



24TH NATIONAL AWARD FOR EXCELLENCE IN ENERGY MANAGEMENT- 2023

JK LAKSHMI CEMENT LTD.- SIROHI, RAJASTHAN



Pankaj Tiwari
Sr. Manager - Process

Manoj Ubana
Dy. Manager - Electrical



BRIEF INTRODUCTION OF JKLC, SIROHI



OPC 43



OPC 53



PPC



"PRO+" PPC



JK LAKSHMI Power Mix
READY MIX CONCRETE



JK SMARTBLOX
Autoclaved Aerated Concrete



JK LAKSHMIPLAST
PLASTER OF PARIS



ISO 9001



ISO 14001



ISO 50001



ISO 45001:2018



Established in August 1982 with 0.5 MTPA capacity.

Unit – II Commissioned in 1995 with 0.9 MTPA capacity.

Unit – III Commissioned in 1996 with 0.9 MTPA capacity.

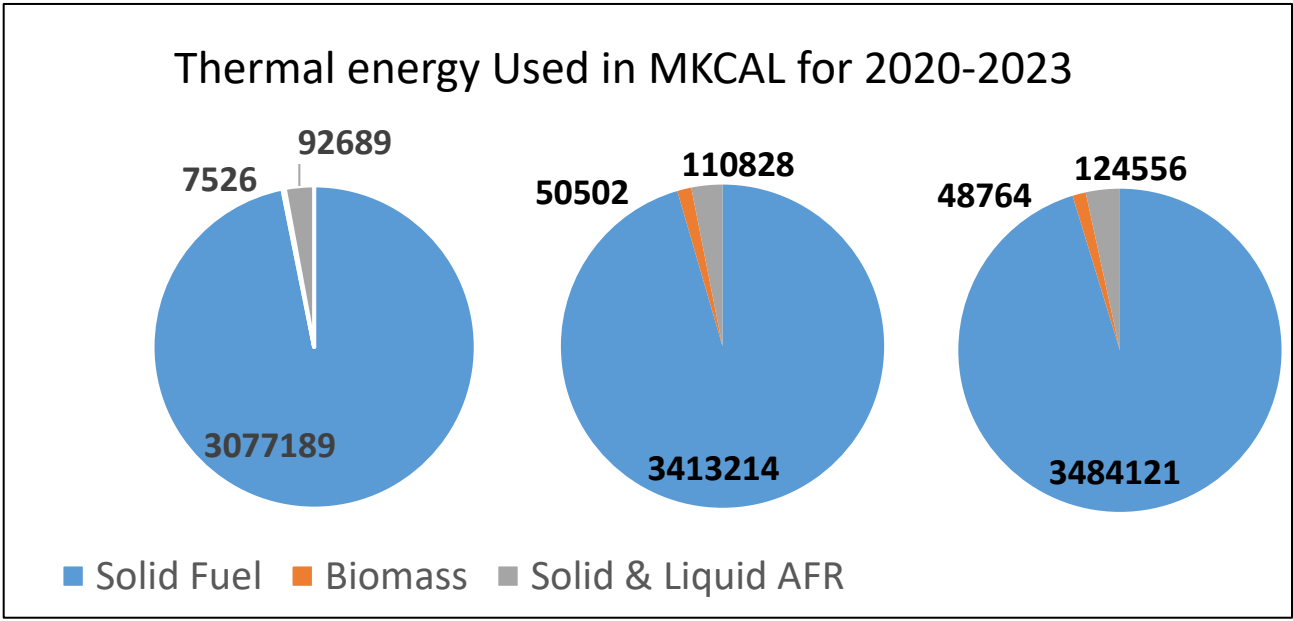
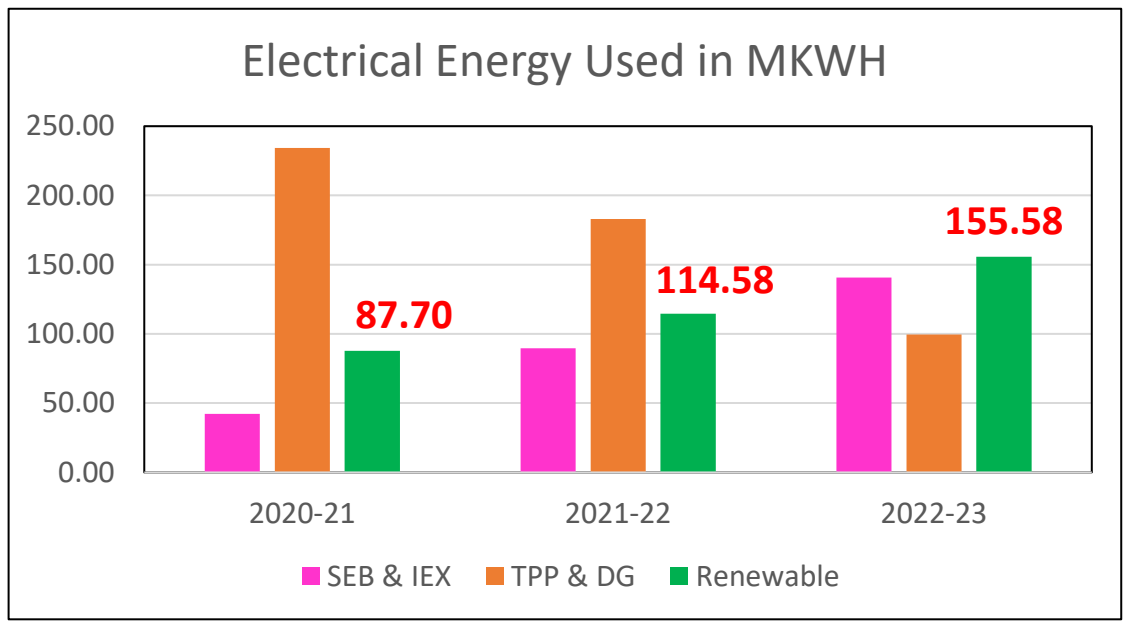
Present Cement Production Capacity 4.785 MTPA.

EQUIPMENT DETAILS

EQUIPMENT	AFTER MODIFICATION CAPACITY (TPH)	OPERATING CAPACITY (TPH)
Ball Mill	180	173
China VRM	210	223
VRM-1	225	320
VRM-2	225	320
Coal Mill-1	16	21
Coal Mill-2	35	31
Coal Mill-3	18	24
Kiln-1	4500	4775
Kiln-2	5000	5235
Kiln-3	5000	5178
Cement Mill-1	85	78
Cement Mill-2	150	190
Cement Mill-3/4/5/6	75/75/75/75	74/95/75/73



