fy-25, by adopting following initiatives-

1. **Installation of 4.5 MWp solar power plant.- FY-22**
2. **Enhance the plant production capacity by installing new PLTCM /CGL/CCL?CAL line with advance energy efficient technology- FY-21**
3. **Conversion of DC to AC for both the Old Cold rolling Mills- FY-23**
4. **Installation of 35 MWp Solar power plant by JSW Energy for coated business-FY-25**
5. **Replacement of all the old AC motors with IE-3 Motors- FY-26**
6. **Plantation of 50000 trees till FY-30 every year - 5000**

10. Team Work, Employee Involvement & Monitoring

Monitoring system -------



10. Team Work, Employee Involvement & Monitoring

Supplier Meet

Stake Holders	Initiatives
Employee	Energy Awareness, Paper less Invoicing, EnFA,
Customer	Awareness, product catalogue, CCMS Customer Audit , Desk top Audit , Google meetings
Supplier	ARIBA, EnMS –ISO 50001
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
AFTER	Installed LED Lights 958 Nos.	84 kW	Potential saving Rs.26.37 Lacs/Annum

10. Team Work, Employee Involvement & Monitoring

Society – Energy Week

Energy week Celebration

Energy Exhibition

Energy Conservation Skit

Energy Exhibition

Recognition

11. Implementation of ISO 50001

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 Ltd.

ENERGY POLICY

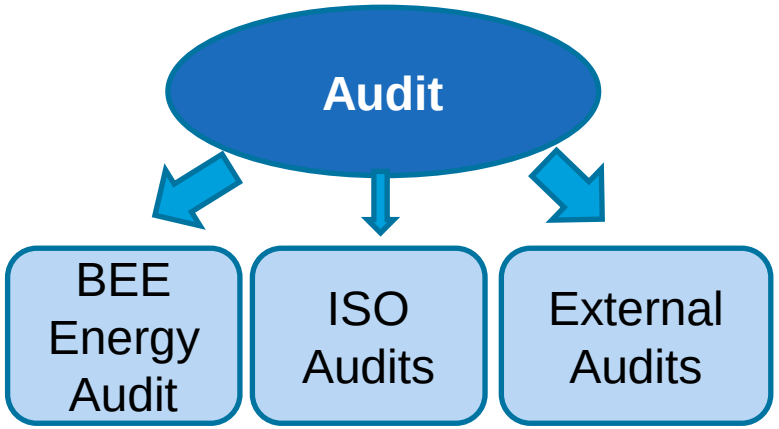
We are committed to efficient utilization of all types of energy. We shall achieve this through continual improvement in energy performance by:

- 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 : 01.08.2018
Revision No. : 06

A.S. Dahiya
Head- Coated Products



Energy Conservation Awareness Society
2250 Nos. Energy Efficient Chulla Distribution
40 Nos Solar Street lights in near by Villages
2500 Nos LED Bulbs distributions

Review

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

13. Long term Vision on EE

1. Installation of 35 MW Solar Power plant by JSW Energy for Coated Business.
2. Replace all old motors with IE 3 motors

FY 24

1. Conversion of 14 MW DC Motors to AC with common DC Bus
2. Energy Efficient Equipment

FY 23

1. Use of Solar Power (4.5 MW)

FY 22

1. PLTCM Commissioning – World Class Technology
2. Capacity enhancement – new upcoming lines CGL3, CGL4, CCL3
3. IE 3 motors

FY 21

Carbon neutral

FY 30

Awards, Achievement & Recognition in ..... Energy

MEDA 14th State Level Energy Conservation Award

MEDA 13th State Level Energy Conservation Award

MEDA 12th State Level Energy Conservation Award

Global Energy Award by CEM

Platinum in APEX India Energy Award 2019

CII National Energy Leader Award 2020

CII- 19th/20th/21st National Award -Excellent Energy Efficient Unit

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

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

Thank You