Grasim Industries Ltd.

Chemical Division, Rehla

WELCOMES

National Award for Excellence In Energy Management-2023

Presented By:-

- **Mr. Deepak Sharma**
  General Manager
- **Mr. Suraj Pandey**
  Sr. Manager- CPP
- **Mr. Bijendra Kumar**
  Manager- CAP

ADITYA BIRLA
GRASIM

Contents

Confederation of Indian Industry

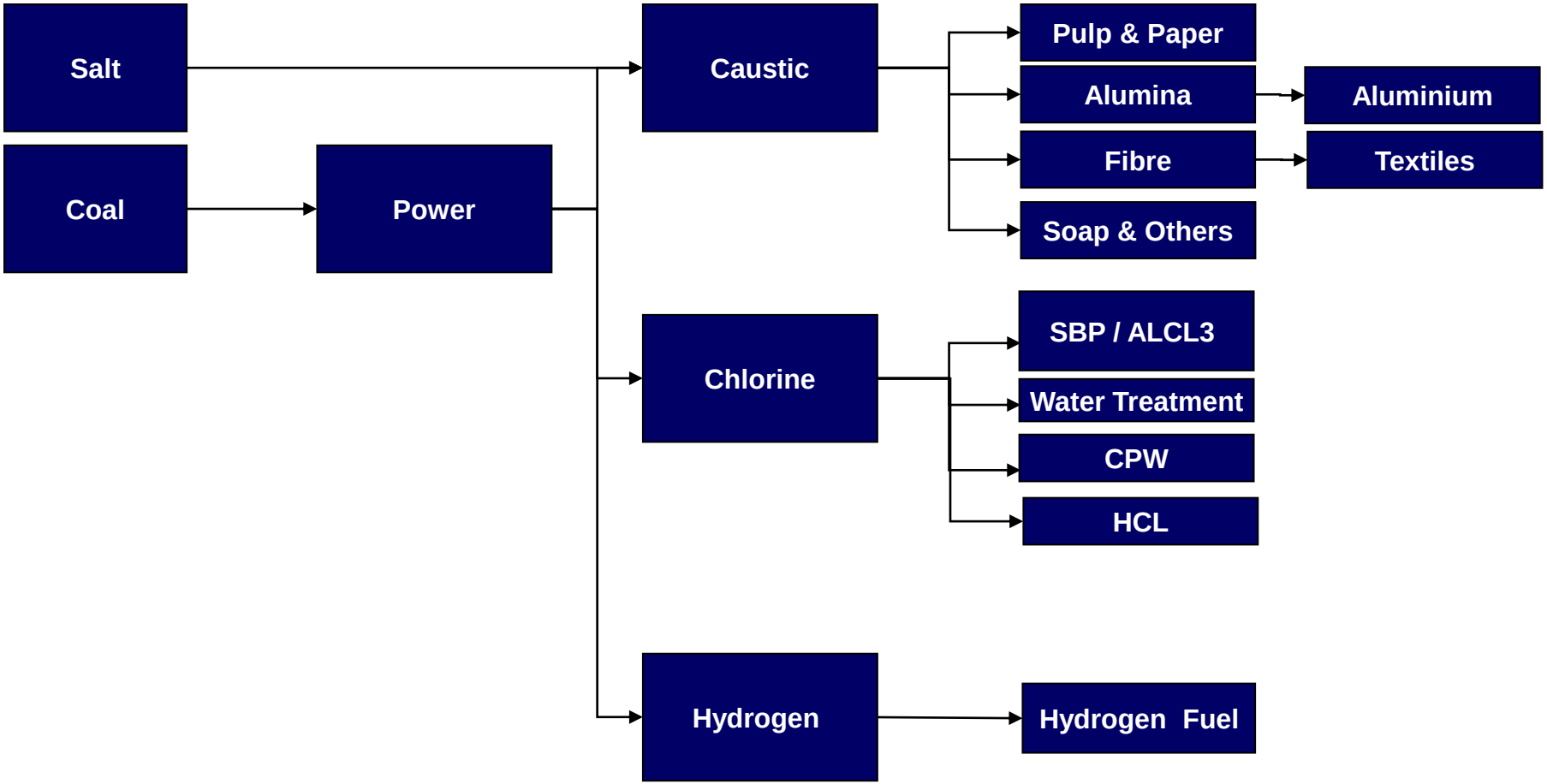
Unit at a Glance-Brief Introduction

Confederation of Indian Industry

City	Distance by Road (KM)
Ranchi	203
Patna	254
Kolkatta	632
Varanasi	230

Business	**"CHLOR ALKALI"**
Unit	**GRASIM INDUSTRIES LTD Chemical Division**
Location	**Ghanshyam Kunj, Rehla, Distt. Palamau, Jharkhand – 822124**
Product	**Caustic Soda (NaOH), Liquid Chlorine (Cl2), Hydrochloric Acid (HCl), Sodium Hypochlorite (NaOCl), Compressed Hydrogen Gas, Aluminium Chloride Anhydrous, Stable Bleaching Powder (SBP), Caustic Soda Flakes, Dilute Suphuric Acid.**
Capacity	**(300 TPD -UDHE -1984) + (250 TPD -AKCC 2021)**
Power Source	**Captive Power Plant: (Thermal Coal Based) •TPP-1 : 1x30 MW Commissioned in 2000 •TPP-2 : 1x30 MW Commissioned in 2014**
Certifications	**ISO-9001, ISO-14001, ISO 45001, SA-8000, ISO 50001, ISO 27001**

Manufacturing Process



Technologies, Equipments and Facilities:

Caustic Soda Plant :

Environmentally friendly and State of Art Membrane Cell Technology for manufacturing of Caustic Soda.

Sea salt (NaCl) after purification in solution form is electrolyzed by using Direct Current to produce Caustic Soda, Chlorine and Hydrogen.

Power Plant configuration:

- 1x135TPH CFBC Boiler (Thyssen Krupp)+1x30MW Steam Turbo-Generator (BHEL)
- 1x150TPH CFBC Boiler (ISGEC) + 1x30MW Co-gen Steam Turbo- Generator (BHEL)

Value Added Products :

- **Aluminium Chloride:** A value added product of Chlorine in powder and granule form used in Pharmaceuticals, Pesticides, and Dyes & Pigments industries.
- **Stable Bleaching Powder:** This product has competitive edge over the market in the segment of pulp and paper, Textiles, Carpet , Water Treatment, Sanitation etc

Key Milestones

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1976	1984	2000	2006	2007	2008	2014	2017	2021
 BCCL (JV of ABG & Bihar govt.)	100 TPD Mercury Cell Commercial production	Establishment of Captive power plant Unit – 1 (30 MW)	225 TPD Conversion of Technology Mercury cell to Membrane Cell	Alcl3 Cl2 sync (1st VAP)	300 TPD Membrane Cell SBP 48 TPD (2nd VAP)	Establishment of Captive power plant Unit – 2 (30 MW x 2)	Caustic Soda Flaking unit (100 TPD)	550 TPD Membrane Cell (250 TPD AKCC)

- **2003 :** The company became subsidiary of M/s Hindalco Industries Limited.
- **2009:** Name of the Company was changed from Bihar Caustic & Chemicals Limited, to Aditya Birla Chemicals (India) Limited, Rehla
- **2016:** ABCIL merged into Grasim Industries limited as Chemical Division.