ENERGY USED IN LAST YEAR

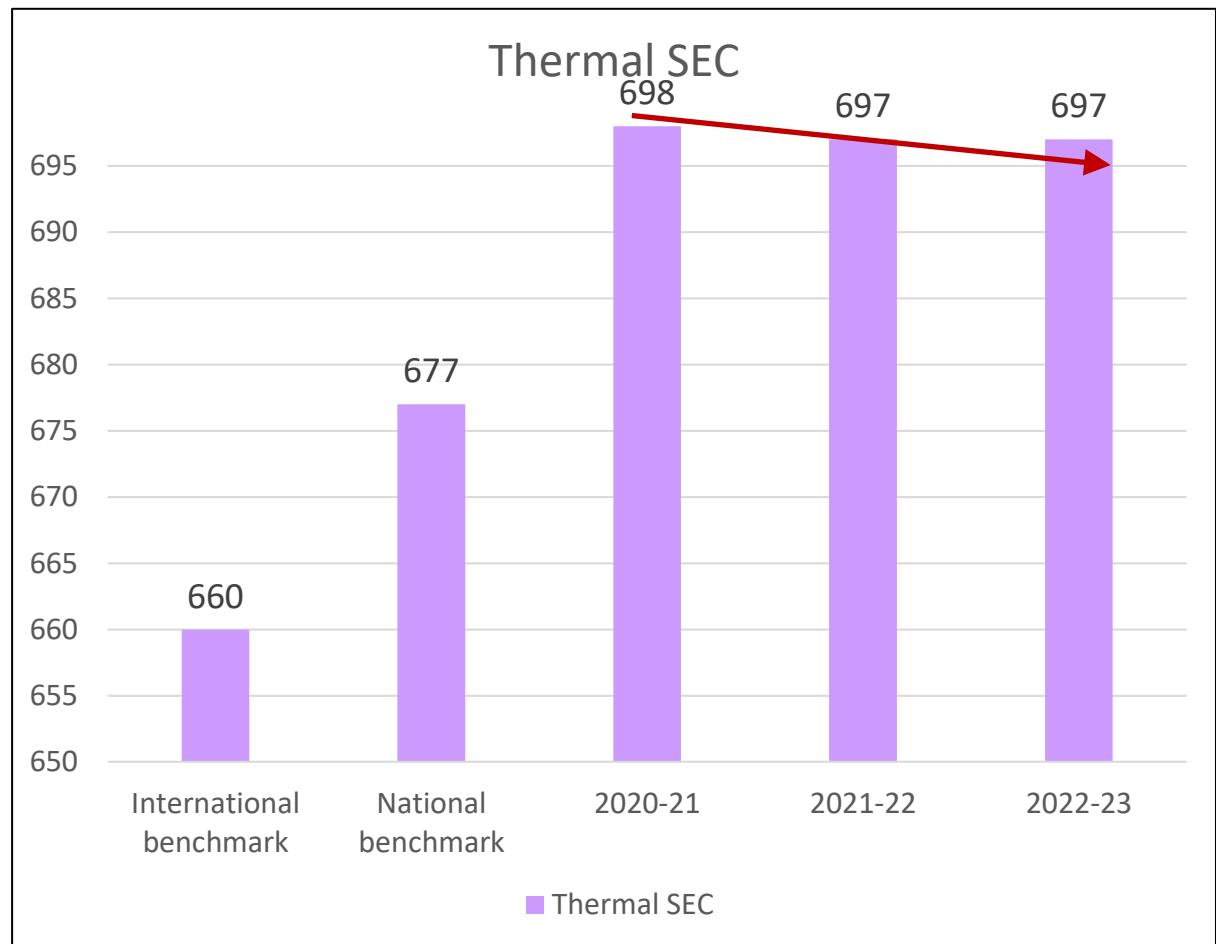
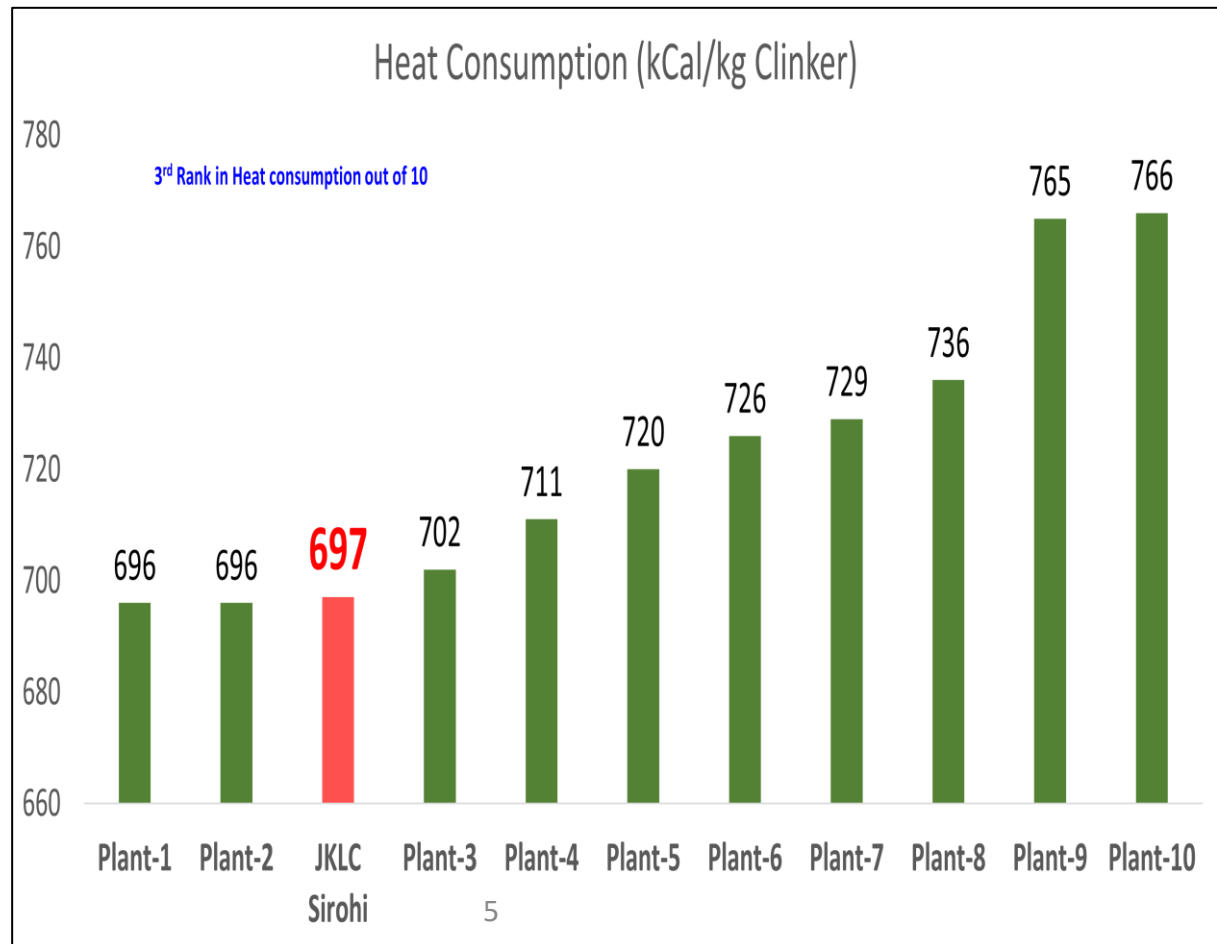


ENERGY USED IN LAST THREE YEARS

Parameters	UOM	2020-21	2021-22	2022-23
Annual Thermal Energy Consumption	Million Kcal	317740	3574544	3657441
Annual Electrical Energy Consumption	Million KWH	363.893	386.56	395.15



