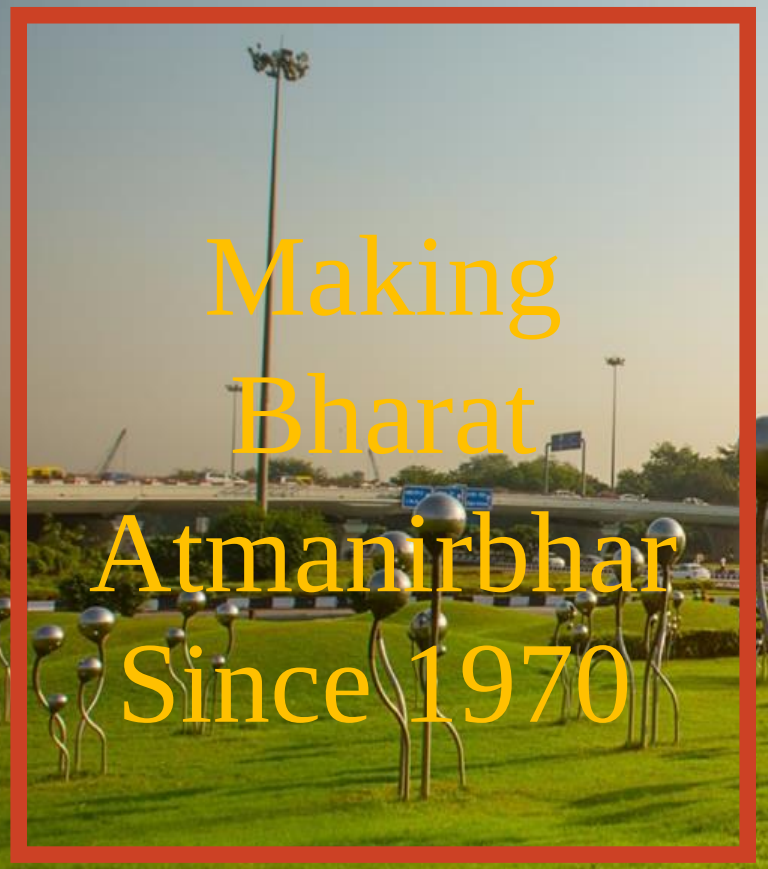
24th CII-National Award for Excellence in Energy Management 2024



Making Bharat Atmanirbhar Since 1970

Team Leader: Brijesh Bansal

Team Member: Anand Kumar

Mehul Bansal

JSL JINDAL STAINLESS

About the Organisation

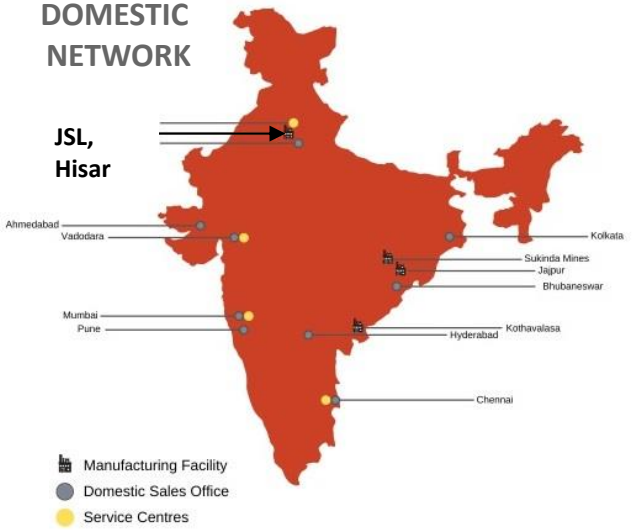
- A first generation entrepreneur & industrialist, Shri O P Jindal founded the group in 1970. Transforming his vision into reality, the group today is a leading industrial conglomerate with an annual turnover of US $38B*.
- Jindal Stainless is one of the largest stainless steel conglomerates in India and ranks amongst the top 10 stainless steel conglomerates in the world with annual crude steel capacity of 1.8 MTPA.
- JSL was Set up in 1970 by its founder & Chairman Late Sh O.P. Jindal. Stainless steel production started in 1979, with setting of first AOD converter in the country.
- It is also the world 's largest producer of steel strips for razor blades and India's largest producer of coin serving the needs of Indian and International mints.
- ISO 50001:2018, ISO-9001:2015, ISO-14001:2015, OHSAS 45001:2018, Aerospace AS 9100,AD, PED, CPD certified company.

" WHERE OTHERS SEE WALLS, I SEE DOORS
Late Sh. O. P. Jindal
Founder & Futurist – Jindal Group