Product Portfolios

Products	Unit	1984 - 85	2006-07	2008-09	2010- 11	2016-17	2019-22
Caustic Soda	TPD	100	225	300	300	300	550
Chlorine	TPD	40	100	160	160	190	488
HCl (100%)	TPD	50	100	100	100	70	180
Aluminum Chloride	TPD	-	-	32	41	41	65
Stable Bleaching Powder (SBP)	TPD	-	-	48	48	62	80
Caustic Soda Flake	TPD	-	-	-	-	100	200

Energy Consumption (Overall)

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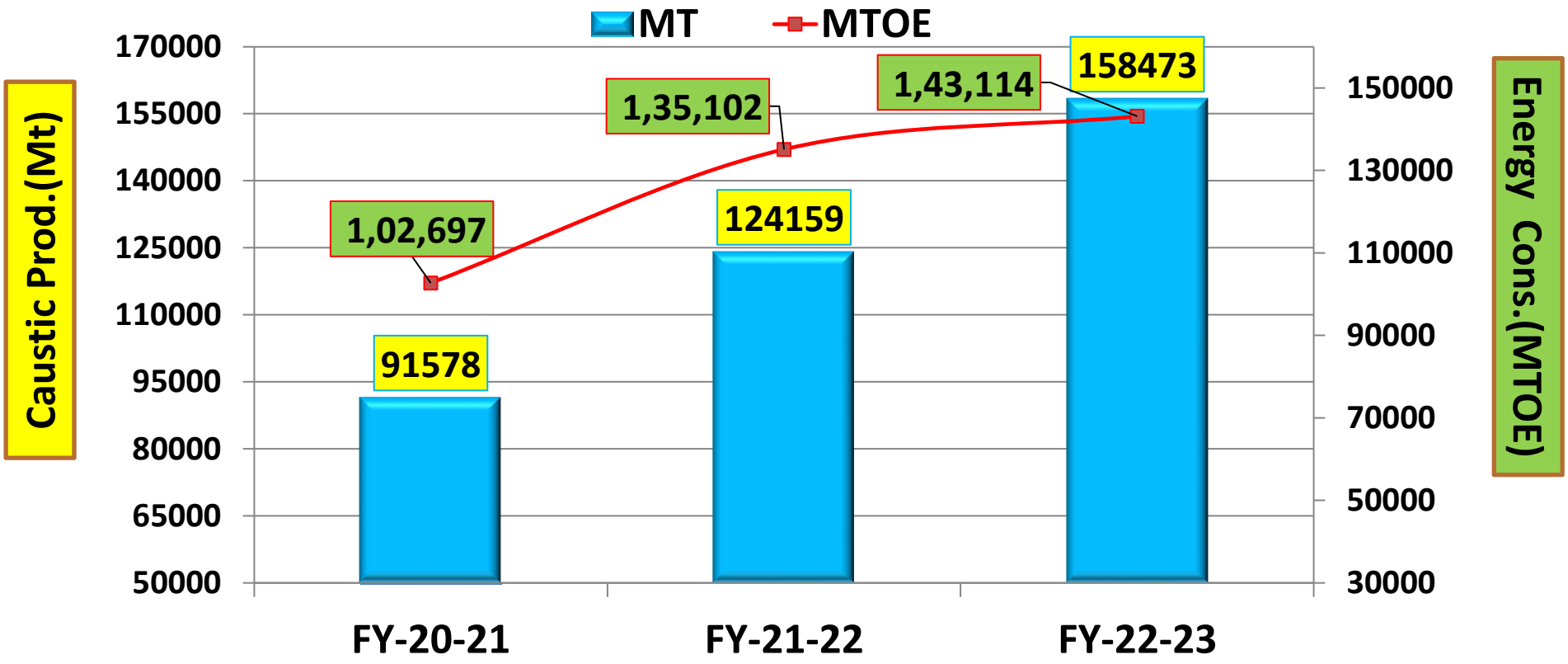
CAUSTIC PRODUCTION VS ENERGY CONSUMPTION



Specific Energy Consumption

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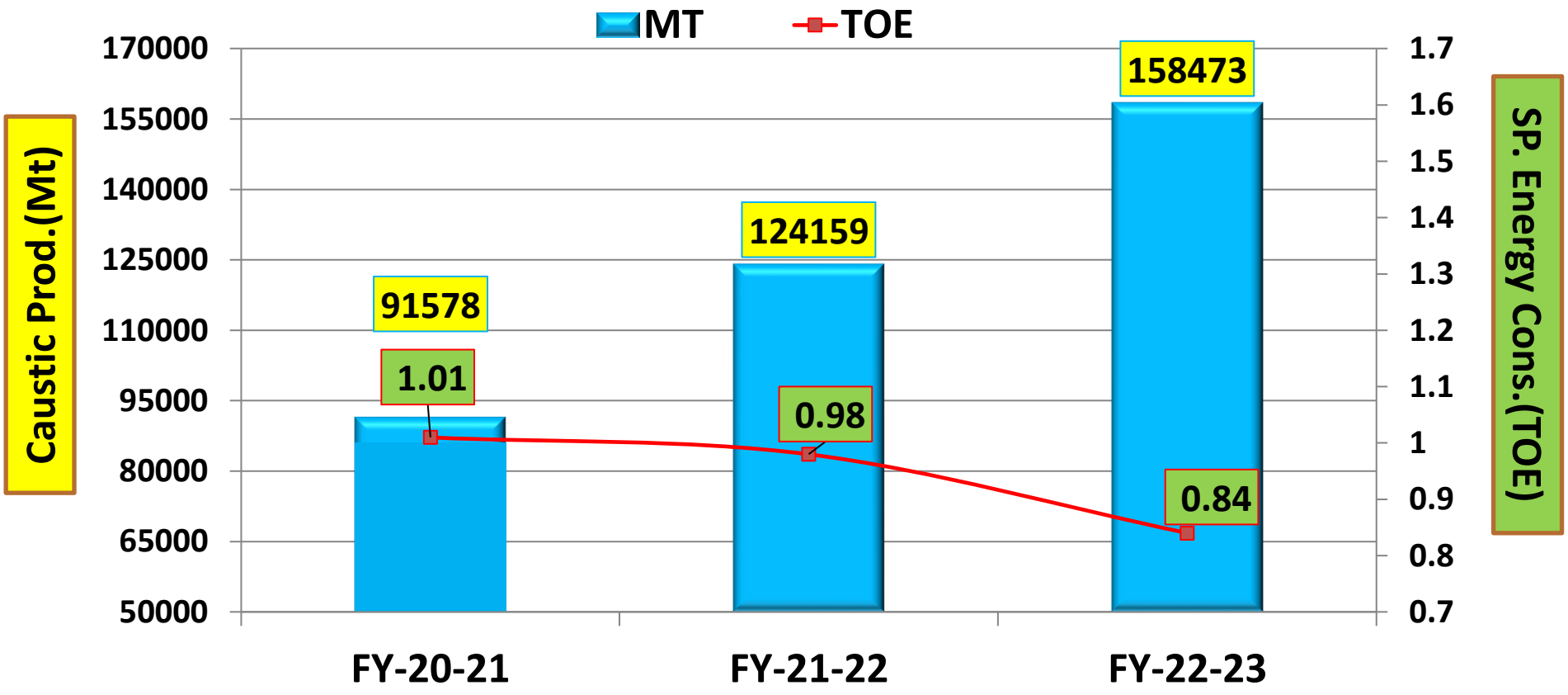
CAUSTIC PRODUCTION VS ENERGY CONSUMPTION