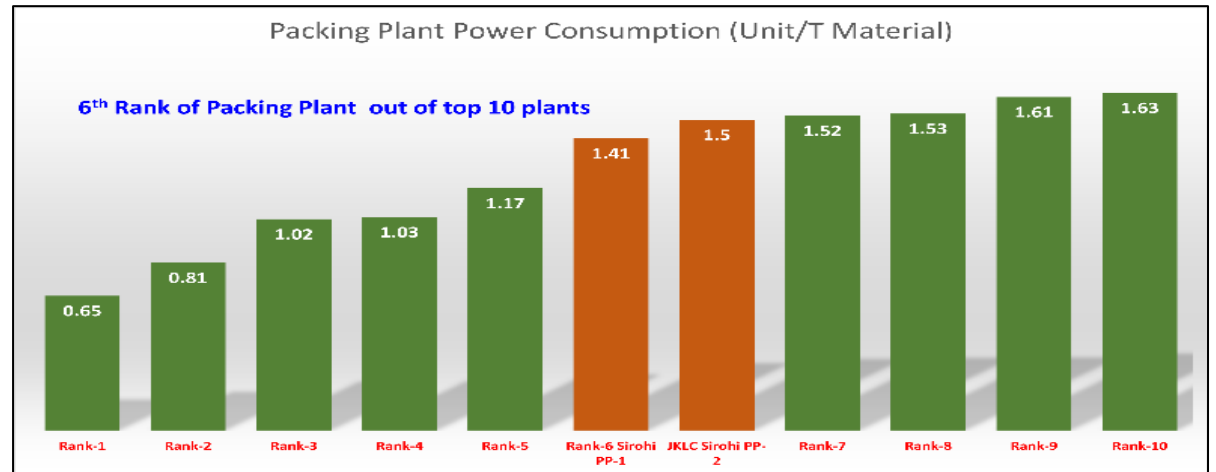
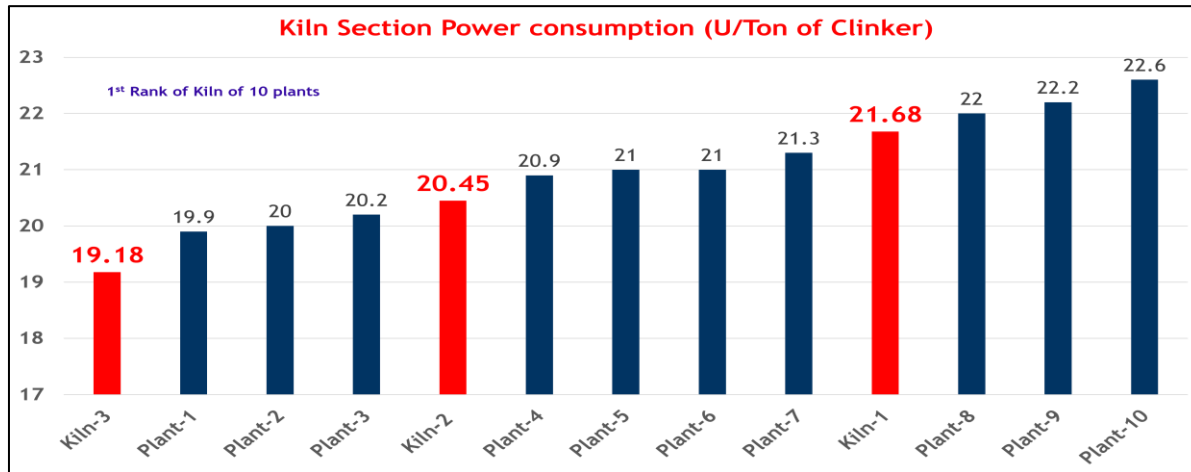
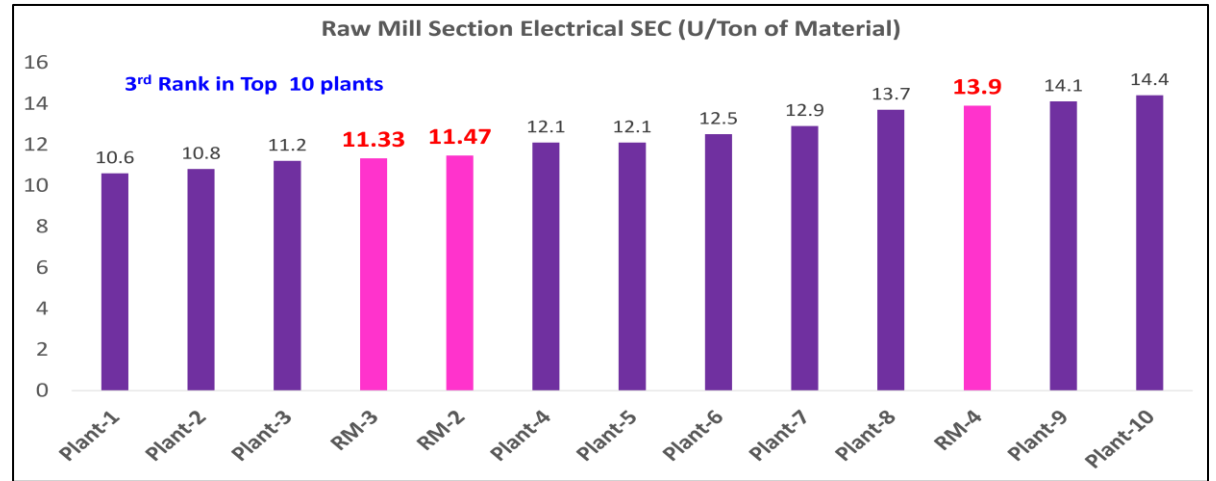
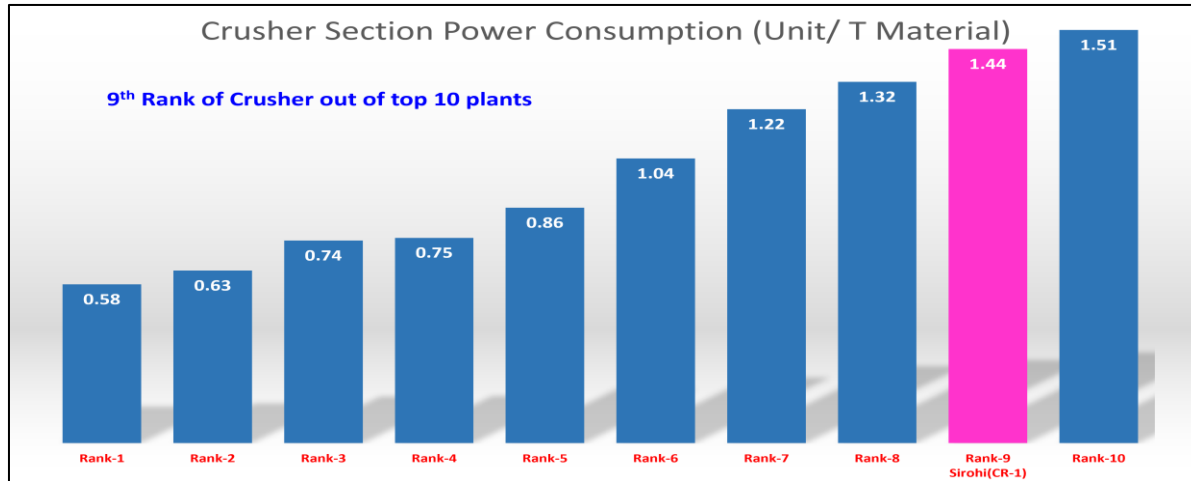
SPECIFIC THERMAL ENERGY CONSUMPTION & BENCHMARKING