ISO50001 ENERGY MANAGEMENT

45001 9001 IMS 14001

DOMESTIC NETWORK



PRODUCTS

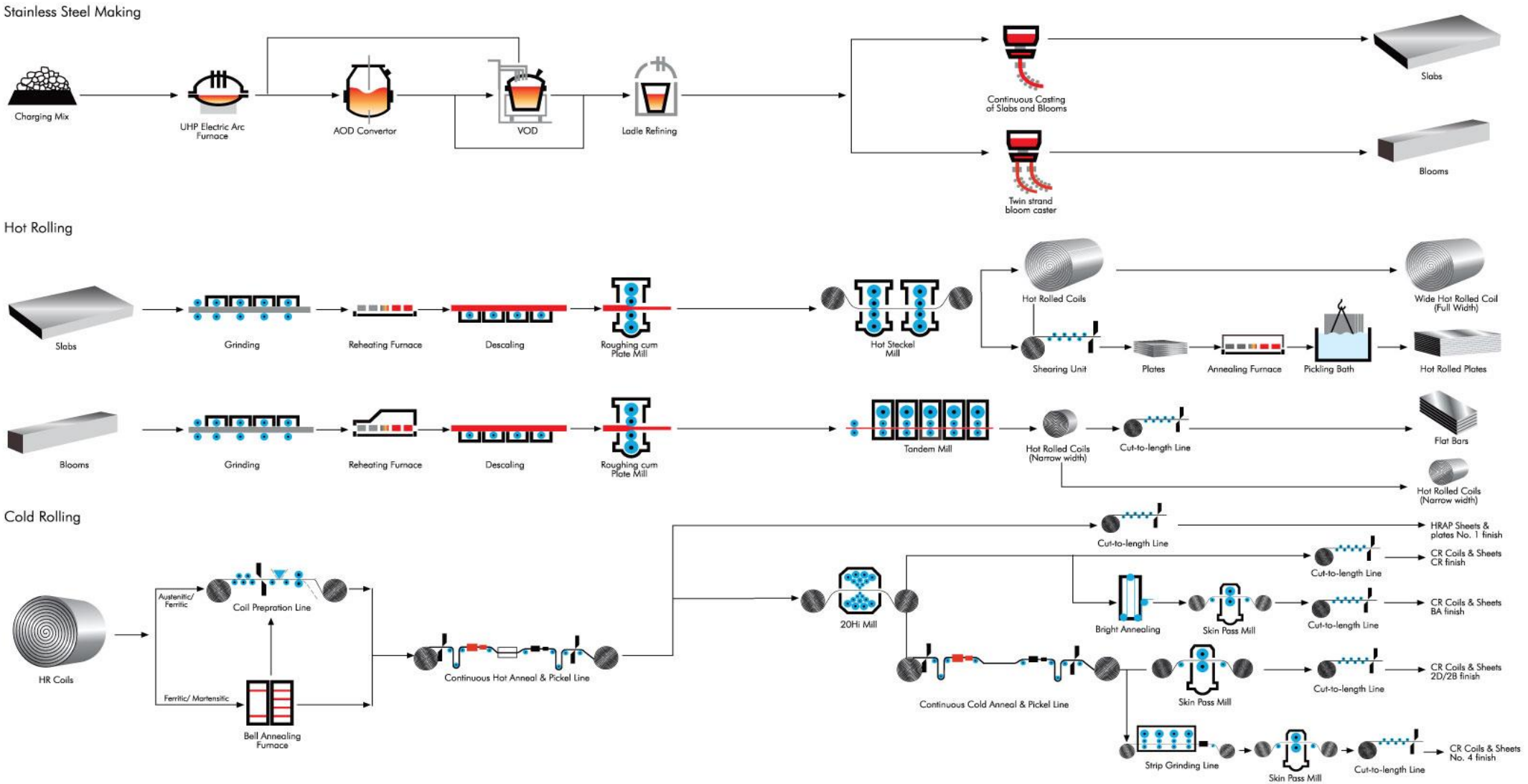
COLD ROLLING CAPACITY-3,75,000 MT

HOT ROLLING CAPACITY-7,20,000 MT

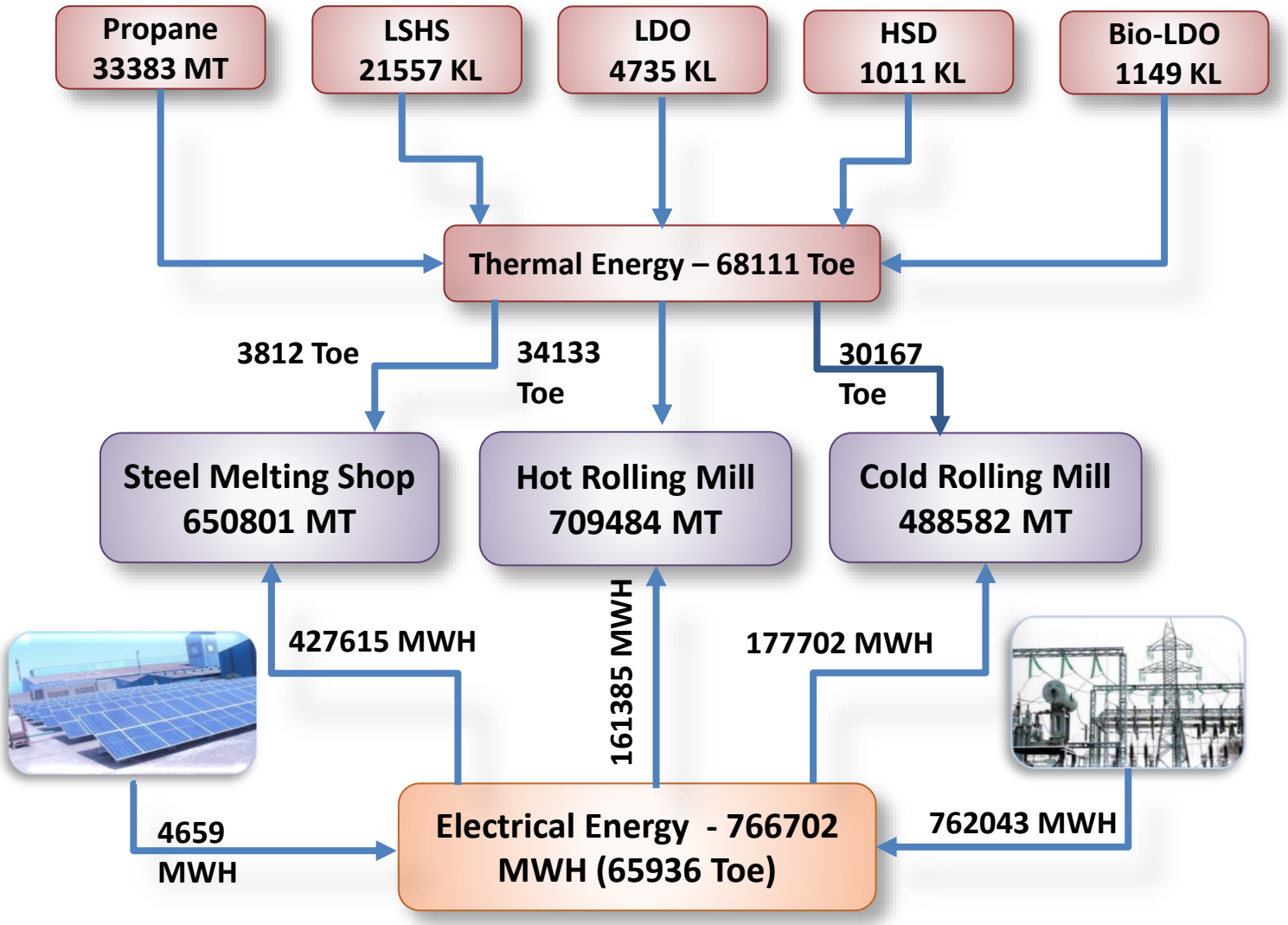
JSL INSTALLED CAPACITY

MELTING CAPACITY-8,00,000 MT

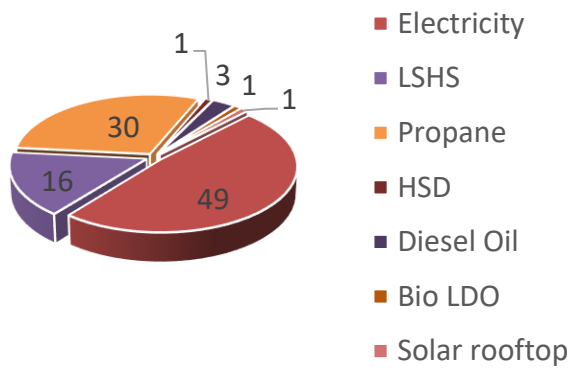
Process flow Diagram



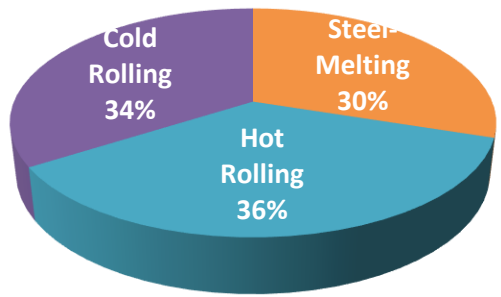
Energy Mapping



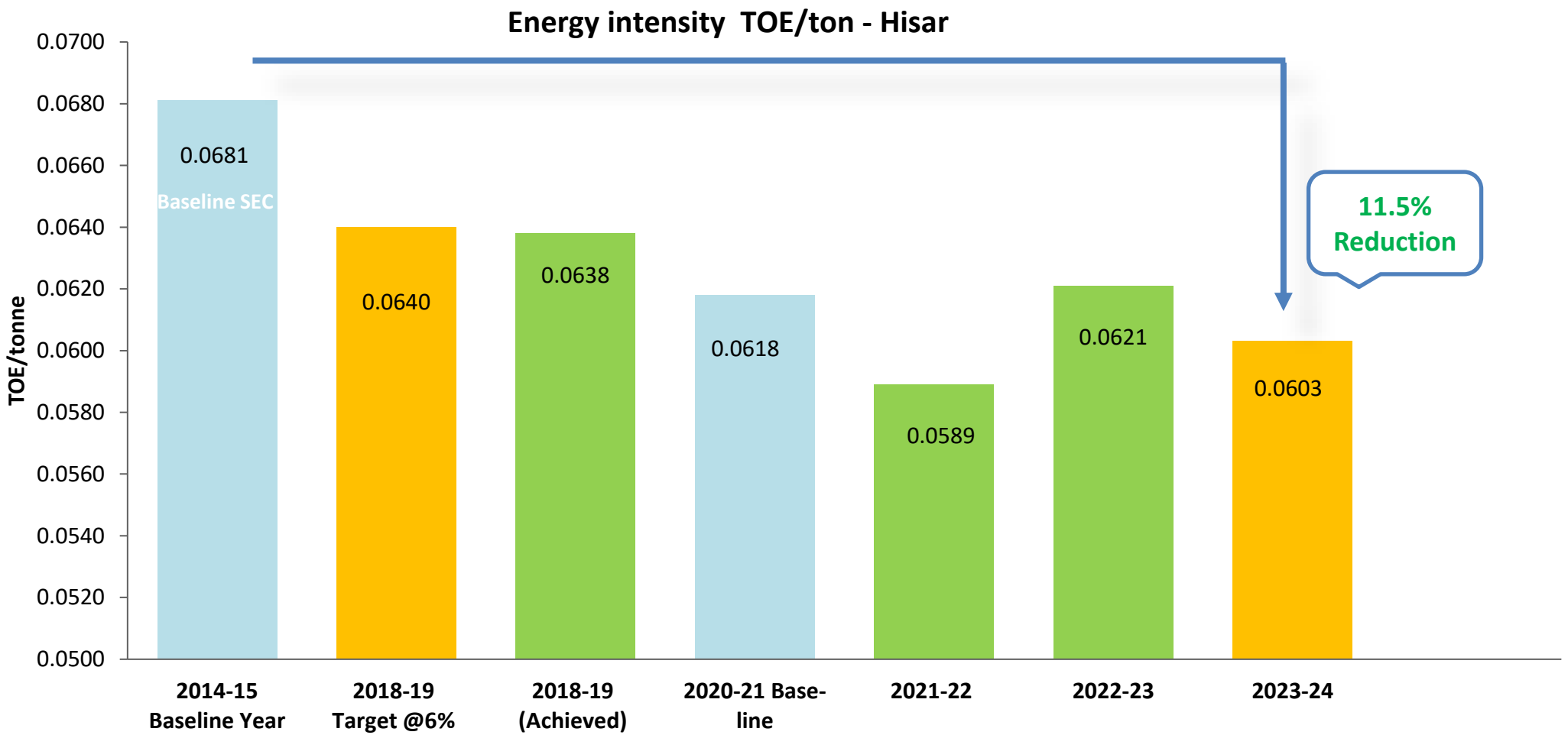
% Share of Energy Source Wise



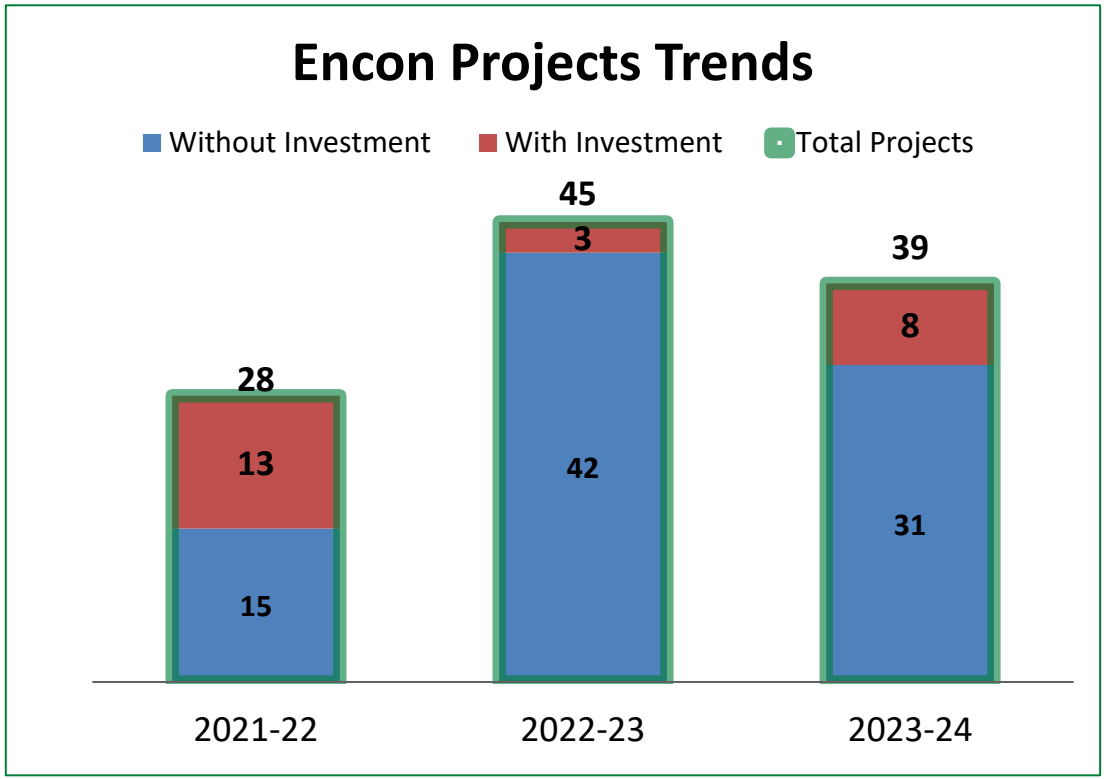
% Share of Energy Process Wise

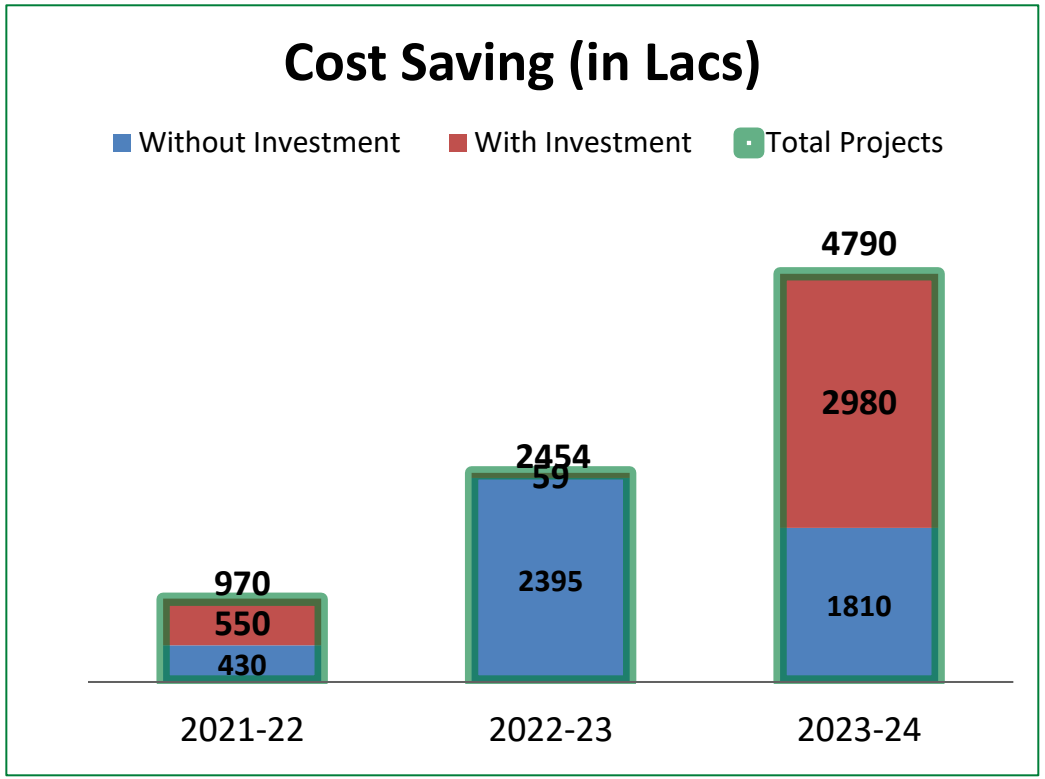


Energy Efficiency



Energy Conservation Projects Implemented 2021-24





JSL has invested more than 55 Cr. INR in various Energy Efficiency and Conservation projects of the last 5 years – saving approx. TOE 8500 per year.