Energy Consumption (Source wise)

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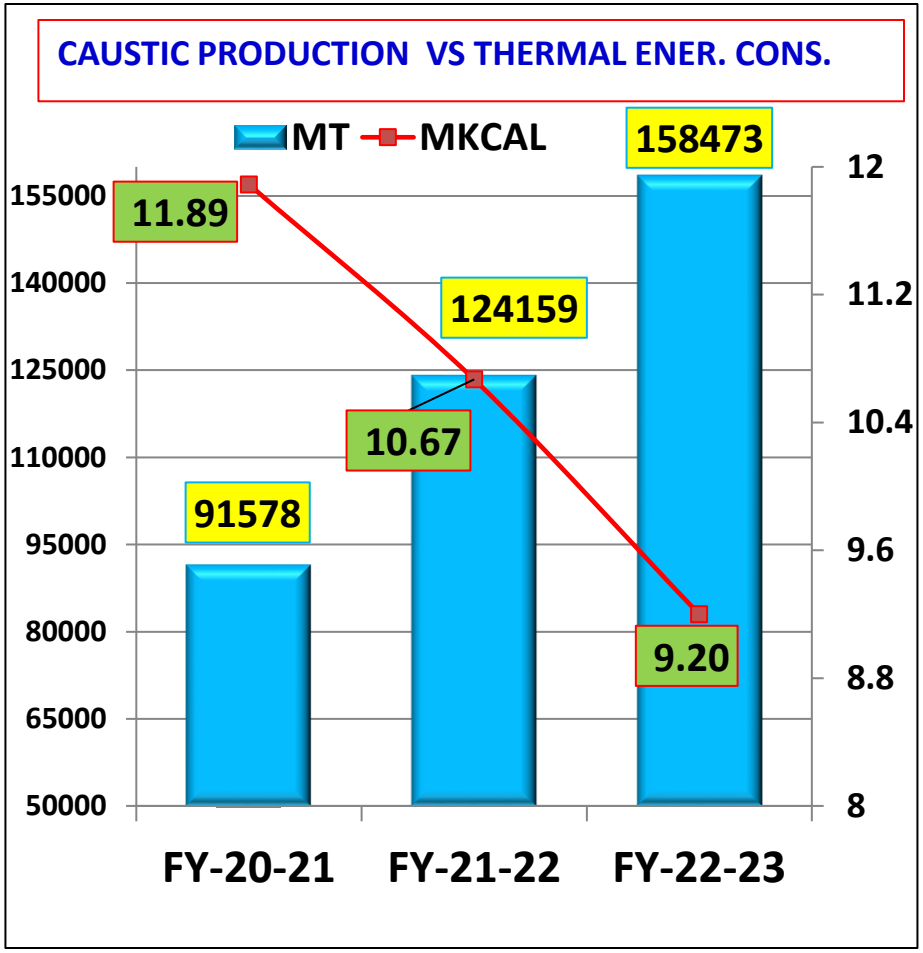

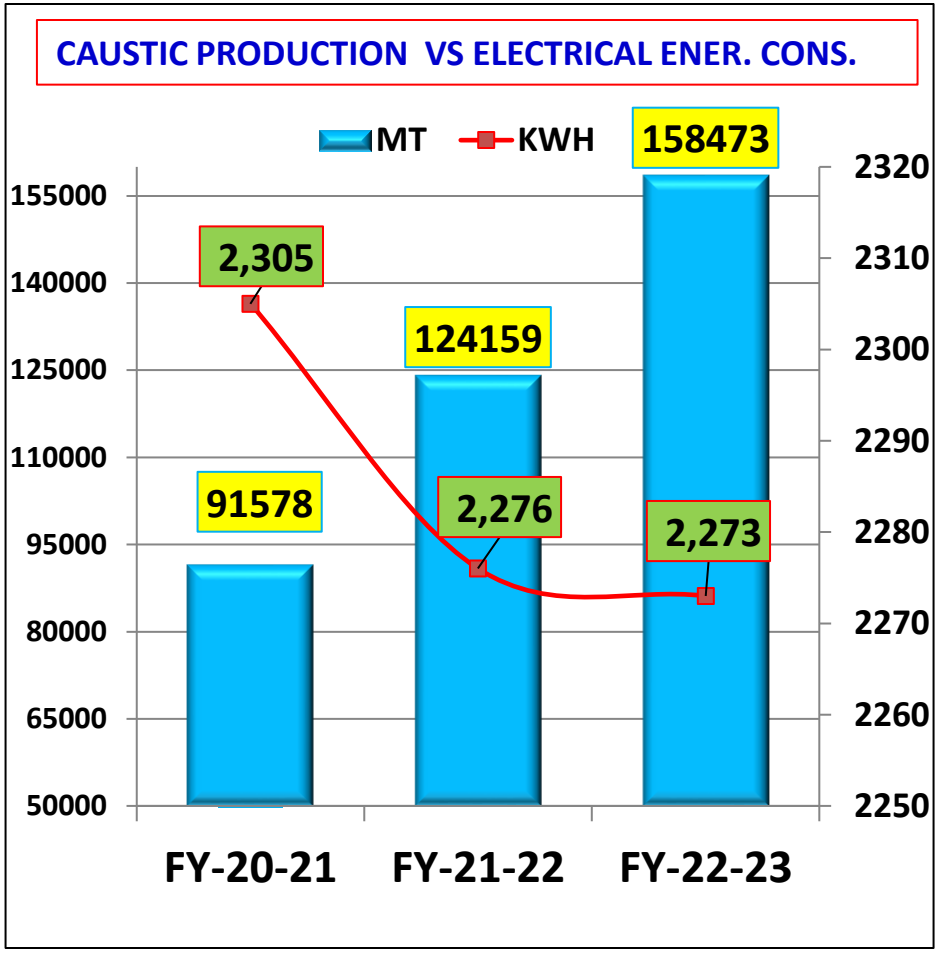

Power Consumers

Cell Power : Is defined as the total power utilized directly in process of electrolysis.