Source: CII Benchmarking May 2023



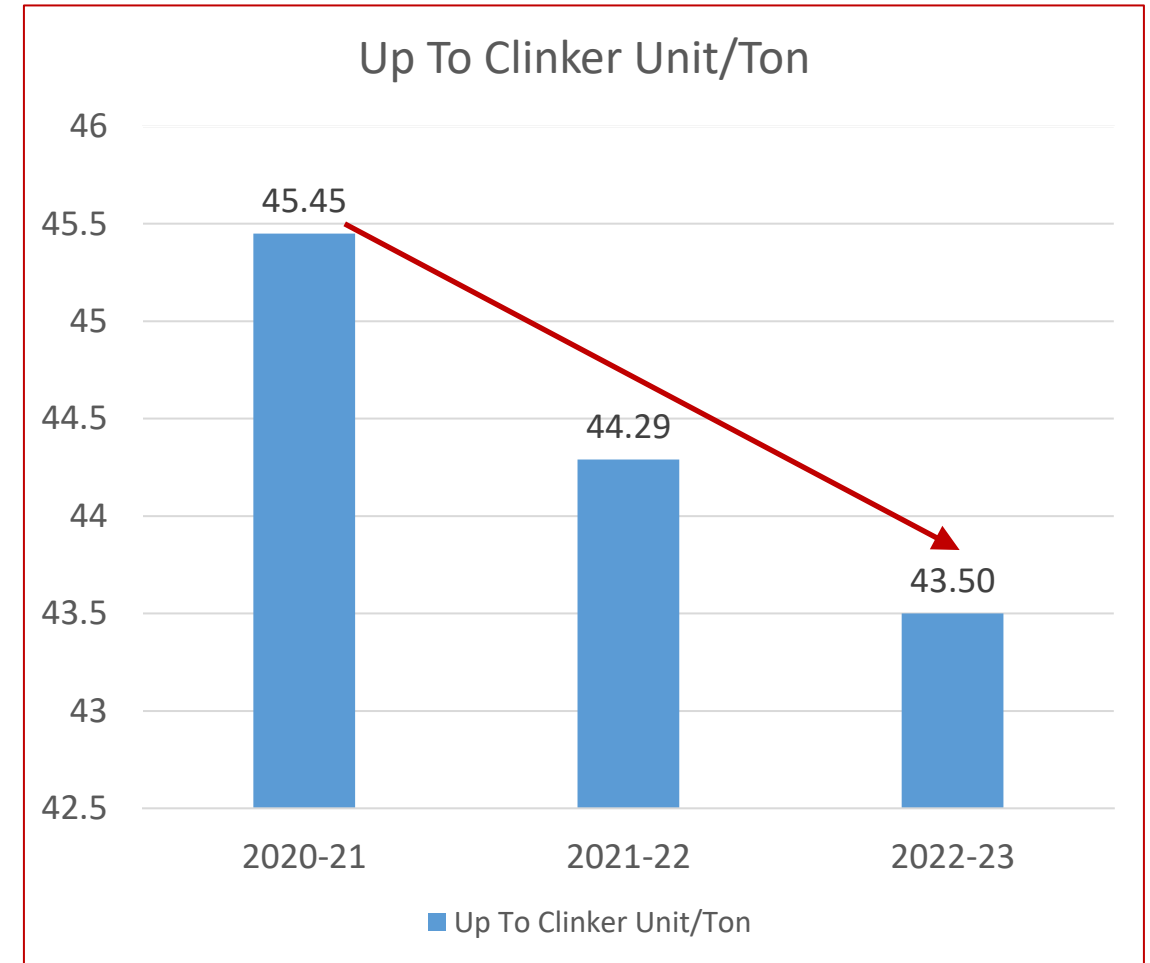
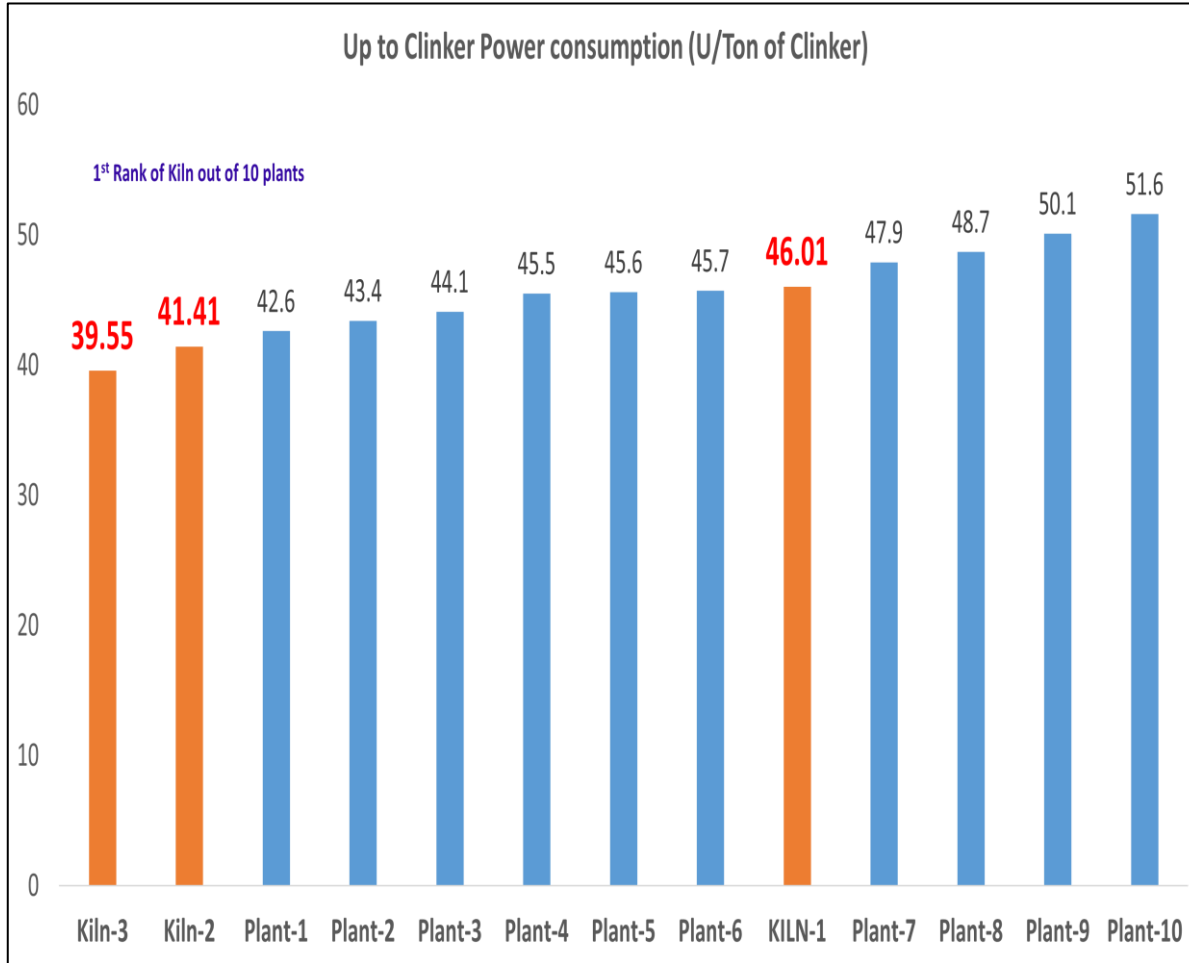
SPECIFIC ELECTRICAL ENERGY CONSUMPTION & BENCHMARKING OF CRUSHER, RAW MILLS, KILNS AND PACKING PLANT