The major projects are listed in the following slides

Energy Conservation Projects planned 2024-25

2024-25	Name of the Energy Saving Project	Investment (Rs million)	Electrical Saving (Million kwh)	Thermal Saving (Million Kcal)	Annual Savings (Rs million)	Payback Period (in months)
1	Residual O2 reduction in PHF & Strip Mill Furnace	0	0.00	4850	20.0	0
2	Installed new energy efficient centrifugal compressor to cater the 8500 Nm3/hr air demand in the plant	20	0.99	0	7.4	32
3	Install additional recuperator for AP-1	2.5	0.00	644	3.4	9
4	Optimizing Heat Loss due to radiation through strip mill furnace and walking beam furnace	2.2	0.00	887	2.6	10
5	Replacement of inefficient axial fans of heat exchangers with energy efficient options for SMS 1 EAF	5	0.32	0	2.4	25
6	Optimization of fuel firing for ladle	0.9	0	302	1.8	6
7	Replacement of inefficient axial fans of heat exchangers with energy efficient options for SMS 2 Induction/EAF	5	0.20	0	1.7	36
8	Replacement of inefficient axial fans of heat exchangers with energy efficient options for SMS 1 AOD	5	0.22	0	1.6	37
9	Optimizing residual oxygen at HBA-3 Furnace	0	0.00	271	1.4	0
10	Reducing radiation losses in SMS 1 transfer ladle, teeming ladle and Tundish for slab and bloom	1.7	0.00	368	1.2	17
11	Reducing radiation losses in SMS 1 EAF furnace	1.3	0.32	0	1.2	13
12	Replace TER pumps no. 1,2,3,4 in SPD-2 with two new energy efficient pumps in which one will be standby	2	0.15	0	1.1	21
13	Improving AP-2 Furnace Performance	0	0.00	119	0.6	0
14	Replace LRF pump no. 4 in SMS-1 with new energy efficient pump.	0.5	0.07	0	0.5	11
15	Installed VFD at WBF CT-hotwell pump	0.5	0.03	0	0.2	26
16	Run the HBA pump no.19 without VFD in CRD-2	0	0.03	0	0.2	0
17	Optimizing compressed air usage at CRD 1 and CRD 2	0.07	0.02	0	0.1	7

Energy Conservation Projects Implemented 2023-24

JSL JINDAL STAINLESS

2023-24	Name of the Energy Saving Project	Investment (Rs million)	Electrical Saving (Million KWh)	Thermal Saving (Million Kcal)	Annual Savings (Rs million)	Payback Period (in months)
1	Steam Generation by Waste-Heat recovery from Annealing furnace by installation of waste-heat recovery boiler	10	0.00	12613	54.60	2
2	In-House Generation of Green Hydrogen Gas @90M3/Hour	5	3.38	869	29.66	2
3	Reduction in power consumption at SMS by various initiatives	0	3.70	0	27.75	0
4	Reduction in Net Power consumption of oxygen plant including Air Compressors	0	2.54	0	19.04	0
5	Hot charging of slab-Strip Mill	0	0.00	2907	17.00	0
6	To control the venting of Gas oxygen by optimization of Plant	0	1.79	0	13.46	0
7	Hot Charging of Slab in Steckel Mill	0	0.00	3087	8.75	0
8	Bio LDO Fuel uses –STK Mill	0	0.00	23741	3.90	0
9	Reduction in Specific Power Consumption in Compressed Air Generation in HR	0	0.51	0	3.83	0
10	Reduction of Steam consumption by installation of air knife at PTF-9	0	0.50	0	3.76	1
11	Descaling Pump optimisation in stackle mill by 10%	0	0.47	0	3.53	0
12	Reduction in Compressed air Consumption in CRD	0	0.39	0	2.89	0
13	SPD#3 Pump house run with only 1 no of 45 kw motor instead of two.	0	0.38	0	2.87	0
14	Reduction in Power by merger of old and new cooling tower	0	0.20	0	1.48	0
15	Furnace Cooling blower Run Logic modified for motors run at AP4 line.	0	0.17	0	1.31	0
16	Run only 2 cooling blower instead of 3 in PTF_9	0	0.11	0	0.86	0
17	Installed drive on pump house cooling tower to reduce running frequency to save power	0	0.11	0	0.80	2
18	Reduction in Compressed air Consumption in HRD	0	0.10	0	0.76	0
19	Reduction of steam and energy consumption by installation of Air Knife System at PTF-2	0	0.07	0	0.53	8

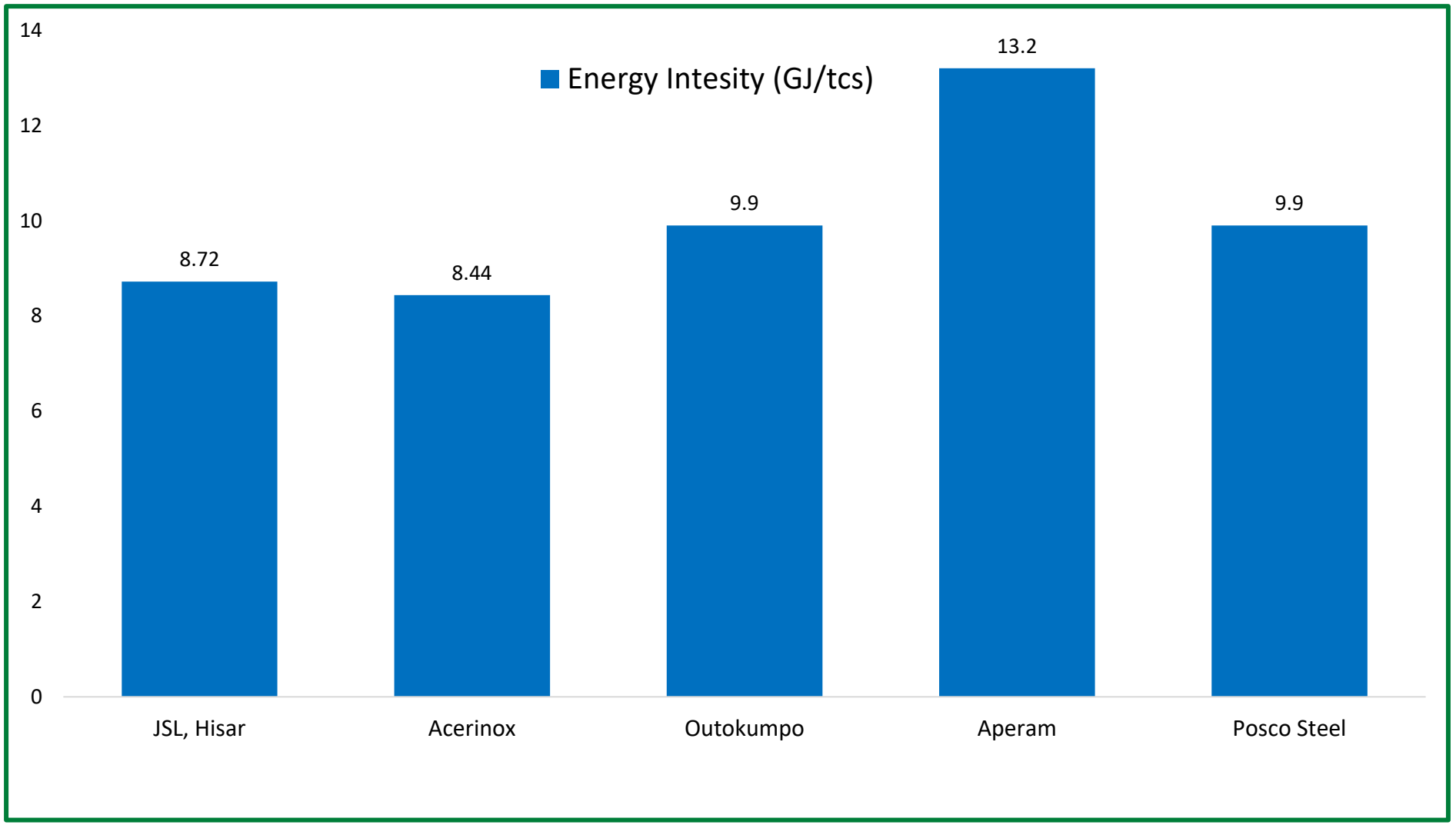
Energy Conservation Projects Implemented 2022-23

2022-23	Name of the Energy Saving Project	Investment (Rs million)	Electrical Saving (Million kwh)	Thermal Saving (Million Kcal)	Annual Savings (Rs million)	Payback Period (in months)
1	Process Modification bypassing annealing process of some grades of 300 series with effecting quality	0	0.00	12632	92	0
2	Reduction of total cycle time in Bell annealing for 420J1/420J2/410/430WG grades	0	0.00	14817	81	0
3	Process-Configuration-Hot charging of slabs in reheating furnace leads to significant energy savings (~15%) along with productivity improvement	0	0.00	8653	52	0
4	Reduction in Compressed air Consumption in HR by arresting leakage	0	0.57	0	4	0
5	Energy Saving by One pump run Instead of 2 pumps of VBA line at SPD-2	0.30	0.20	0	1.51	2
6	Energy Saving of One hydraulic pump motor stopped, presently both motors are running at CRD-1	0	0.19	0	1.42	0
7	Energy saving by optimize running of Fume Exhaust blower wrt to line ready at CRD-2.	0	0.15	0	1.13	0
8	Steam saving project reducing AP4 degreasing dryer blower speed from 1400 RPM TO 900 RPM in different series at CRD-2.	0	0.08	0	0.60	0
9	Energy Saving by Spray pump speed reduce to 10% during mill idle period at SPD-2	0	0.07	0	0.54	0
10	Energy Saving by One LP pump switched off out of 2 at SPD-2	0	0.07	0	0.51	0
11	Fume exhaust switch off if Mill idle more than 5 mins and switch on when Mill speed increase more than 20 MPM at SPD-2	0	0.07	0	0.50	0
12	Optimized the speed of brush roll by Elect. Drive at Degreasing Line of SPD -1	0.40	0.06	0	0.48	10
13	Energy Saving by Out of four, stopped the two no. brush roll motors at BA-3 at SPD-1	0	0.06	0	0.47	0
14	Energy saving by Emergency PB Provide on main control desk to avoid idle running of equipment at CRD-1	0	0.06	0	0.46	0
15	Power Saving in OPH Mould CT fan-2 by connecting in Star instead of existing star-delta connection at SMS-1	0	0.06	0	0.43	0
16	Optimize running of 2 no's of Oil Circulation motor by reducing speed 70% to 30% during mill idle time at CRD-1	0	0.05	0	0.39	0
17	Optimized the speed of F/C cooling blowers by reducing the frequency of drives at BA-3 at SPD-1	0	0.04	0	0.30	0
18	Primary pump-1 made off with COT level high & gets on with level low whenever cycle in filtration mode at CRD-2.	0	0.04	0	0.29	0
19	Energy saving by One hyd. PP pump of Edge Guide stopped in idle time, presently running round the clock at CRD-2.	0	0.03	0	0.21	0

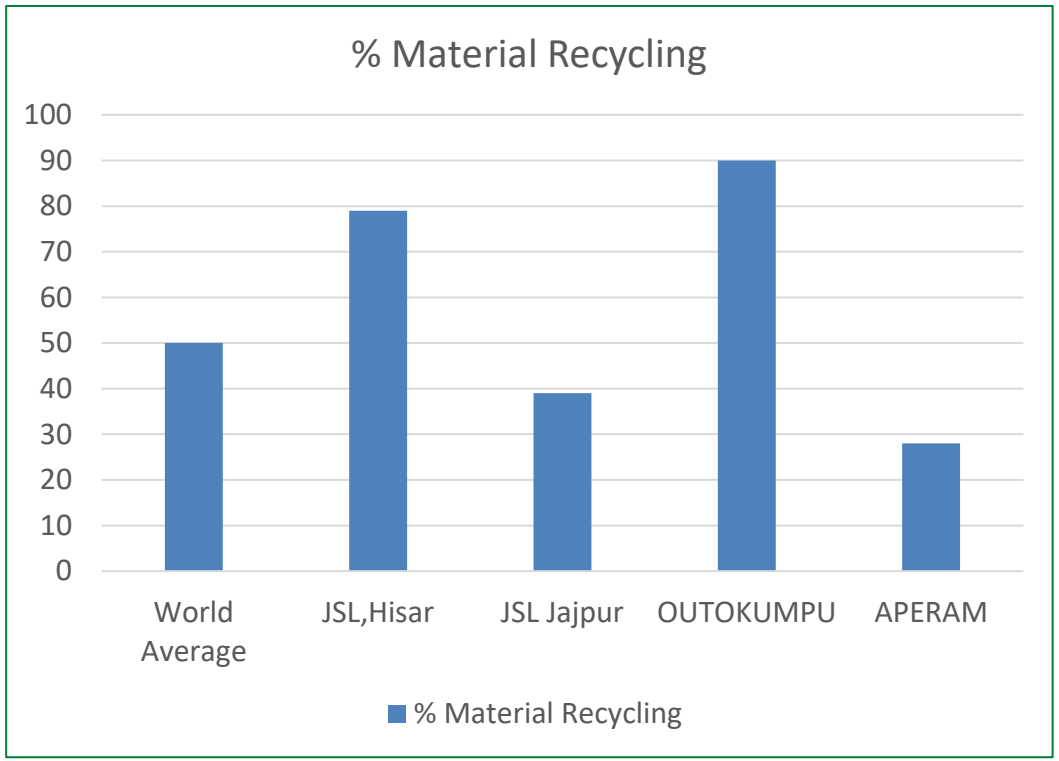
Energy Conservation Projects Implemented 2021-22