Factors Effecting Cell Power :-

- Aging of Membrane – 15 kWh/ton of Caustic, Remembraning in a duration of 4Years
- Coating Depletion for Anode and Cathode Pans, Recoating in a duration of 8 Years.
- Higher Current Density Operations.
- Generation of Electrolysers
  - Gen IV – 2180 KWh/ton @ 4.75 CD
  - Gen V – 2030 KWH/ton @ 4.75 CD
  - Gen VI – 2005KWh/ton @ 5.00 CD

Aux Power : Is defined as the additional power required for associated equipment's.

Factors Effecting Aux Power :-

- HCL and Liquid Chlorine production percentage.
- Power associated with utility, Cooling Water and Chilled Water.
- Media for Liq. Chlorine pumping.

Synergy –Benchmarking-Competitors

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Units	FY22		FY 23	
	Target (Kwh/Mt)	Actual (Kwh/Mt)	Target (Kwh/Mt)	Actual (Kwh/Mt)
Nagda	2188	2227	2187	2218
Rehla	**2101**	**2083**	**2083**	**2081**
Renukoot	2113	2127	2106	2081
Vilayat	2174	2187	2132	2149
Karwar	2104	2117	2234	2242
Ganjam	2189	2113	2135	2083

Energy Saving Projects Implemented

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ENERGY SAVING PROJECTS IMPLEMENTED IN LAST THREE YEARS							
Sr. No	**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)**
1	2020-21	6	15.08	1.76	432	22.02	8.22
2	2021-22	6	19.71	3.34	0	14.13	16.74
3	2022-23	9	24.76	1.61	32298.82	71.29	4.17
	Total	**21**	**59.55**	**6.71**	**32730.82**	**107.44**	

Energy Saving Projects Implemented

Confederation of Indian Industry

ENERGY SAVING PROJECTS IMPLEMENTED IN FY-2020-21						
Sr. No	**Name of Energy saving Projects**	**Investment (INR Million)**	**Electrical savings (Million kWh)**	**Thermal savings (Million Kcal)**	**Total Savings (INR Million)**	**Payback period (in months)**
1	Conventional Light to LED light Replacement	1	0.02	0	0.132	0
2	Unit #01 –CPP- Heat Rate Reduction (Heat Exchanger Leakage Rectification and Condenser Cleaning)	1	0	432	5.326	2.40
3	Unit #01 ASD work on Airpower Optimization (ID Fan impeller replacement & APH tubes replacement)	1.4	0.1012	0	2.904	6
4	Remembraning of one 6th generation Electrolyzer F	11.68	0.098311	0	4.56	33
5	PLF optimization-CPP 02 One MCW Pump stopping on part load	0	0.7359	0	4.356	0
6	PLF optimization- CPP 02 One ID Fan stopped on part load	0	0.8028	0	4.75	0

Energy Saving Projects Implemented

Confederation of Indian Industry

ENERGY SAVING PROJECTS IMPLEMENTED IN FY-2021-22

Sr. No	Name of Energy saving Projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
1	CAP- Remembraining of Electrolyzer A- Energy saving project	12.41	1.13	0	4.2	36
2	Conventional Light to LED Replacement	0.3	0.03	0	0.15	0
3	Unit-1 ACW PUMP stopped by provision of interconnection	0	0.30	0	1.37	0
4	Unit-1 BFP-1 operation made with DP, Unit-1 BFP-1 pressure Control closed loop taken in Auto with assured DP>7kg/cm2	0	0.22	0	1.00	0
5	Instrument Air compressor stop by provision of interconnection with Unit-1	0	0.41	0	1.85	0
6	Unit-2, BFP-1 Replaced with energy efficient Pump.	7	1.23	0	5.53	16.79

Energy Saving Projects Implemented

Confederation of Indian Industry

ENERGY SAVING PROJECTS IMPLEMENTED IN FY-2022-23

Sr. No	Name of Energy saving Projects	Investment (INR Million)	Electrical savings (Million kWh)	Thermal savings (Million Kcal)	Total Savings (INR Million)	Payback period (in months)
1	Cl2 Compressor @ 80 TPD as standby for MC1 for combination run	3.7	528000	0	4.166	9
2	Chilled water pump Motor rating changed from 90 KWH to 55 KWH	2.1	231000	0	1.823	24
3	VFD Installed in Buffer pump B	3.7	396000	0	3.124	12
4	CPP-2, CT cells-1&3 Fins replaced,- heat rate has been reduced by improvement of vacuum	1	0	3207.6	5.817	2.40
5	Unit #01 HP Heater partition plate leakage arresting work done in first week of Apr-22	2	0	4752	8.617	3
6	TG-2 Condenser tube cleaning done in ASD	1	0	712.8	1.293	12

Energy Saving Projects Implemented

Confederation of Indian Industry

ENERGY SAVING PROJECTS IMPLEMENTED IN FY-2022-23						
Sr. No	**Name of Energy saving Projects**	**Investment (INR Million)**	**Electrical savings (Million kWh)**	**Thermal savings (Million Kcal)**	**Total Savings (INR Million)**	**Payback period (in months)**
7	CPP-2 BFP-2 Replaced with energy efficient pump	3	231000	0	1.823	36
8	Boiler-2 APH tube replaced during annual shutdown in Jun-22	3	231000	0	1.823	36
9	CPP-2 Turbine Major Overhauling carried out in Jun-22	5.26	0	23626.42	42.84	1.42

Major Energy Saving Projects planned

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LIST OF MAJOR ENCON PROJECTS PLANNED FOR FY-2023-24

Sr. No	Year	Title of Project	Annual Electrical Saving	Annual Thermal Saving	Investment	Current Status
			(Million kWh)	(Million Kcal)	(Rs in Million)	
1	2023-24	CPP-1 Boiler feed pump Replaced with energy efficient pump	0.726	0	7	Implemented
2	2023-24	CPP-1 All condenser tube replaced (7500)	0	9166.3	24.74	Implemented
3	2023-24	Boiler-1 APH tube replaced during annual shutdown	1.606	0	3.11	Implemented
		TOTAL	2.332	9166.3	34.85	

Major Energy Saving Projects planned

Confederation of Indian Industry

Sr. No	Year	Name of Energy saving Projects	Investment (INR Million)	Electrical savings (Million kWh)	Total Savings (INR Million)	Payback period (in Year)
1	FY24	Electrolyser “C” Remembering Generation IV	15	0.96	4.8	3.12
2	FY25	Conversion of Electrolyser “C” from IV to latest VI Generation	240	6.51	39.1	6.14
3		Electrolyser “D” Remembering, Generation VI	15	0.96	4.8	3.12
4		Electrolyser “E” Remembering, Generation V	15	0.96	4.8	3.12
5	FY26	Electrolyser “A” (UHDE) Remembering and Recoating, Generation VI	95	4.62	23.1	4.11
6		Electrolyser “ F ” (UHDE) Remembering and Recoating, Generation VI	95	4.62	23.1	4.11
7		Electrolyser “ A ” (AKCC) Remembering, Generation VI	19	1.05	5.3	3.62
8		Electrolyser “ B ” (AKCC) Remembering, Generation VI	19	1.05	5.3	3.62
9		Electrolyser “ C ” (AKCC) Remembering, Generation VI	19	1.05	5.3	3.62