Source: CII Benchmarking study 2023



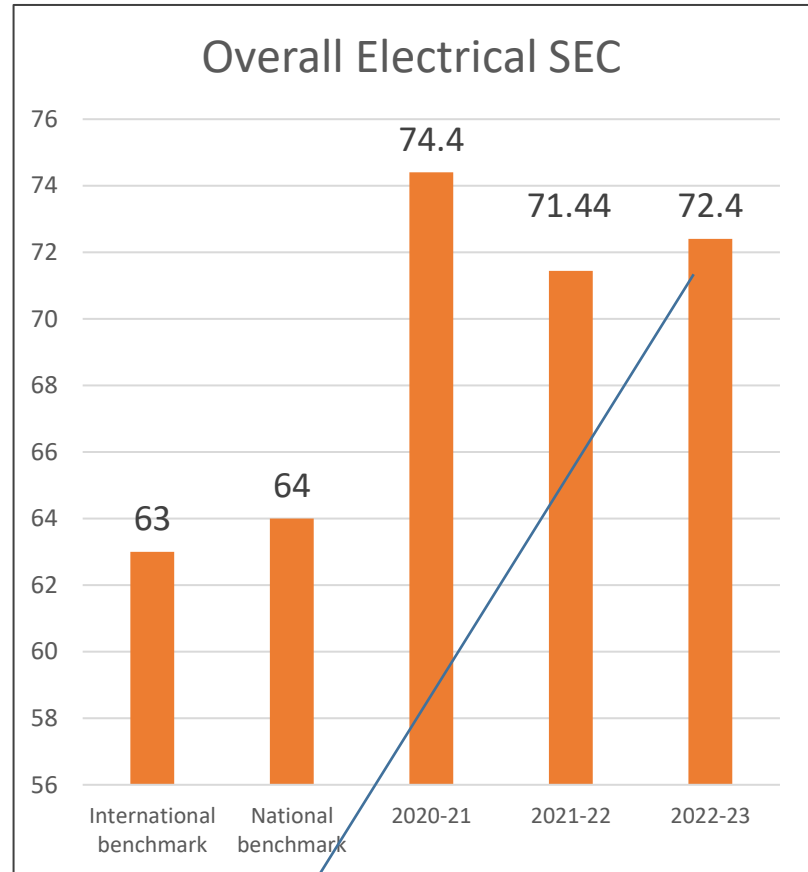
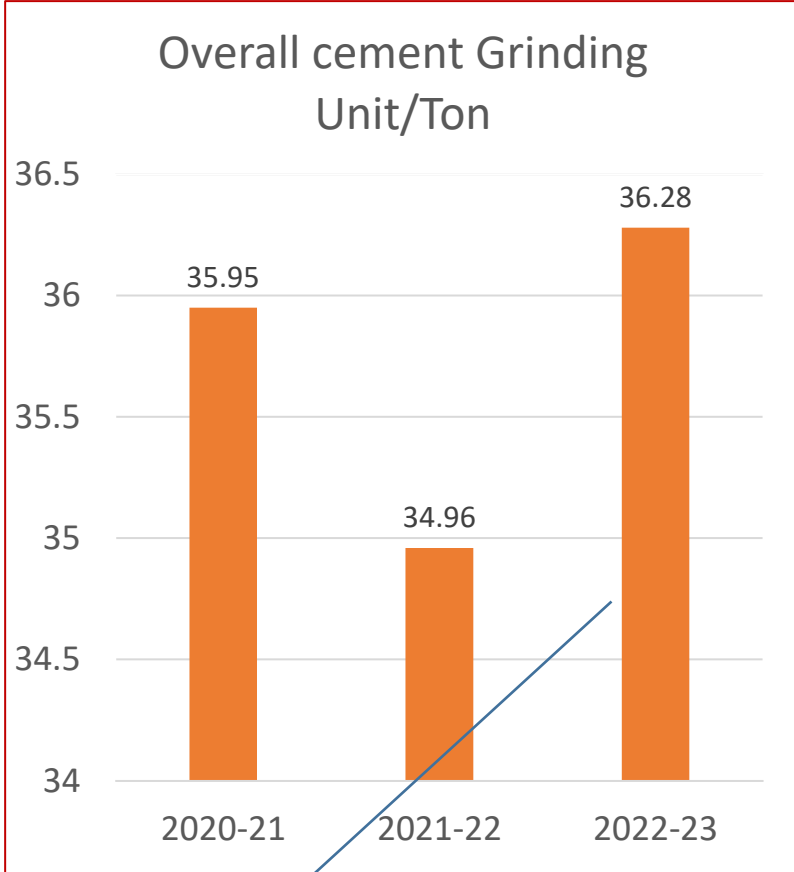
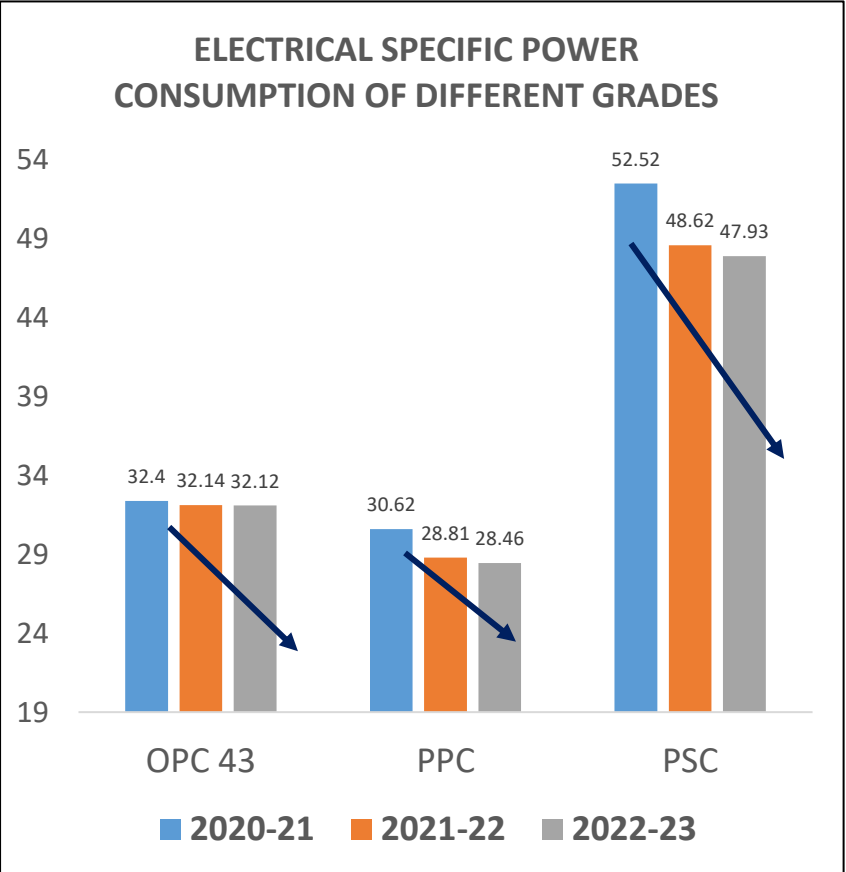
SPECIFIC ELECTRICAL ENERGY CONSUMPTION UPTO CLINKERIZATION