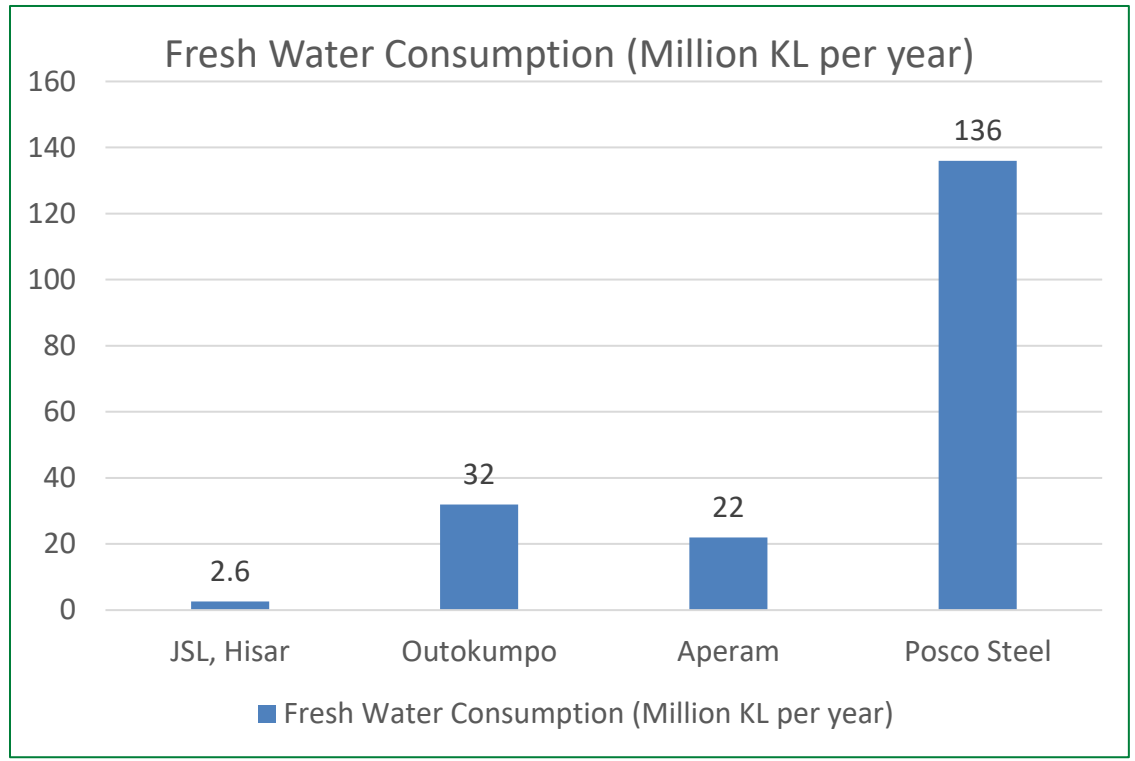
2021-22	Name of the Energy Saving Project	Investment (Rs million)	Electrical Saving (Million kwh)	Thermal Saving (Million Kcal)	Annual Savings (Rs million)	Payback Period (in months)
1	O2 Enrichment in Re-heating Furnace of Hot-strip Mill	15	0	722	44	4
2	Replacement of Old & standard motor with IE3 Motor	25	2.61	0	20	15
3	Installation of Energy Efficient pump in HRD & CRD	8	2.45	0	18	5
4	Installation of Energy Efficient LED Light in ECR/Cellar	5.5	0.71	0	5	12
5	To optimize power consumption by providing the VFD at pump	0.67	0.38	0	3	3
6	Reduction of fuel Consumption in Flat & JBS ROLLING (Strip Mill)	0	0	27	1	0
7	To optimize power consumption by providing VFD at Scale breaker Dust collector Motor. (reduced 10% speed)	0.15	0.04	0	0.32	6
8	To optimise power consumption by providing the VFD at HBA2 Cooling blower-5	0.10	0.04	0	0.32	4
9	AC Drive installed at Degreasing Line hot air blower for speed optimization (35Hz).Earlier was running at full speed at 50Hz.	0.12	0.04	0	0.27	5
10	To optimize power consumption by providing VFD at Shot blast-1 Dust collector Motor.(reduced 10% speed)	0.18	0.03	0	0.26	8
11	To optimise power consumption by providing the VFD at AP-3 Mixed Acid 1- Pump-1	0.10	0.03	0	0.26	5
12	To optimise power consumption by providing the VFD at AP-3 Mixed Acid 2- Pump-1	0.10	0.03	0	0.26	5
13	ST1 30KW Hyd P/P Motor running continuously so planned to made off if line idle more then 10 Min.	0	0.03	0	0.26	0
14	Providing Popup at Furnace HMI to avoid idle running of furnace skid pump at Strip Mill	0	0.02	0	0.14	0
15	Saving from replacing the forced cooling fan with low power consumption force cooling fan at JC blower -5 motor.	0.01	0.02	0	0.13	1
16	ST1 15KW EMG P/P Motor running continuously so planned to made off if line idle more then 10 Min.	0	0.02	0	0.13	0
17	Optimise Running use of VVVF drive instead of starter on shot blast-2 elevator.	0.03	0.01	0	0.10	3
18	Providing Popup at Furnace HMI to avoid idle running of furnace blower at Stripe Mill	0	0.01	0	0.06	0

Energy Benchmarking with Stainless Peers



Benchmarking with Stainless Peers

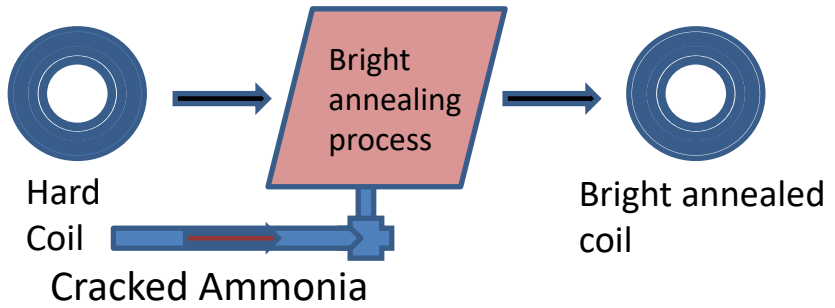


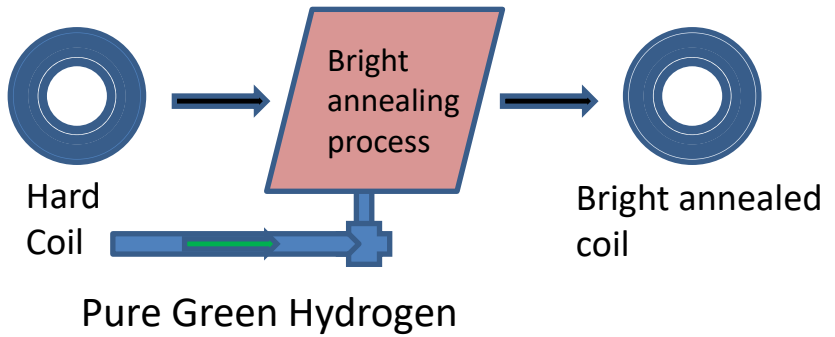


Project 1: Usage of Green Hydrogen in place of cracked ammonia gas in bright annealing process.

- **Process Before :-**
  - Ammonia Gas after disintegrating it into its constituent gases ($2NH_3 \rightarrow N_2 + 3H_2$) was being used to produce Hydrogen. This process required extensive use of fossil fuels to bring ammonia to its cracking temperature

- **Process After :-**
  - Now we are using pure green hydrogen, that is made through electrolysis process. This process does not require the use of fossil fuels.

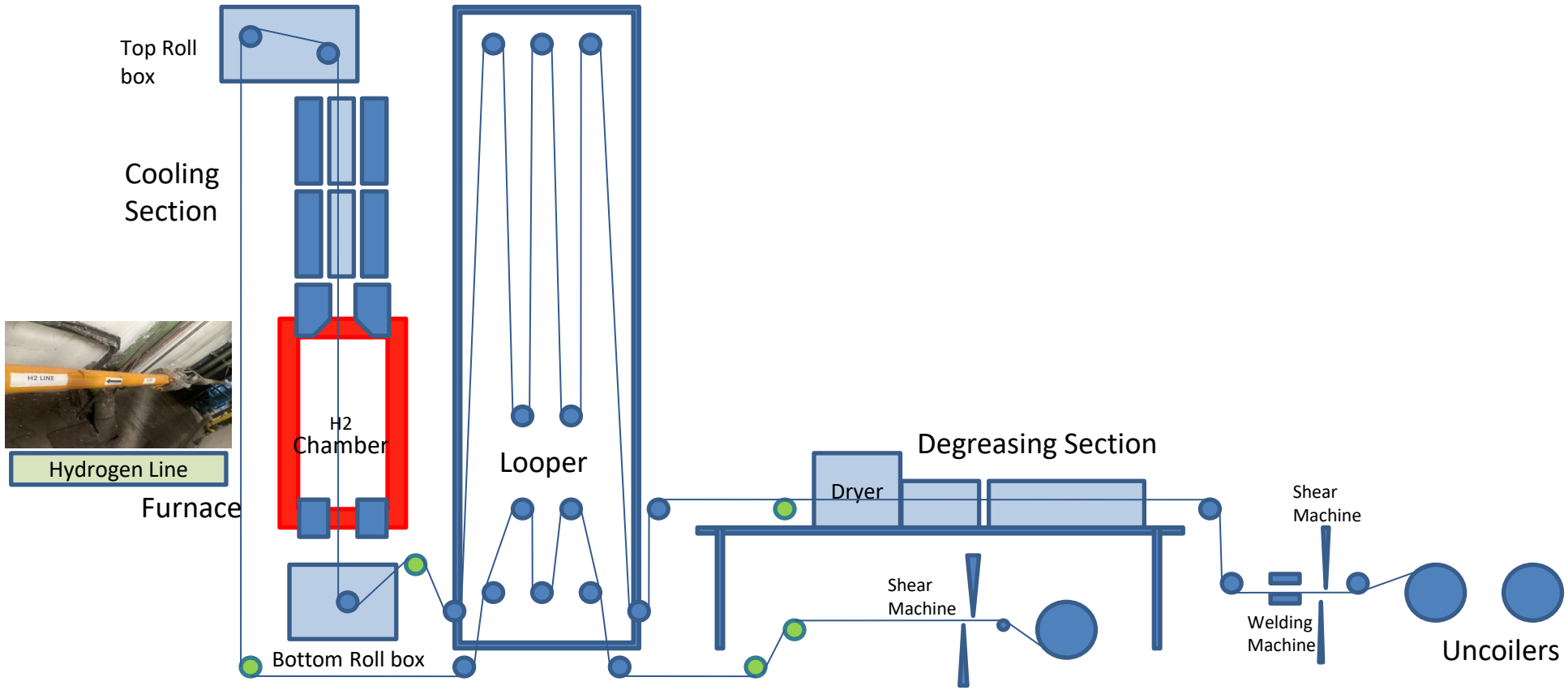




Bright Annealing Line

Bright annealing:

- Bright annealing is a non oxidizing type of annealing which involves heat treatment of metal in an oxygen-free environment. This prevents the material's surface from being exposed to oxygen and the formation of an oxide film.
- Annealing is used to induce ductility, soften material, relieve internal stresses, refine the structure by making it homogeneous, and improve cold works properties