Innovative Projects Implemented

Project-1- Boiler drum level maintaining through feed pump BIAS Logic

❑ **Theme:-**

- Boiler Feed pump operation through BIAS logic

❑ **Problem Statement:-**

- Higher power consumption of BFP
- BFP contributes about 25-30% of the total

❑ **Solution:-**

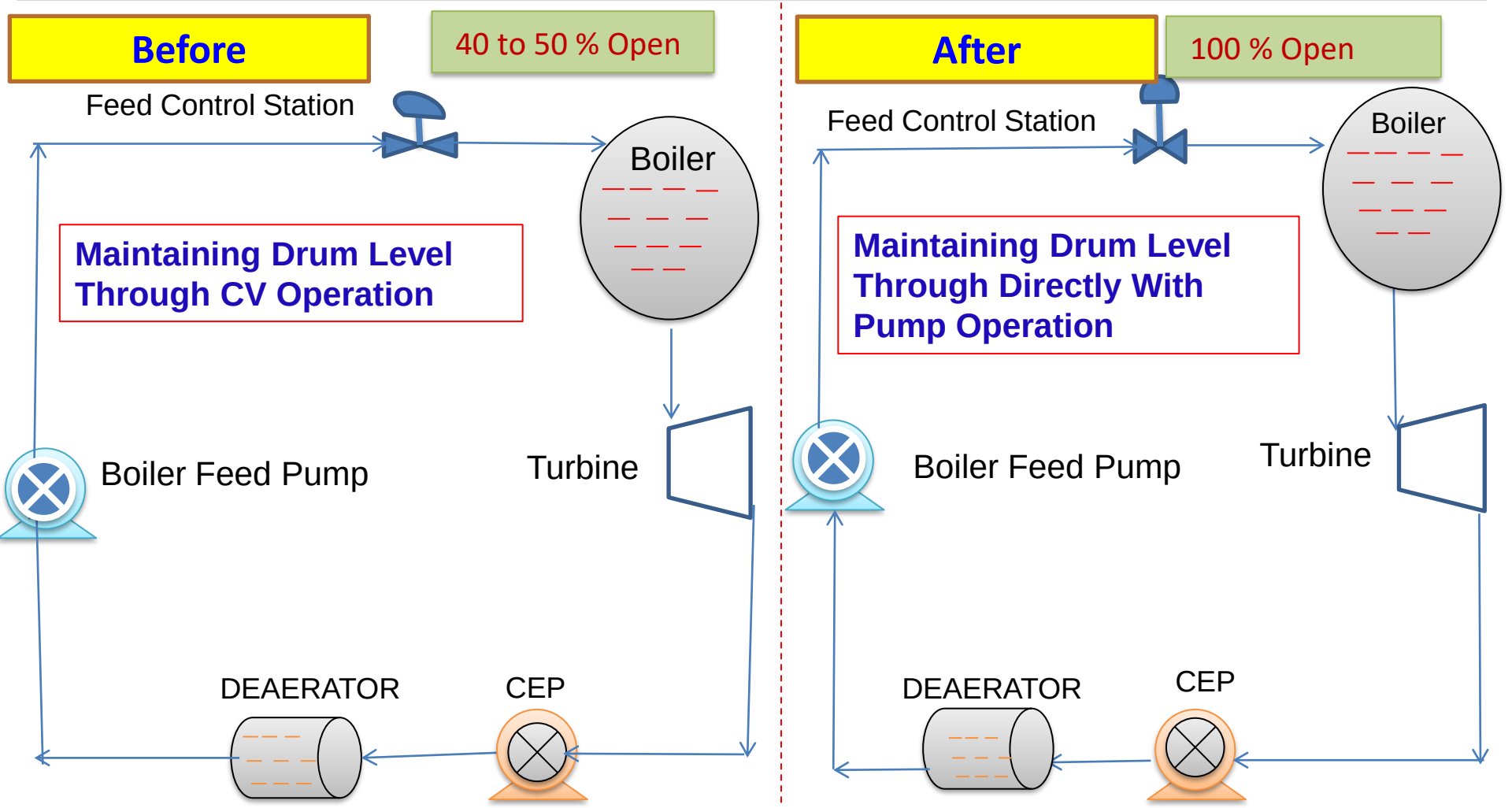
- Made a BIAS logic for close loop operation of BFP
- Feed control valve kept full open & reduced DP

❑ **Out Come**

- Power Saving:- 2.23 Lacs Kwh /annum.
- Cost Saving- :- 13.39 Lacs/annum.

Innovative Projects Implemented

Project-1- Boiler drum level maintaining through feed pump BIAS Logic



Innovative Projects Implemented

Project-2- Replacement of VAM machine with electric chiller

- **Theme:-**
  - Replacement of VAM machine with electric chiller
- **Problem Statement:-**
  - Higher steam consumption
  - More expensive
- **Solution:-**
  - Replaced VAM machine with electric chiller
- **Out Come**
  - Cost Saving- :- 119 Lacs/annum.

Project-2- Replacement of VAM machine with electric chiller

Previously used VAM to generate Chilled Water in CSP Plant which was high steam consuming and now Replacement of VAM Machine with Electrical Chiller.

VAM Unit

Before

After

Electrical Chiller

COMPARISON

	VAM	Chiller
Steam Consumption	36 MT/Day	Nil
Power Consumption	Nil	5200KWH/Day
Total Operating cost(RS/Day)	72000/-	39000/-
Saving(Lakh)	**0.33L/- Per day & Annual Saving-119 L/Year**	

BENEFIT

SL NO.	BENEFITS OF ELECTRIC CHILLER
1	Easy Operation and more efficient
2	Low maintenance Cost
3	Chemical consumption zero
4	Pollution level is less as compared to VAM
5	Low initial set-up cost
6	No crystallization problem

Project-3- Industry 4.0 Implementation- Automation & Digitization

A new dimension to Process Optimization through Process Score Card.