Source: CII Benchmarking May 2023



SPECIFIC ELECTRICAL ENERGY CONSUMPTION OF CEMENT GRINDING



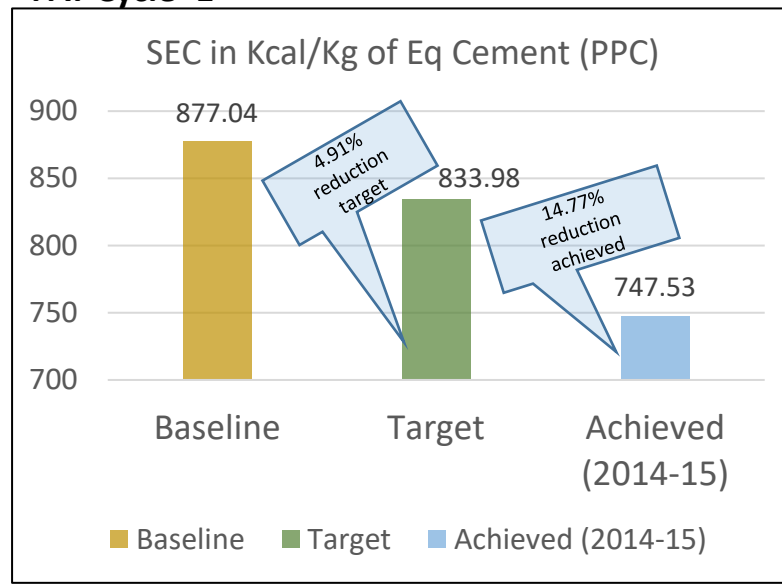
There is increase in "53 Grade" cement production by 7.92 % and "PRO+" premium grade having 1.05% increment. Both products are higher energy consuming products

Due to increase in Cement Grinding there is increase in overall specific power consumption



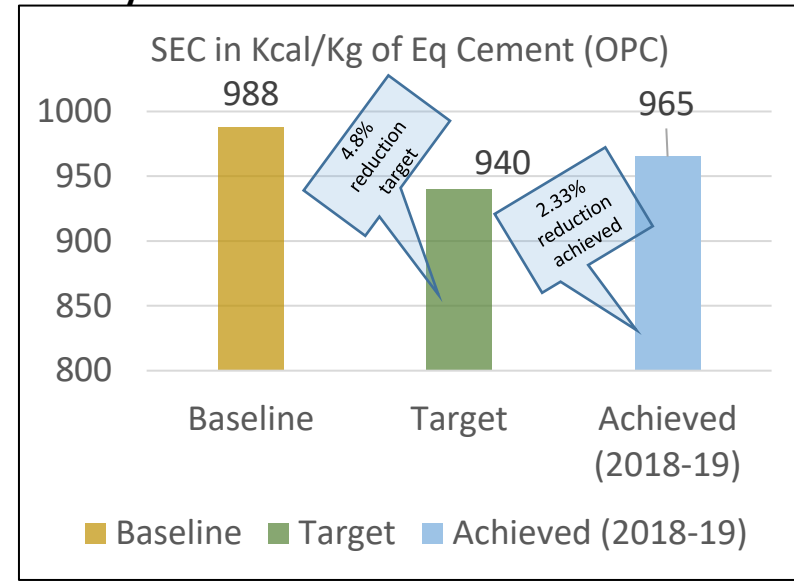
“PAT” PERFORMANCE

PAT Cycle -1



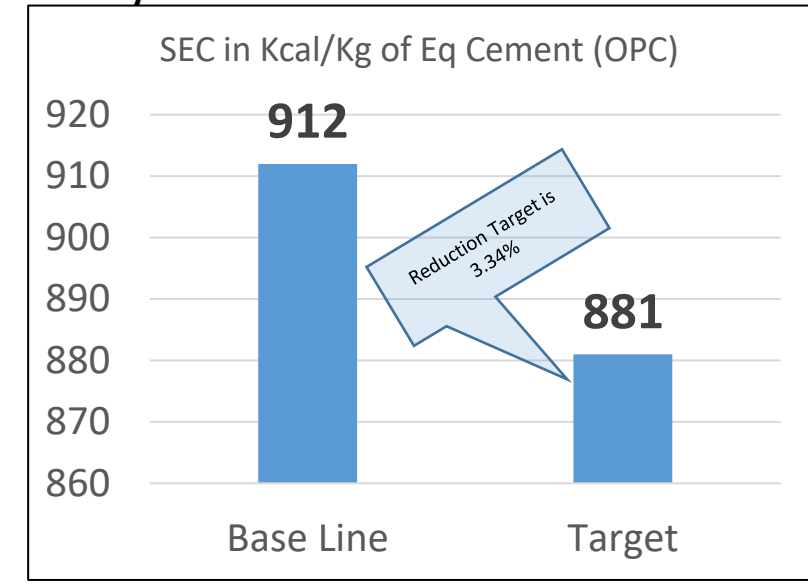
- We got 38987 certificates for over-achieved of the target.
- We sold 20000 certificates during the trading in 2017
- Banked 18987 certificates for next PAT Cycle to comply or sell
- These 18987 certificates would be expired as soon as the trading of PAT Cycle II completed.

PAT Cycle -2



- Though we reduced it from 988 to 965 Kcal/Kg against the target of 940 Kcal/Kg of Eq. product, remained underachieved
- Banked 18987 certificates in PAT Cycle I is used for compliance in shortfall of -12624.

PAT Cycle -7



- Newly installed 7 MW Solar PV and 6MW Solar boost our Renewable Energy Generation
- Another 8 MW solar is under commissioning
- Plan is taken to increase the liquid and solid AFR & Biomass uses in Kiln from 6% TSR to 12% TSR within next two years and proposal is also submitted for approval, reduction target in SEC 50Kcal/Kg w.r.t. 2018-19
- Implementation of Mandatory Audit suggestions
- Our own initiatives and findings for energy conservation



ROAD MAP TO ACHIEVE INTERNATIONAL AND NATIONAL BENCHMARK

- ✓ Installation of High Efficient Classifier and Cyclone in Cement Mill 2,3,4,5 & 6
- ✓ Latest generation separators in VRM
- ✓ **Installation of Burner in PC Firing**
- ✓ Replacement of Old motors with IE3 motors in phase manner
- ✓ Maximize the Green power generation (WHRS, Solar & Wind)
- ✓ Modification of Top Cyclone to reduce dust losses

PROPOSED ENERGY CONSERVATION PROJECTS 2023-24

No	Title of Project	Electrical Saving (kW)	Electrical Saving in Million kWh	Investment (Rs in million)
1	Installation of High Efficient Classifier and Cyclone in Cement-1	315	2.27	55
2	Installation of Louver ring in China VRM	40	0.29	1.3
3	Installation of hot air tapping to coal mill-1	40	0.29	24
4	Installation of boiler inlet and outlet shut off damper in Kiln-2	55	0.44	9.5
5	Installation of Dividing gate in Kiln-3	20	0.16	4.3
6	Replacement of Existing Raw Mill fan -1 (Phase -1 VRM) Analog Thyristor-based SPRS	200	1.45	10.1
7	Replacement of existing non-functional Coal Mill-2 fan analog type SPRS system with a new IGBT based HT VFD	40	0.29	4
Total		710	5.19	108.2



ENERGY SAVING PROJECTS SUMMARY FOR 3 YEARS

DESCRIPTION	UNITS	WITH INVESTMENT	WITHOUT INVESTMENT
TOTAL PROJECT IMPLEMENTED	NOS	22	28
TOTAL ELECTRICAL ENERGY SAVINGS	MILLION KWH	3.10	9.67
TOTAL THERMAL ENERGY SAVING	MILLION KCAL	1201	0
ELECTRICAL SAVING	RS MILLION	10	66.35
THERMAL SAVING	RS MILLION	1.81	0
TOTAL SAVINGS	RS MILLION	21.22	66.35
TOTAL INVESTMENT	RS MILLION	56.37	NA