Existing Process

Ammonia through trucks

Ammonia Storage Tank

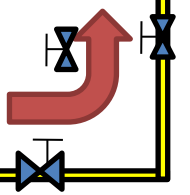
Propane Storage Tank

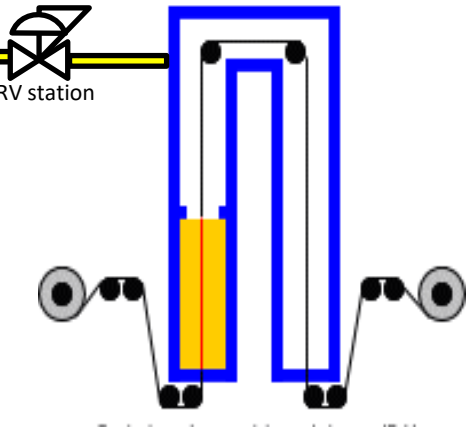
Before

Furnace

Ammonia cracker unit in Gas plant

Dryer

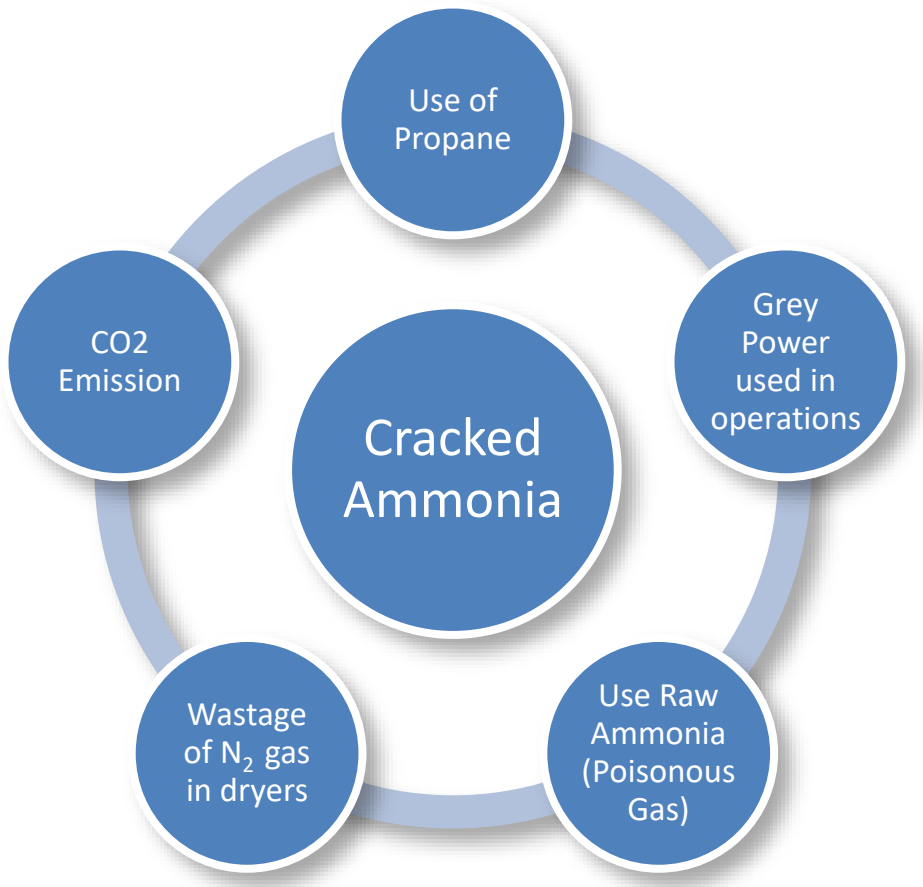




Vertical Bright Annealing Line

Challenges with using Cracked Ammonia

Use of Cracked Ammonia pose various challenges and potential risks.



Opportunities with Green Hydrogen

After analysis, following opportunities were identified with the use of Pure Hydrogen.

Green Hydrogen Generation Process

Solar Panels

Electricity through solar panels

Electrolyser

Water Treatment System

Hydrogen

Oxygen

Generated Oxygen is vent into the atmosphere

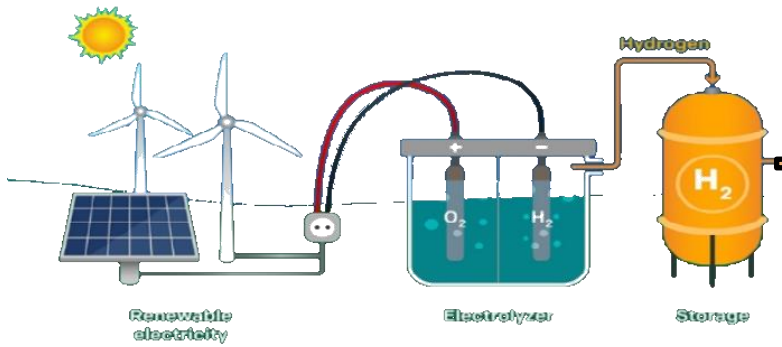
Separation unit

Storage Tanks

Purification Unit

Pure Hydrogen to BA Line

Current process Flow Diagram



Green Hydrogen Plant (H2 - 100%)

After

Pure Green Hydrogen

Ammonia through trucks

Ammonia Storage Tank

Propane Storage Tank

Furnace

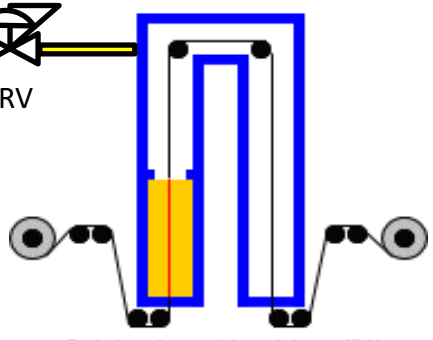
Ammonia cracker unit in Gas plant

Dryer

Cracked ammonia

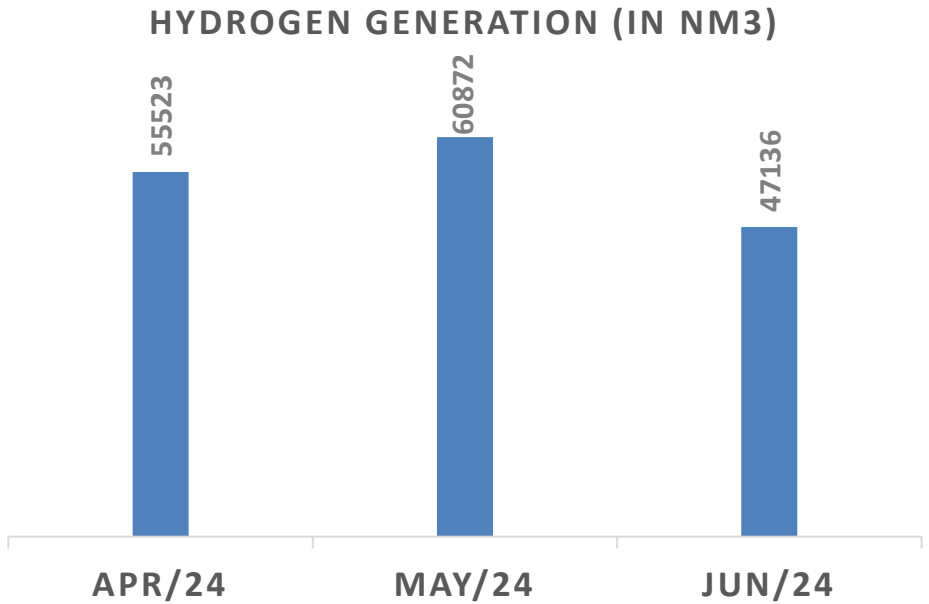
F

PRV



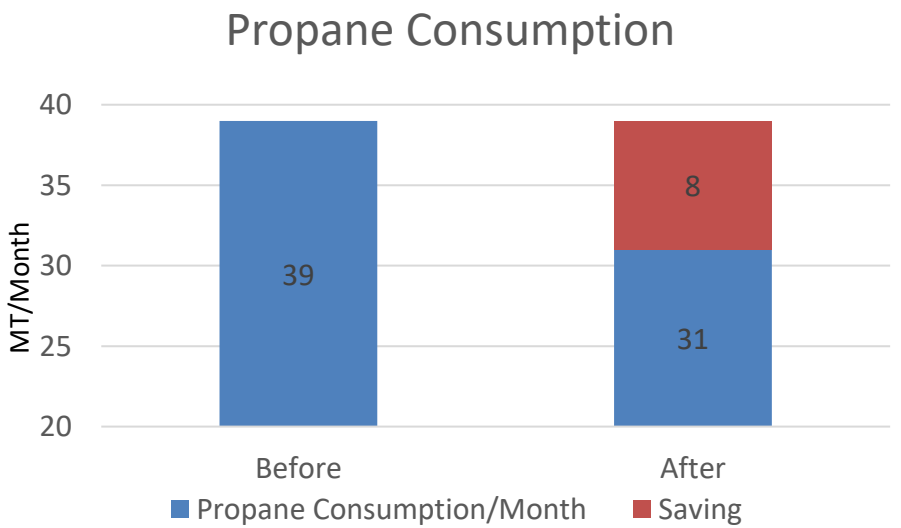
Vertical Bright Annealing Line

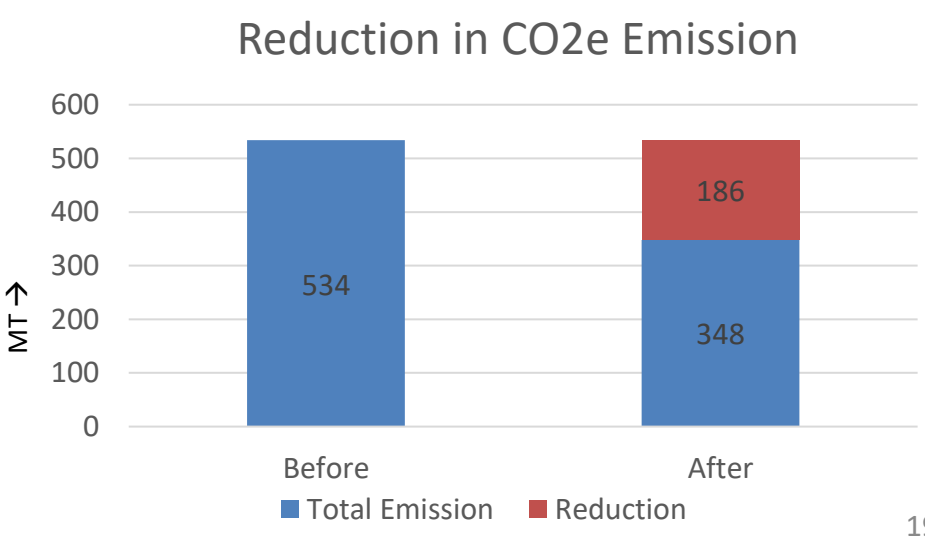
Results Achieved – Reduction in CO_2 Emissions



Tangible Benefits

- Total of 163531 Nm^3 of Hydrogen is generated till June-24.
- This is equivalent to about 85 Mt of ammonia and 19.56 Mt of propane had we used the traditional route.
- Therefore more than 186Mt of CO_2 was prevented from being released into the environment.