Central Manufacturing Cockpit, Grasim Chemical Division

RHL Process Score Card Report V2

Unit-01			Date		11-09-2023					
			Unit Load	MW	26.68		28.33		28.13	
			Running Hours	Hours	8.00		8.00		8.00	
			PLF	%	88.92		94.43		93.77	
			Shift		A		B		C	
#	Process Parameter	UOM	Baseline	Tolerance Limit	Weightage	Actual parameter	Score	Actual parameter	Score	Actual parameter	Score
1	MS Inlet Temp-boiler	°C	485	480 to 490	5	488.42	5	486.83	5	484.89	5
2	MS Pressure-boiler	kg/cm²	66	64 to 67	5	66.01	5	65.62	5	65.47	5
3	SPM in flue gas	mg/Nm³	<100	20 to 100	5	40.20	5	40.61	5	40.64	5
4	Condenser vacuum	kg/cm²	-0.900	-0.890 to -0.915	5	-0.891	5	-0.879	0	-0.88	0
5	Steam to CAP temp.	°C	195	185 to 210	5	190.79	5	191.50	5	192.94	5
6	Steam to CAP press.	kg/cm²	12	8 to 16	5	11.38	5	11.71	5	12.10	5
7	Economiser Feed water Inlet Temp.	°C	180	165 to 182	5	176.72	5	179.02	5	178.76	5
8	Bed temperature	°C	890	850 to 910	5	883.77	5	883.85	5	882.34	5
9	Furnace pressure	mmWC	-30	-40 to -15	5	-24.90	5	-24.95	5	-24.95	5
10	Generator Winding Temp. #	°C	95	30 to 105	5	90.03	5	95.925	5	95.008	5
11	Specific steam consumption	ton/MW	4.1	3.5 to 4.25	5	4.13	5	4.15	5	4.16	5
12	Primary air temp after APH	°C	255	240 to 270	5	236.93	0	241.43	5	242.69	5
13	Secondary air temp after APH	°C	260	240 to 275	5	247.78	5	250.26	5	250.04	5
14	Oxygen level in flue gas	%	3.5	2.5 to 4.5	5	3.37	5	3.00	5	3.30	5
15	CW I/L temp	°C	33	20 to 36	2	34.13	2	35.30	2	35.02	2
16	CW outlet temp	°C	42.4	22 to 44	2	42.84	2	44.43	0	44.16	0
17	Flue gas exit temp	°C	145	120 to 145	2	139.59	2	142.82	2	141.38	2
18	Unburnt in bottom ash. #	%	4	0 to 6	2	0.29	2	0.181	2	0.18	2
19	Unburnt in fly ash #	%	1.6	0 to 2.5	2	3.17	0	3.30	0	3.30	0
#	Sp. Power Consumption(CHP)	kWh/ton	2	0 to 2.5	4	0.10	4	1.74	4	-1222.82	0
21	Sp. Power Consumption(Boiler)	kWh/ton	16	0 to 17	4	12.80	4	12.45	4	6.04	4
#	Sp. Power Consumption(Turbine)	kWh/MW	23	0 to 25	4	23.18	4	20.77	4	10.08	4
#	Sp. Power Consumption(ESP)	kWh/MW	1.8	0 to 2	4	0.34	4	0.84	4	0.41	4
#	Sp. Power Consumption(Compressors)	kWh/MW	5.2	0 to 8	4	8.09	0	7.24	4	3.11	4
				Grand Total	100	Process Score	89	Process Score	91	Process Score	87

Process Score Card For Shift Team

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Objectivity

- Process Optimization

Scope

- SIPOC, Process criticality, Parameters criticality, Benchmarking, Shift Score Card
- Shift wise monitoring and control to maintain Shift Score

Area of Benefits

- Optimization of Plant heat rate **(PHR)** of Power plant
  - by maintaining parameters affecting Boiler efficiency (Flue Gas temp, UBC, O2 etc)
  - Steam Turbine Hear Rate (MSP, MST, SSC, FWT, Vacuum etc)
- Optimization Auxiliary power consumption **(APC)** of power plant
  - ESP (700 kwh/day)
  - Coal Handling Plant (400 kwh/day)
  - Unit & Equipment Combination, Fans & Pumps (900 kwh/day)
  - Compressors (200 kwh/day)

Replacement of Boiler Feed Pumps with High efficiency indigenous Pumps

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BFP Replaced in FY-April 21

- **Description**-High Power consumption & low efficiency of Old BFP.
- Goal-To Reduction of Specific Power consumption of Boiler feed Pump.
  The Feed water flow is controlled only through Feed Control Station. The old BFP design head is 1720 m against the requirement of 110 kg/cm2 in Boiler Drum.
- Solution-Replacement of old BFP with High energy efficient BFP having low head
- Benefit- Auxiliary power consumption directly reduced.
- The design data of BFP is shown below.

DATA	OLD BFP	NEW BFP
FLOW	196 M3/HR	170 M3/HR
HEAD	1720 (MTR)	1500 MTR
KW	970	833
DESIGN EFFICIENCY	68%	76%
	Before implementation	After Implementation
	Energy Consumed=24858 kwh/day	Energy Consumed=21281 kwh/day
Full LOAD SAVING IN RS.	=(24858-21281)*335day&4rs/kwh=47.93 Lac Rs/Annum	

Renewable Energy / RPO Obligation

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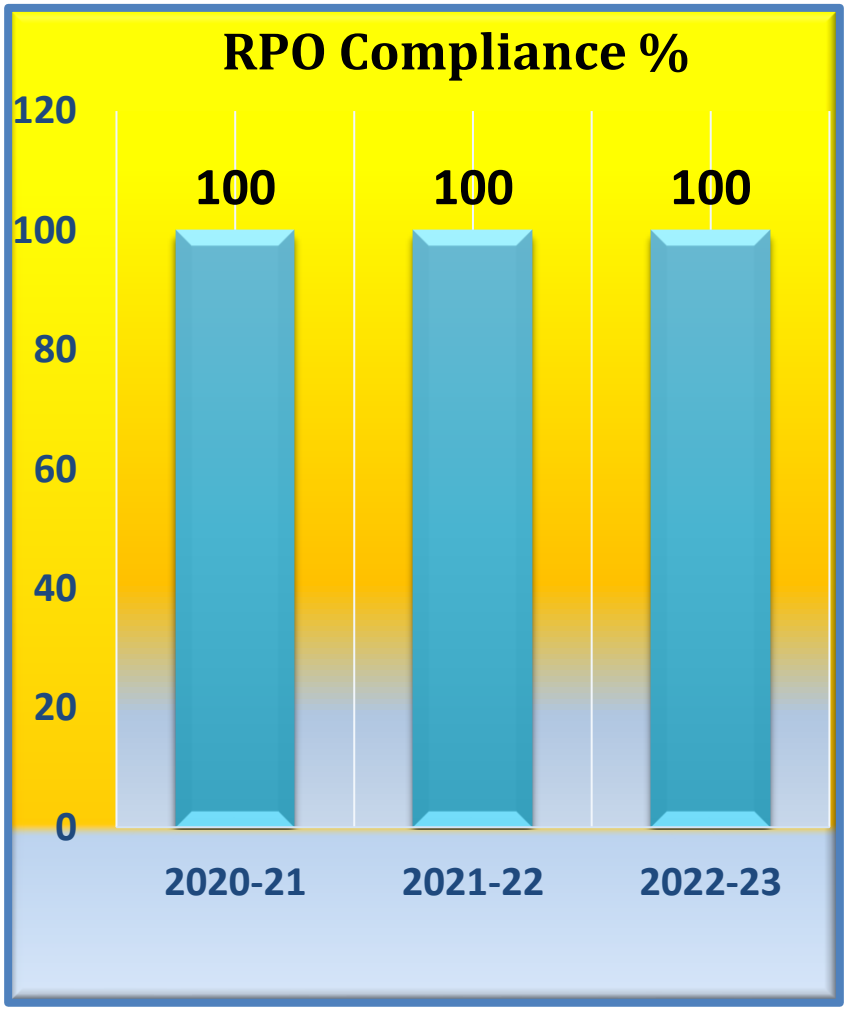
- ✓ Plant is located in Jharkhand state
- ✓ Availability of indigenous coal mines
- ✓ Study for Solar Plant done-10 Mw.
- ✓ Capex Proposed for Solar Plant
- ✓ 100 % Compliance of RPO
- ✓ 100 % PAT Compliance
- ✓ Best performed in PAT-2 Cycle
- ✓ Get 9978 Escort Certificates