MAJOR ENERGY SAVING PROJECTS WITHOUT INVESTMENT IN LAST 3 YEARS

S. No.	List of Major energy Savings Project	Year	Annual Savings in Rs. Millions		Investment Made
			Electrical	Thermal	Rs. Millions
1	Optimization of Grinding Media Pattern in Both the Camber of RM-1 to improve productivity (90 kW)	2020-21	4.7372	--	--
2	Optimization of Armour ring angle & Installation of Support Ring at Damring in RM-2 (64 kW)	2020-21	3.5265	--	--
3	Logic modification in fly ash dryer D-pump (25 kW)	2020-21	1.0766	--	--
4	To make filling arrangement for cement silo no.-6 by cement mill -2 (40 kW)	2020-21	2.1170	--	--
5	Arresting of false air ingress across RM-4 circuit (30 kW)	2020-21	1.5791	--	--
6	RM-1 Separator Efficiency Improved By False Air Arresting at Sep. Grid Cone Body & Sep. Feeding Bucket Elevator Discharge Flaps Repairing Work. (36 kW)	2020-21	1.8949	--	--
7	optimization of separator efficiency in CM-1 (20 kW)	2020-21	1.0585	--	--
8	Installation of Rotary air lock in Coal mill 1 to reduce false air ingress (10 kW)	2020-21	0.5264	--	--
9	Modification in opening area of mill intermediate diaphragm, To improve ventilation across mill (36 kW)	2020-21	1.8949	--	--
10	Improvement in classifier efficiency of coal mill-3 by optimization of rotor seal gap (10 kW)	2020-21	0.5264	--	--
11	Cement grinding power reduction with inhouse made optimizer by utilizing data analytics tool (110 kW)	2020-21	5.8218	--	--



MAJOR ENERGY SAVING PROJECTS WITHOUT INVESTMENT IN LAST 3 YEARS

S. No.	List of Major energy Savings Project	Year	Annual Savings in Rs. Millions		Investment Made
			Electrical	Thermal	Rs. Millions
12	Optimization of Grinding Media Pattern in RM-1 Ball mill in both the Camber of mill to improve productivity (90 kW)	2021-22	4.462722	--	--
13	optimized the RM-3 Armour ring angle that resulted into to improvement in internal recirculation in the mill (64 kW)	2021-22	3.173491	--	--
14	Modification of Intermediate Diaphragm in Raw Mill-1 to improve ventilation Across Mill (10 kW)	2021-22	0.360624	--	--
15	Arresting the false air ingress across the Preheater in Kiln-2 (50 kW)	2021-22	2.70468	--	--
16	Optimization of Kiln-2 Cooler (50 kW)	2021-22	2.70468	--	--
17	CM-1 Sperator Optimization by affexing 3 angles in seperator perpendicular to flow, to improve flow pattern (10 kW)	2021-22	0.49859	--	--
18	Coal Mills separator seal gap has been minimised with special type of sealant (10 kW)	2021-22	0.495858	--	--
19	Modified duct from boiler outlet to preheater fan inlet in Kiln-3 to reduce pressure drop (70 kW)	2021-22	3.786552	--	--
20	Increase in Fly Ash and Gypsum consumption in PPC & "Pro +" Cement Production. Power Reduced in PPC 1.51 U/T and 0.47 U/T in Pro+ We have also saved 37287 MT Clinker (300 kW)	2021-22	14.9577	--	--
21	Circuitry modification made in cable cellar lighting circuit to avoid idle running (0.17 kW)	2021-22	0.010171	--	--
22	Reduction in false air ingress through fresh air damper by improving sealing arrangement accross boiler inlet and outlet damper K-3 (10 kW)	2022-23	0.477576	--	--



MAJOR ENERGY SAVING PROJECTS WITHOUT INVESTMENT IN LAST 3 YEARS

S. No.	List of Major energy Savings Project	Year	Annual Savings in Rs. Millions		Investment Made
			Electrical	Thermal	Rs. Millions
23	Optimization of Blending silo operation in Kiln-1 (40 kW)	2022-23	1.910304	--	--
24	Optimization of Kiln-1 Cooler (15 kW)	2022-23	0.716364	--	--
25	Minimized the Mill separator seal gap has been by Loctite material in RM-3 (10 kW)	2022-23	0.437778	--	--
26	Grinding media optimization in both chambers in RM-1 (30 kW)	2022-23	0.716364	--	--
27	Optimization of Pyro process in Kiln section (60 kW)	2022-23	2.865456	--	--
28	Reduction in false air ingress across VRM Circuit (30 kW)	2022-23	1.313334	--	--



MAJOR ENERGY SAVING PROJECTS WITH INVESTMENT IN LAST 3 YEARS

S. No.	List of Major energy Savings Project	Year	Annual Savings in Rs. Millions		Investment Made
			Electrical	Thermal	Rs. Millions
1	RM-2 VRM BH Fan power reduction by SPRS new panel installation and false air leakage arresting (80 kW)	2020-21	4.2108	--	3.5
2	Installation of Iteca Seal in Kiln-3 to reduce false air ingress through kiln Inlet seal (40 kW)	2021-22	2.163744	--	3.932
3	43 Nos. Conventional motors replaced with Energy Efficient IE3 Motors in Cement Mill-1 (31 kW)	2021-22	1.311059	--	3.932
4	800 Nos. conventional 70W HPSV light replace with Energy Efficient LED Light in Kiln-3 (27 kW)	2021-22	0.678082	--	1.00
5	Kiln-2 VVF room Air conditioner condenser relocated from cable cellar to outside (6 kW)	2021-22	0.324562	--	0.12
6	Installation of RAL in Coal mill-1 (10 kW)	2021-22	0.495858	--	0.04
7	Applied Insulating Paint on PH and TAD area of kiln-3 (1201 MkCal)	2021-22	0	1.81	1.00
8	Installation of Latest generation classifier in Coal Mill-1 (24 kW)	2022-23	1.050667	--	15.53
9	Installation of Latest generation classifier in Coal Mill-2 (46 kW)	2022-23	2.013779	--	11.66
10	Installation of Latest generation classifier in Coal Mill-3 (15 kW)	2022-23	0.656667	--	15.22
11	Installation of VFD in raw mill-1 mill vent fan (20 kW)	2022-23	0.477576	--	0.32



MAJOR ENERGY SAVING PROJECTS WITH INVESTMENT IN LAST 3 YEARS

S. No.	List of Major energy Savings Project	Year	Annual Savings in Rs. Millions		Investment Made Rs. Millions
			Electrical	Thermal	
12	Bag house fan inlet damper removed in RM-3 (20 kW)	2022-23	0.875556	--	0.03
13	Optimization of Armour ring angle in China VRM (64 kW)	2022-23	2.801779	--	0.05
14	Installation of Weigh feeder in Place of Vibro feeder in Coal reclaiming circuit (10 kW)	2022-23	0.437778	--	0.35
15	Belt weigher installation on mill outlet belt conveyor 36-BC 1 In Ball mill (10 kW)	2022-23	0.238788	--	0.08
16	Installation new fresh air damper in RM-3 (10 kW)	2022-23	0.238788	--	0.05
17	Replacement of Refrigerant Air Dryer with Heatless desiccant air dryers in CM-2 (5 kW)	2022-23	0.198086	--	0.39
18	Replacement of Refrigerant Air Dryer with Heatless desiccant air dryers in Coal Mill-2 (3 kW)	2022-23	0.140089	--	0.292
19	Replacement of Refrigerant Air Dryer with Heatless desiccant air dryers in RM-1 Hy. BH (4 kW)	2022-23	0.171927	--	0.293
20	Replacement of Refrigerant Air Dryer with Heatless desiccant air dryers in Coal Mill-3 (3 kW)	2022-23	0.126956	--	0.292
21	Replacement of 400 Nos. 70W HPSV lamp with 32 W Energy efficient LED Lamps (15 kW)	2022-23	0.334544	--	0.162
22	Installation of Baffle plate in CM-3 across Classifier (10 kW)	2022-23	0.462200	--	0.01