Result – Increase in Production

Saving Data Sheet

Before Modification

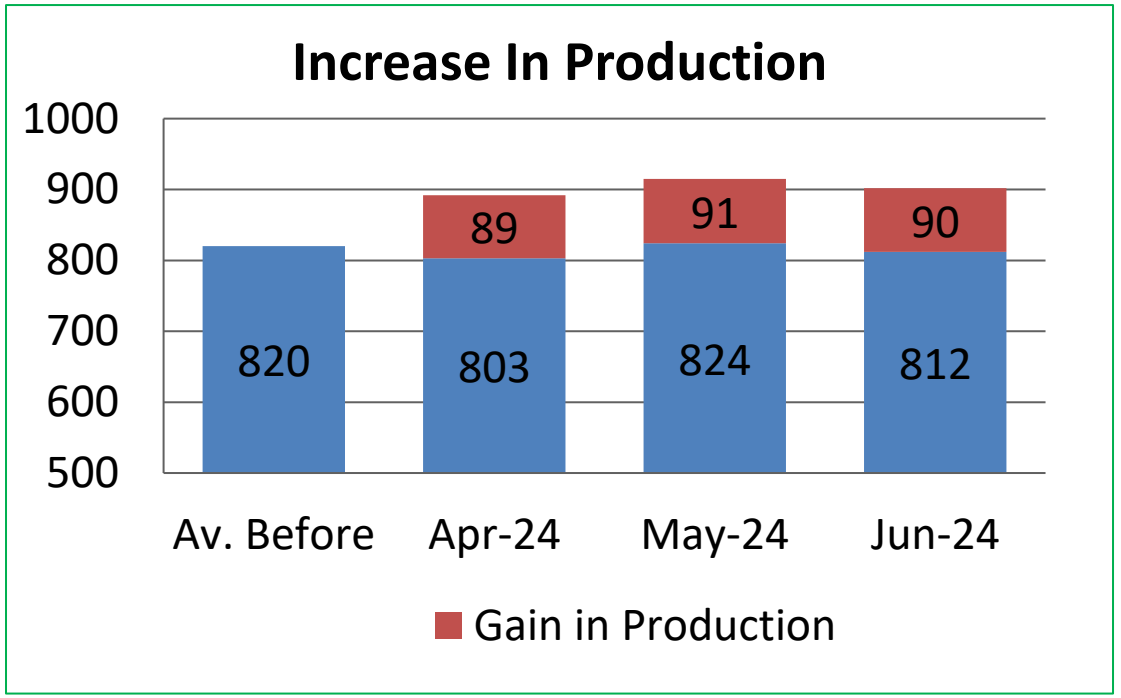
Average Monthly Production – 800 Mt

After Modification

Average Monthly Production – 890 Mt **(increase of >10%)**

Results

Increase in Volume of production = 90 Mt / Month
Cost of Material = Rs 50 / Kg
Saving of Rs = 90*1000*50
= 4500000 Rs
= **Rs Lac 45.0**



- As Hydrogen is light gas compared to Cracked Ammonia ($N_2 + H_2$) which gives better heat transfer than cracked ammonia atmosphere that's why we are increasing the speed 10-15 % with respect to earlier speed.
- Keeping the quality parameters (Yields strength, Ultimate tensile strength, Elongation & Hardness) same, we are seeing an Increase of about 10% in our production capacity through that particular BA line.

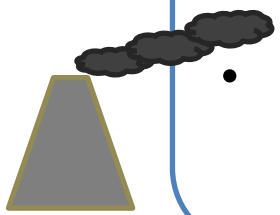
Way Forward

- As of now about 85% of JSL Hisar plant's Hydrogen requirements is fulfilled through traditional route, that is through cracked ammonia route.
- For our future plans, we are planning to expand our green hydrogen capacity and further reduce our dependence traditional sources to produce hydrogen. We are planning a new 200 NM3/hr hydrogen plant for the same.
- We will be horizontally deploying the technology on our other Bright Annealing Lines in future.

Project 2: Utilization of flue gas by steam generation through waste heat recovery boiler.

Heat Energy Available in Flue Gas for Steam Generation

Details of the flue gas parameters and maximum available heat				
SS Grade	**Flue gas temperature**	**Flue gas rate**	**Estimated flue gas temperature to stake**	**Heat available**
	(Degree Celsius)	(tph)	(Degree Celsius)	(Million kcal/hr)
200	350	20	150	0.99
300	365	26	150	1.38
400	270	24	150	0.71



Major Observations:

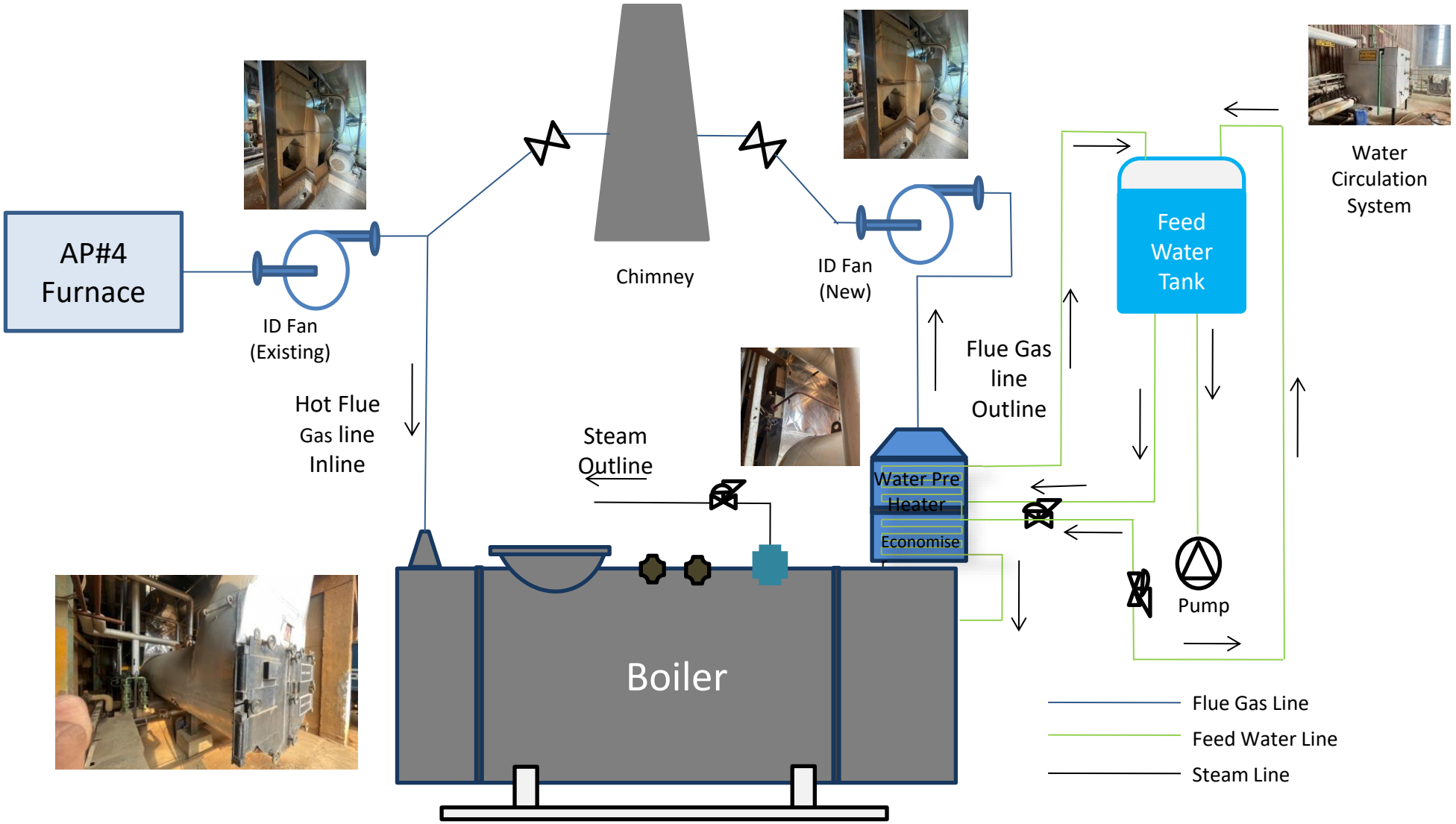
- Daily average of 1.013 Mkcal/hr. energy was wasted from AP4 annealing furnace.
- This energy could be tapped and reused.

Brainstorming

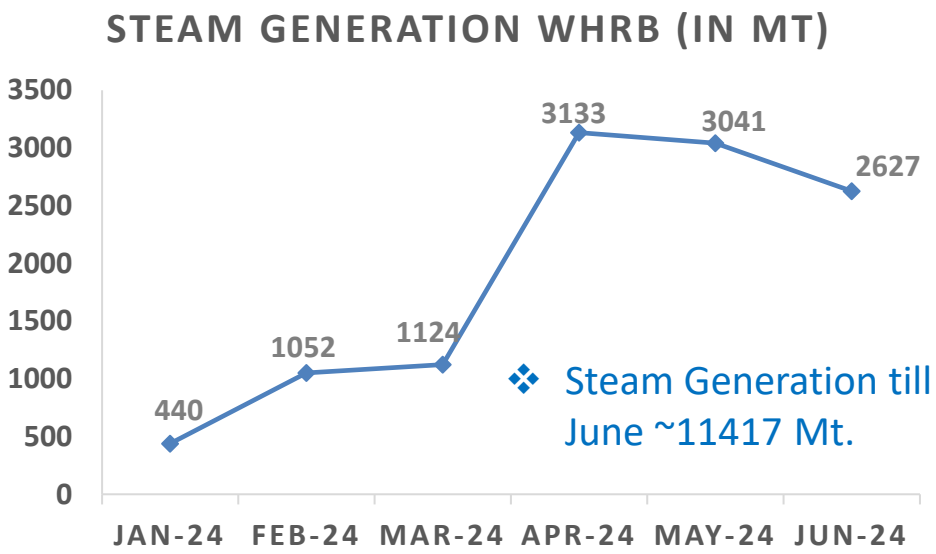
Our Modification:

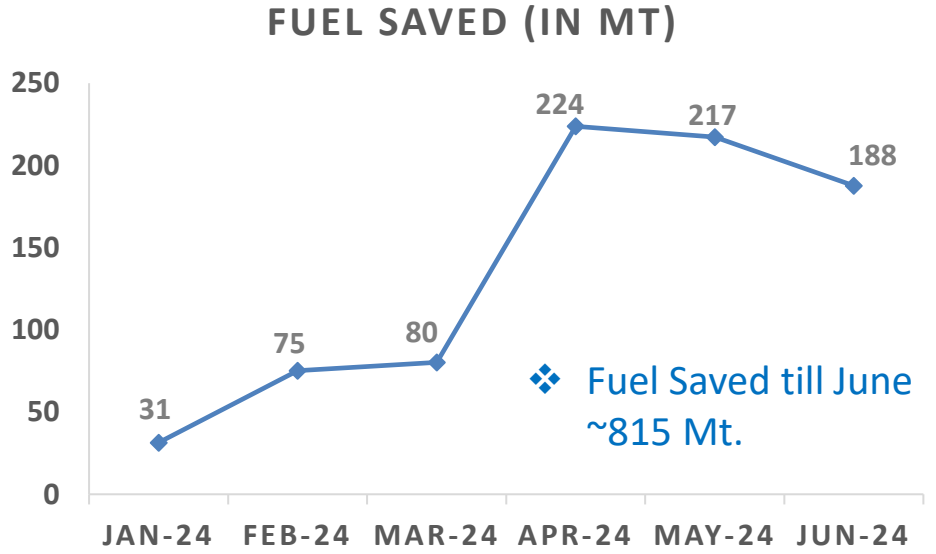
- We designed and installed a 2.25 ton/hr capacity waste heat recovery boiler at AP4 line to tap the energy getting wasted.