GHG Inventorisation

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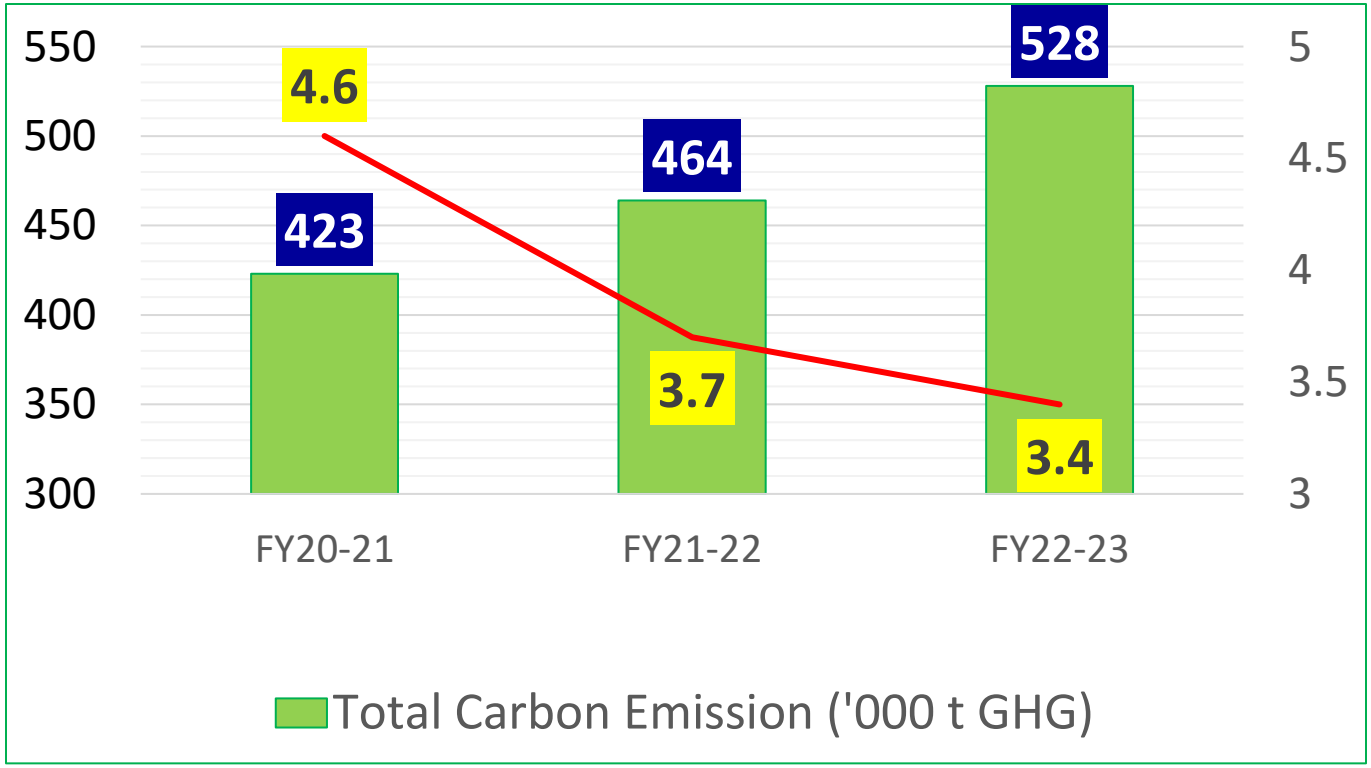
Year	Total Kg CO2/Ton of Final Product
20-21	4617.971 Kg CO2/T
21-22	3734.692 Kg CO2/T
22-23	3333.230 Kg CO2/T

Reduction of GHG emission 26.08% from FY20-21



Competitors Carbon Intensity:-

1) GRCD-RENUKOOT – 3.3 (' t GHG/MT)

2) GRCD-VERAVAL – 3.3 (' t GHG/MT)*

The less you burn, the more you earn

Green Supply Chain Management
Carbon footprint Reduction

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- Installation of VFD Drives
- Online monitoring of specific energy consumption of individual equipment
- Mandatory Energy Audit
- Implementation of energy saving project
- Rain water Harvesting
- Replaced with Energy Efficient Motor
- Ambient Air monitoring system

EMS System and Other requirement

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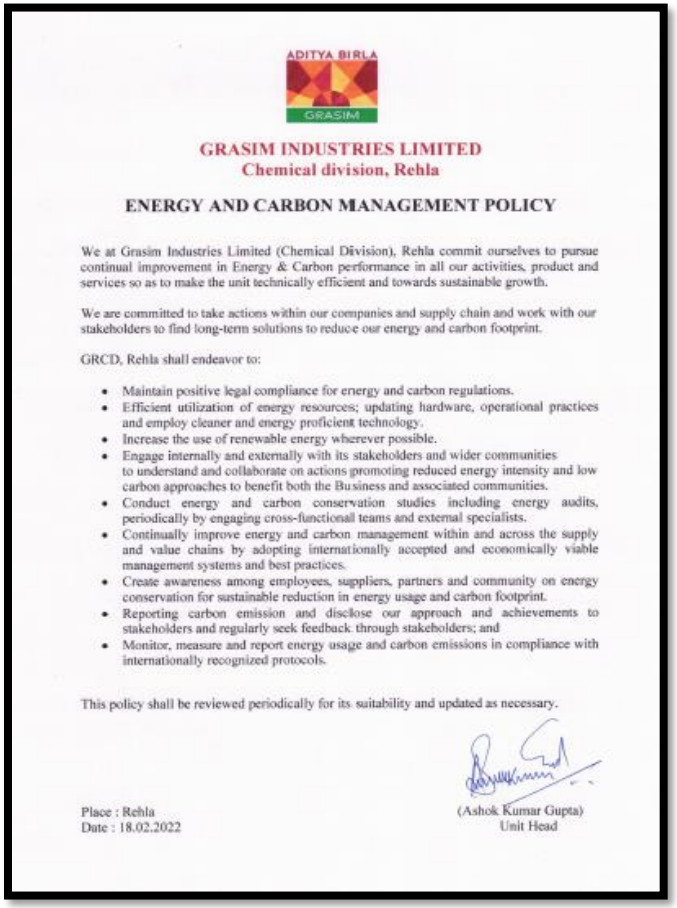
- Well Established Energy management cell.
- EMS is available for Energy Monitoring .
- Daily monitoring of Plant KPIS and comparing with benchmarks Nos
- Benefits analysis after project implementation
- Analysis of equipment performance for deviation
- Identification of energy conservation project/work
- Theme base suggestions/Kaizens scheme under
- Feasibility study of suggestions & proposal submission