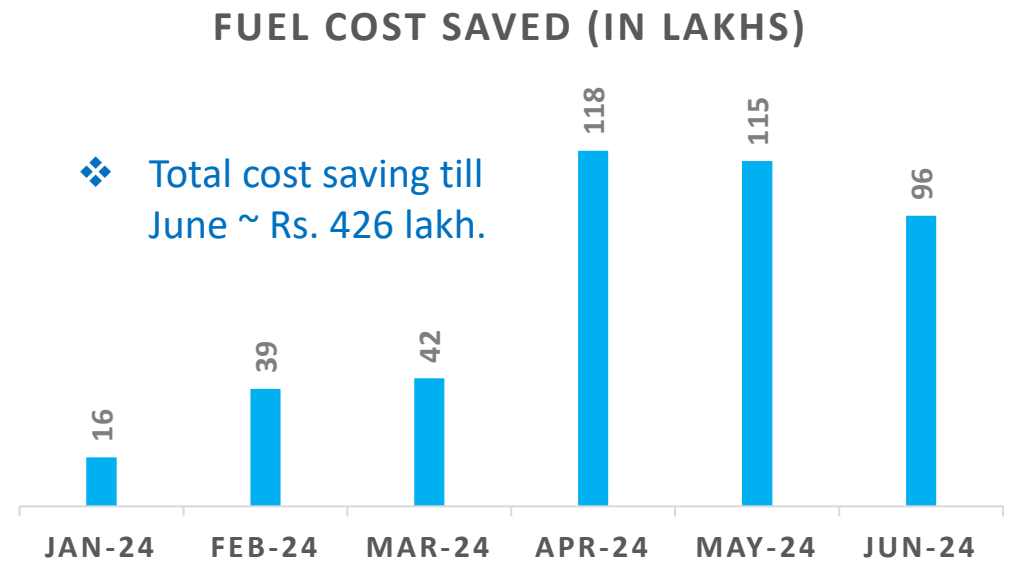
WHRB Line Diagram

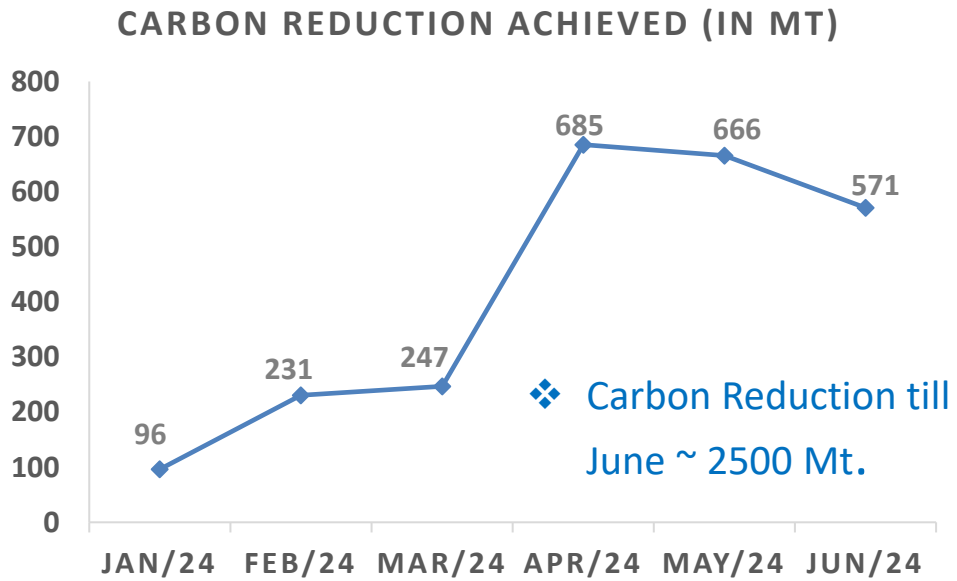


Steam Generation, Fuel saving, Cost saved and Carbon Reduction achieved









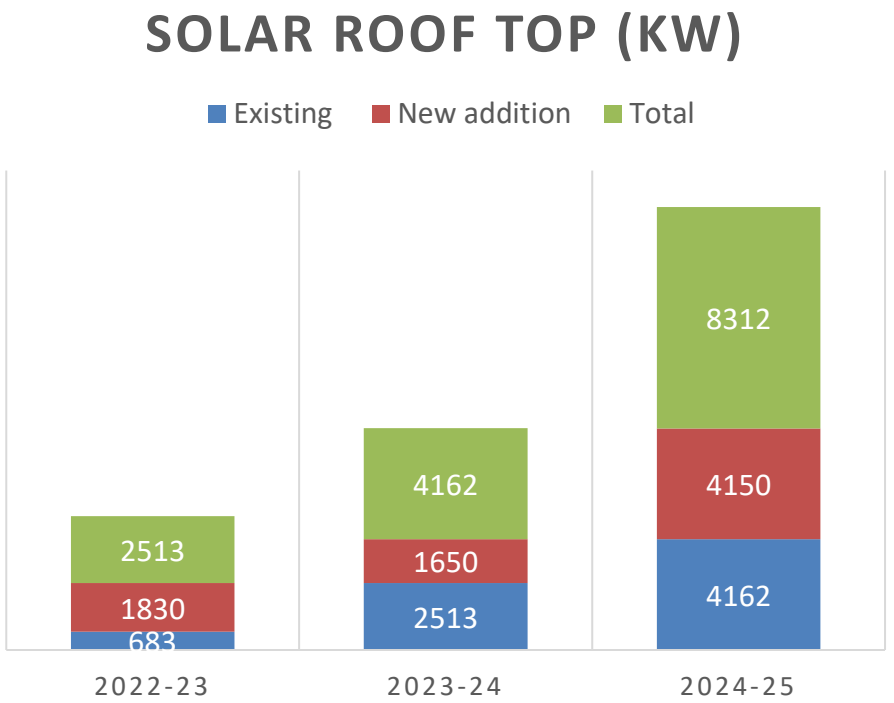
Way Forward

- After the success of this project, One such area we recognised is our another AP line, AP#2.

Design Basis for Boiler at AP#2

Amount of heat available in exhaust gases & Steam generation Data		
Description	UOM	Data
Mass flow rate of exhaust (m)	Kg/hr	11925
Specific heat capacity of hot flue gas (Cp)	KJ/kgK	1.051
Temp of hot gas (T2)	^{0}C	350
Temp at exit gas (T1)	^{0}C	150
Available heat in exit gas (Q)	KJ/hr	2506635
Assume efficiency	%	80
Available heat (Q)	KJ/hr	2005308
Amount of heat available in exhaust gases	Million kcal/hr	0.48
Heat required to produce 1 kg of steam @ 3.5 bar at 90 deg. Celsius		
Specific enthalpy of steam@3.5 bar	KJ/kg	2732
Heat required 1 kg of steam	KJ/kg	2460
Steam generation (Potential) / WHRB Capacity as per heat available	Kg/hr	815

Renewable Energy Intervention Onsite



Output:
Generation of 10.75 Million Unit per annum

Impact:
Offset: 8800 Ton of Co2 per annum

Renewable Energy Intervention Offsite

- Installed Floating solar plant Capacity: 2.8 MWp
- Total Mwh- 89600 during the life time.
- Total CO2 Emission Reduction- 0.63 lakh tCO2e.

Output:
Green H2 Generation of 7.8 lac NM3/Annum.

Impact:
Offset: 2700 Ton of CO2 per annum
Ammonia:390MT/Annum

- 280 MW Solar & Wind Hybrid Power Plant
- Output- 100 Mw Renewable Energy Round the Clock
- Total Mwh- 613200
- Total CO2 Emission Reduction-435372 tCO2/year

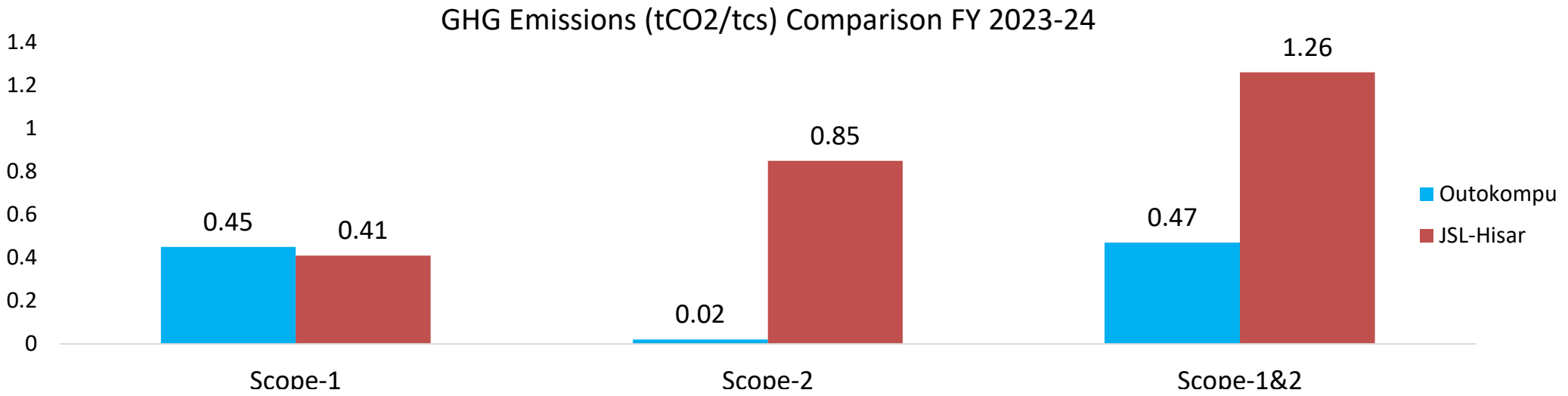
Output:
Generation of 613 million Kwh

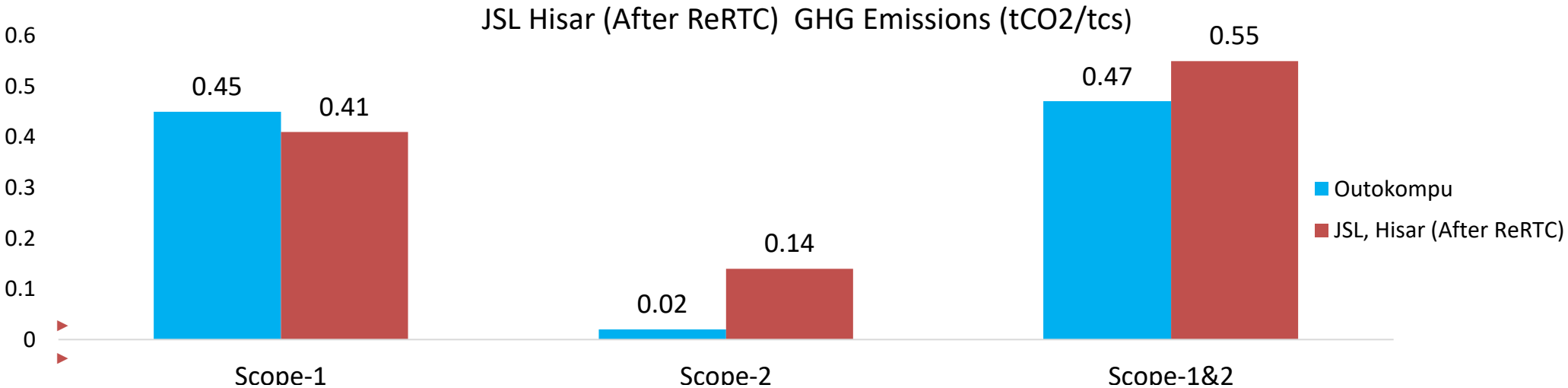
Impact:
Offset : 0.43 Million Ton
CO2 per annum

GHG Emission-JSL Hisar

Sr. No	Details	FY22-23	FY23-24	Target 2035 (Mid Term Target)	Target 2050 (Long Term Target)
1	Scope-1 (tCO2/tcs)	0.41	0.41	50% Reduction from Baseline Year	Net Zero by 2050
2	Scope-2 (tCO2/tcs)	0.86	0.85		
4	Scope-3 (JSL Hisar Plant) (tCO2/tcs)	1.49	Under Evaluation		

JSL Hisar – Peer Benchmarking

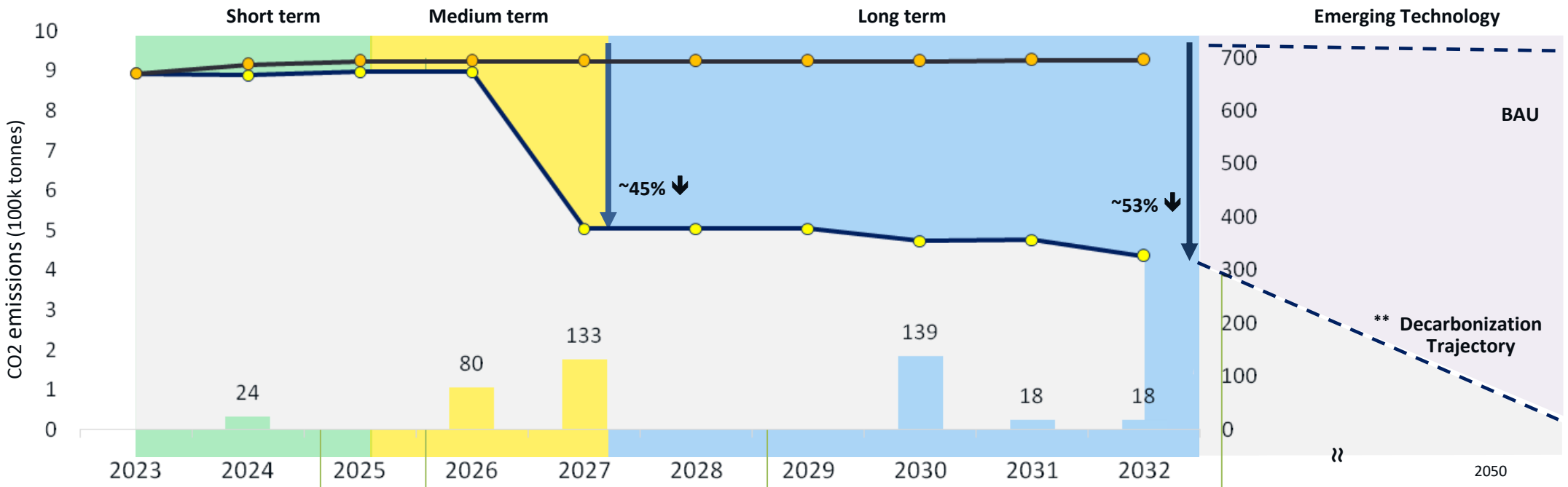




Low Carbon & Net Zero Strategy -JSL

- Energy Efficiency
- Energy Substitution
- Process Reconfiguration
- Feedstock Optimization
- Waste heat recovery boiler (WHRB)
- Green Hydrogen
- Carbon offsetting-Tree plantation
- Digitalization
- Waste Management
- Carbon capture & utilization

Decarbonization Roadmap-JSL Hisar



1 Annealing Bypass
2 Bio-coal Substitution in EAF
3 Hot Charging of Slabs
4 Bio Mass fuel Boiler
5 Energy efficient motors
6 Digital Twin – LRF
7 Oxyfuel burners in RHF
8 Electric Forklifts

9 EM bottom stirring
10 Ladle Preheating Oxyfuel
11 Organic cycle WHR–RHF
12 RE RTC
13 NG substitution

14 Internal coil transfer by EV truck
15 H2 recovery in HBA line
16 WHR from EAF + AOD1
17 WHR from AOD2
18 H2 substitution
19 CCUS – SMS

100% H2 Substitution
Biomass/Biogas usage at scale
Molten oxide electrolysis
Large scale CCU/S

Energy Policy & Energy Cell

JSL JINDAL STAINLESS

ENERGY POLICY

We at Jindal Stainless Limited, Hisar are committed towards Energy conservation through efficient utilization of various form of Energy in a cost-effective manner.

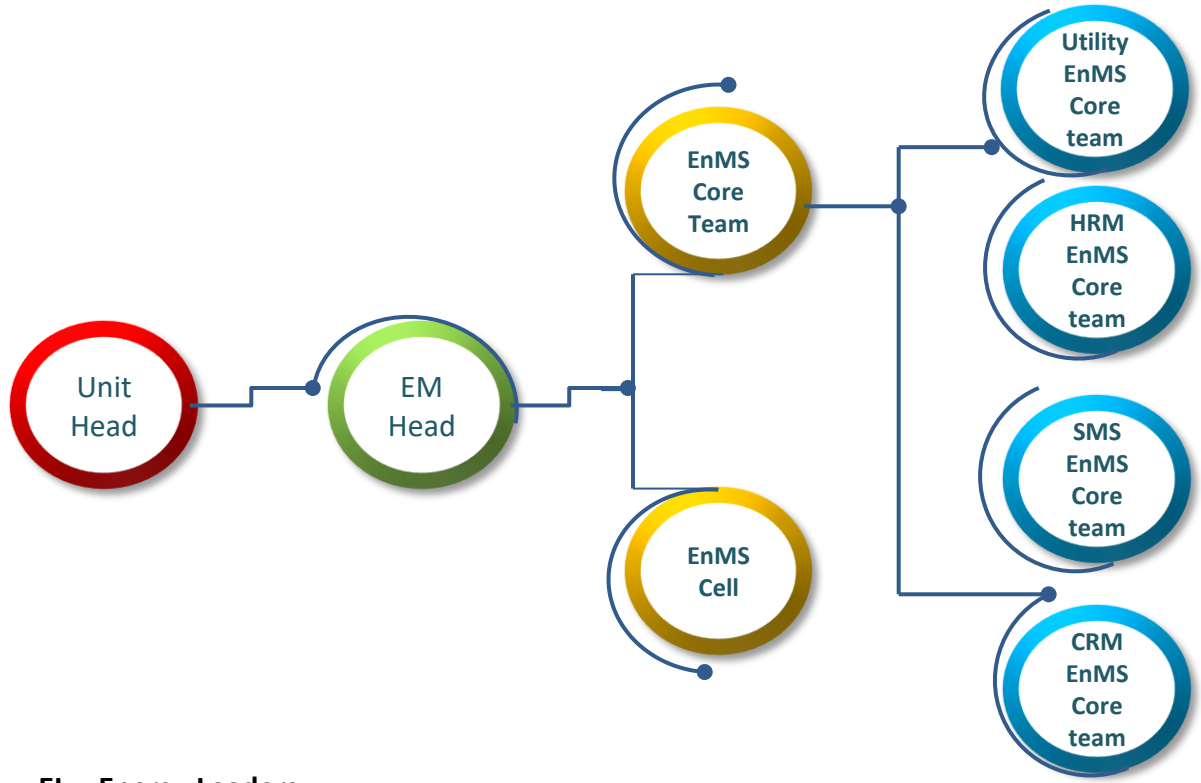
For achieving this, we devote ourselves to:

- Promote use of energy efficient processes, equipment, device and system in the manufacturing of steel and sustain continuous reduction is specific energy consumption year-on-year
- Maintain sound and efficient energy management system to continuously improve and raise performance bar.
- Monitor and improve the energy usage in all process
- Constantly identify the areas of improvement of energy performance and the EnMS and work for its implementation
- Support the procurement of energy efficient products and services that impact energy performance;
- Support design activities that consider energy performance improvement.
- Commitment to ensure the availability of information and of necessary resources to achieve objectives and targets;
- Benchmarking with the global best in the industry.
- Create awareness for efficient use of energy & its conservation and make energy conservation integral to our work culture & personal habit.
- Adherence to all applicable statutory requirements and other requirements related to energy efficiency, energy use and energy consumption.

This will be achieved by dedicated team work and active participation & commitment from employees at all levels. Since, it is an ongoing process; we here at JSL, Hisar try to continuously achieve the best and further keep on improving.

DATE: April 1, 2023

J. SOOD
Director & Chief Operating Officer



EL – Energy Leaders
CEM – Certified Energy Manager

***Note**

- ❑ **We have BEE Certified 3 Energy Auditor & 4 Energy Manager.**
- ❑ **Also we have 24 Certified Internal Energy Auditor as per ISO 50001.**

Adoption of Energy Management System

ISO 50001:2018 Certificate

TÜV NORD

CERTIFICATE

Management system as per
ISO 50001 : 2018

The Certification Body TÜV INDIA hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

JINDAL STAINLESS LIMITED
(HR and CR Division)
O.P. Jindal Marg, Hisar - 125 005,
Haryana,
India

operates a management system in accordance with the requirements of ISO 50001 : 2018 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope -

Manufacture of Hot Rolled and Cold Rolled Stainless Steel Product.

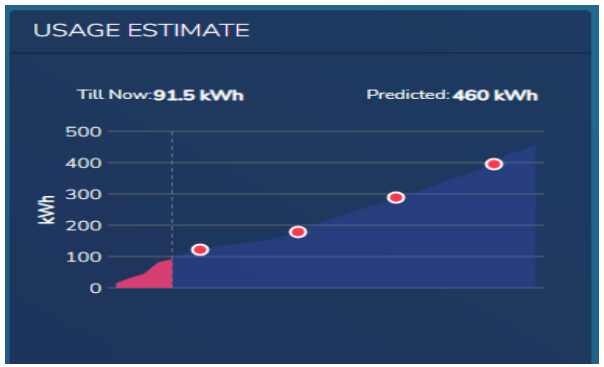
Certificate Registration No. ENMS 04 00003
Audit Report No. Q 8607/2019

Valid from 26.04.2022
Valid until 24.04.2026
Initial certification 26.04.2019

Certification Body
at TÜV INDIA PVT. LTD.

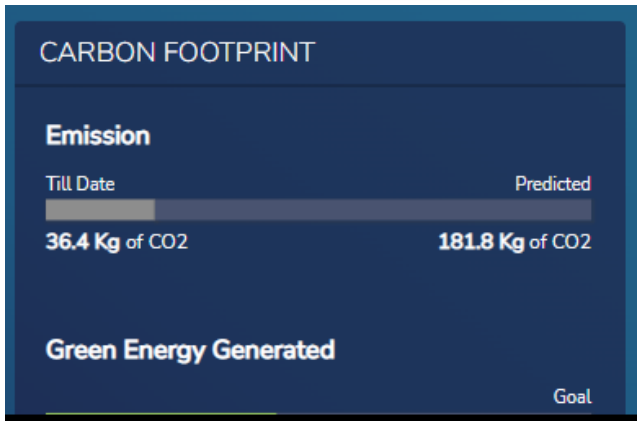
Mumbai, 06.04.2023

TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India cert.helpdesk@tuvindia.co.in

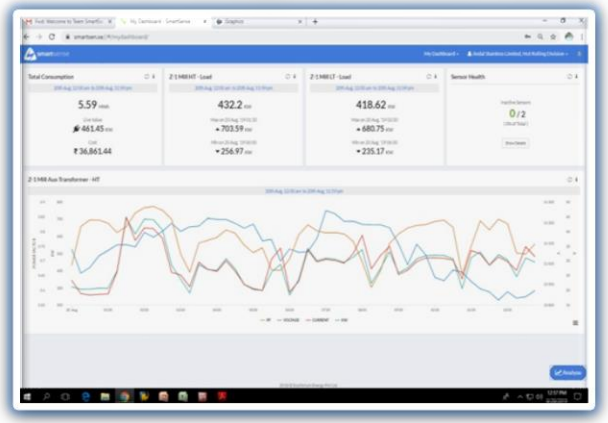


Online EMS Scada System

Solar Energy Generation Trends



Section Wise CO2 Emission Report



Online Loading Monitoring of Transformers & Major Equipments

Capacity Buildup-Program

I. JSL Sponsored Employee to Enroll in **Certified Energy Manager/Auditor** conducted by BEE, Govt. of India

II. JSL Sponsored Energy Team to Enroll in **Post Graduate Professional Development Program in Energy Management & Climate Action organised by CII in collaboration with Thapar University.**

III. JSL nominated employee to attend various online/offline professional course/ Training/Seminar organized by CII,BEE, Hareda, PCRA etc.

IV. Awareness given to employees regarding their contribution to the effectiveness of the EnMS, including achievement of objectives and energy targets and the benefits of improved energy performance;

V. **National Energy Conservation week** is being celebrated every year on 7th to 14th December to bring awareness among the people & motivated about energy conservation. Various events i.e. poster competition, slogan/poem competition, Energy saving pledge organized for JSL Employee, spouse & children

VI. Monthly Training calendar circulated to all employee to attend the training on latest technology, Energy Conservation tips,5S,TPM,KAIZEN etc.

Internal Energy Training

Energy Saving Pledge

Poster Competition

External Energy Training

CII National Energy Efficiency Circle Competition

Commitment to Transparency

Sustainability Reporting

BRSR — 1st Report published as per SEBI Guidelines

ISO 14064 GREENHOUSE GAS EMISSIONS — GHG Inventorization (CCF) as per ISO 14064 & GHG Protocol

GRI — Sustainability Report as per GRI Standard

CARBON FOOTPRINT ISO 14067:2018 — Product Carbon Footprint as per ISO14067

Annual Independent ESG Rating

S&P Global — S&P Global Corporate Sustainability Assessment (DJSI)

ecovadis — ESG Rating Assessment - Ecovadis

Global Reputation

Responsible Steel™

*Member for Certification

SCIENCE BASED TARGETS

EPD®

green BUILDING

Regulatory Compliances

#EUGreenDeal — EU CARBON BORDER ADJUSTMENT MECHANISM

PAT SCHEME PERFORM, ACHIEVE, TRADE

NATIONAL CARBON MARKET

Awards & Accolades

IIM National Sustainability Award 2023

Excellent Energy Efficient Unit Award 2023

Best ESG Initiative to Implement Energy Conservation Award 2023

Best Case Study on Low Carbon/Carb on Neutral Initiative Award 2024

Effective Implementation of ISO 50001: Energy Management System Award 2024

Innovations in Energy Efficiency Award 2024

Best Energy Efficient Case Study Award 2024

CII National Energy Efficiency Circle Competition

State Level Energy Conservation Award 2024

Thank You

JSL
JINDAL STAINLESS