GRASIM INDUSTRIES LIMITED
Chemical division, Rehla

ENERGY AND CARBON MANAGEMENT POLICY

We at Grasim Industries Limited (Chemical Division), Rehla commit ourselves to pursue continual improvement in Energy & Carbon performance in all our activities, product and services so as to make the unit technically efficient and towards sustainable growth.

We are committed to take actions within our companies and supply chain and work with our stakeholders to find long-term solutions to reduce our energy and carbon footprint.

GRCD, Rehla shall endeavor to:

- Maintain positive legal compliance for energy and carbon regulations.
- Efficient utilization of energy resources; updating hardware, operational practices and employ cleaner and energy proficient technology.
- Increase the use of renewable energy wherever possible.
- Engage internally and externally with its stakeholders and wider communities to understand and collaborate on actions promoting reduced energy intensity and low carbon approaches to benefit both the Business and associated communities.
- Conduct energy and carbon conservation studies including energy audits, periodically by engaging cross-functionall teams and external specialists.
- Continually improve energy and carbon management within and across the supply and value chains by adopting internationally accepted and economically viable management systems and best practices.
- Create awareness among employees, suppliers, partners and community on energy conservation for sustainable reduction in energy usage and carbon footprint.
- Reporting carbon emission and disclose our approach and achievements to stakeholders and regularly seek feedback through stakeholders; and
- Monitor, measure and report energy usage and carbon emissions in compliance with internationally recognized protocols.

This policy shall be reviewed periodically for its suitability and updated as necessary.

Place : Rehla
Date : 18.02.2022

(Ashok Kumar Gupta)
Unit Head

Awareness on Energy Conservation

Confederation of Indian Industry

Grasim Industries Limited-Rehla

National Energy Conservation Day Celebration- 14 Dec-2022

Energy & Carbon Team GRCD-Rehla

Grasim Industries Limited-Rehla

National Energy Conservation Day Celebration- 14 Dec-2022

Distribution of Pamphlets and Badges

Grasim Industries Limited-Rehla

National Energy Conservation Day Celebration- 14 Dec-2022

Training and Awareness Session Glimpses- Total 110 Employees Participated

Approach / Deployment

Operational Excellence

- Focus on to Improve Basic Condition through Gemba Walk
- Development of Ownership Culture
- Enhancement of people participation

IMS - Multi-site Certification of ISO 9001 /14001 /45001 / 50001/ 27001 & SA 8000)

- Unit have ISO 9001 / 14001 / 45001 /50001/27001 & SA 8000 Certification
- Documented Information Management i.e. Procedures, Work Instructions, SOPs, SMPs continue review and new update in view of Energy Management System (ISO 50001)

ISO -Certifications

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Certificate ISO 9001


TÜV NORD

CERTIFICATE

Management system as per

ISO 9001 : 2015

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GRASIM INDUSTRIES LIMITED.

Chemical Division, Rehla

Certificate ISO 14001


TÜV NORD

CERTIFICATE

Management system as per

ISO 14001 : 2015

GRASIM INDUSTRIES LIMITED

Corporate Office

GRASIM INDUSTRIES LIMITED.

Chemical Division, Rehla

Certificate ISO 45001


TÜV NORD

CERTIFICATE

Management system as per

ISO 45001 : 2018

GRASIM INDUSTRIES LIMITED

Corporate Office

GRASIM INDUSTRIES LIMITED.

Chemical Division, Rehla

Certificate ISO 50001


TÜV NORD

CERTIFICATE

Management system as per

ISO 50001 : 2018

GRASIM INDUSTRIES LIMITED

Corporate Office

GRASIM INDUSTRIES LIMITED.

Chemical Division, Rehla

Certificate SA 8000

Certificate ISO 27001


TÜV NORD

CERTIFICATE

Management system as per

ISO/IEC 27001 : 2013

GRASIM INDUSTRIES LIMITED

Chemical Division

GRASIM INDUSTRIES LIMITED.

Chemical Division,


TÜV NORD

CERTIFICATE

Management system as per

SA 8000 : 2014

GRASIM INDUSTRIES LIMITED

Chemical Division, Rehla

Garhwa Road, Po-Rehla,

Dist. Palamu – 822 124, Jharkhand,

India

Awards & Accolades

Confederation of Indian Industry

Year	Awards & Accolades
2023	NABL Certification for Finished products (Caustic Lye, Flakes, Hydrochloric Acid, Sodium Hypochlorite & Stable Bleaching powder)
2023	Unit got Various Awards among ABG-DCA business in Performance excellence league – May-2023
2023	Award for Top Performer in PAT Cycle -2 by BEE – New Delhi
2019	Energy Efficient Unit Award By – CII-Hyderabad
2019	National Energy Conservation Award 2019 by Bureau of Energy Efficiency, Ministry of Power (Government of India)
2017	**Eminent Award-2017** -in Platinum Category for *"Economic & Social Development"* by "EK Kaam Desh Ke Naam", New Delhi for the year 16-17.
2017	Award for Top Performer in PAT Cycle -1 by BEE – New Delhi
2013	**12th Annual Green Tech Safety awards** by Green Tech Foundation, New Delhi

Awards & Accolades

Confederation of Indian Industry

Year	Awards & Accolades
2012	**Agro Tech Award by Birsa Agriculture University for Watershed Development** in Jharkhand
2012	**Greentech Gold award in Environment Excellence** by Green Tech Foundation, New Delhi
2012	**Industry 2.0 Manufacturing Leadership Award in Energy efficient** in Manufacturing
2012	**ICC Award for Excellence in Social Responsibility** by Indian Chemical Council, Mumbai
2011	**Chairman's WCM Gold Awards by the Chairman among ABG group of Company**
2010	**Best Prax Benchmarking Compass Trophy 2010** by Global Bench Marking Network, Mumbai
2008	**IMC Ram Krishna Bajaj National Quality Award Trophy by IMC, Mumbai**
2009	**Green tech Environmental Excellence Gold Award** by Green Tech Foundation, New Delhi
2007	**Green Tech Safety Excellence Gold Award** by Green Tech Foundation, New Delhi

THANKS !!!...