INNOVATIVE PROJECT

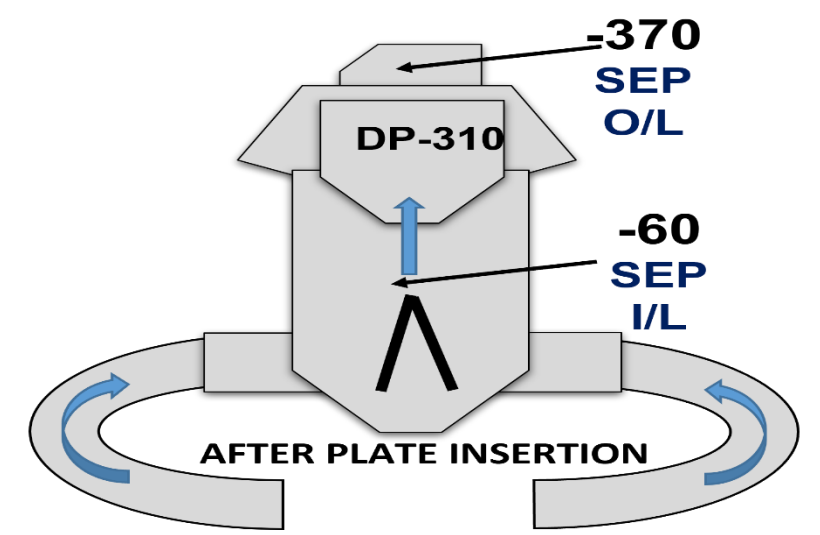
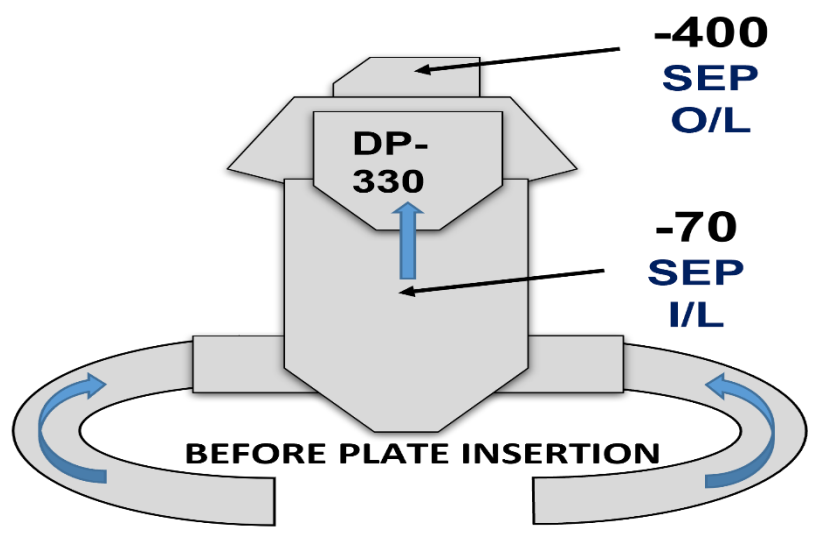
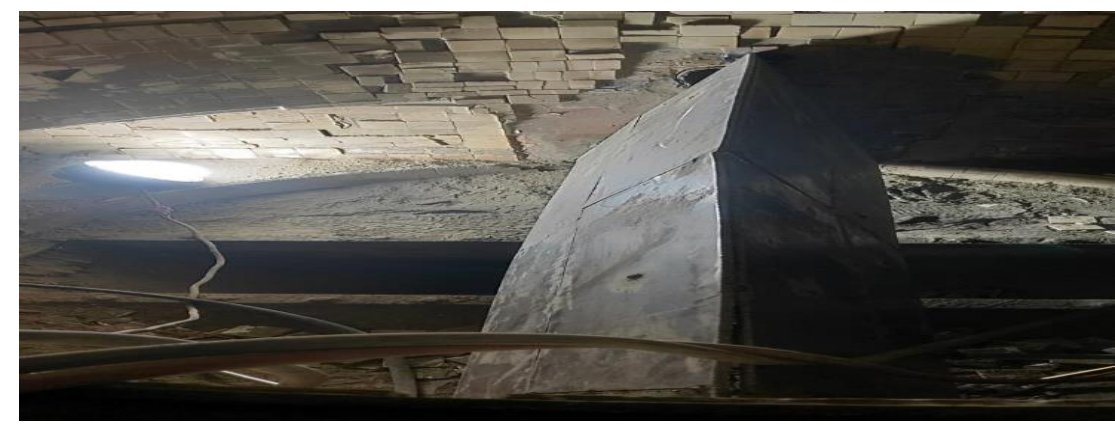
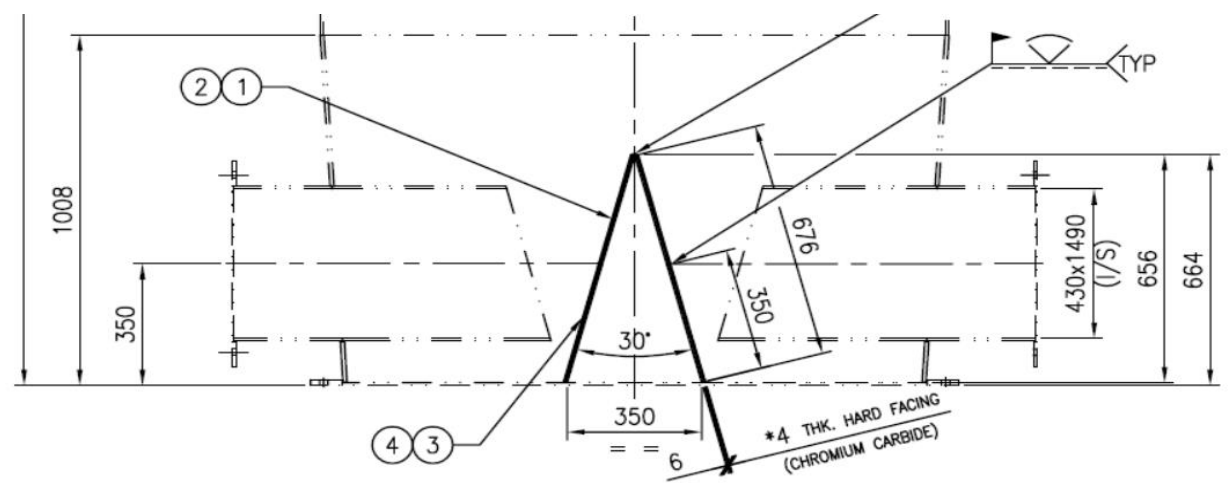
REDUCING PRESSURE DROP ACROSS CLASSIFIER IN CEMENT MILL-03 BY INSTALLING BAFFLE

BACKGROUND

- **Pressure Drop Across Classifier Was Running On higher Side.**
- **Circulating Air fan was slightly running on higher side.**
- **Pressure drop across Classifier is due to flow separation at the inlet causing recirculation resulting in pressure drop across Classifier.**
- **After Brainstorming we have decided to install Baffle Plate at the inlet of Classifier Duct .**
- **Baffle plate was installed at the Centre of the Circular Duct, and it was Inclined 30 Deg to the entering Gas**

INNOVATIVE PROJECT

PRESSURE PROFILE BEFORE & AFTER BAFFLE INSERTION





INNOVATIVE PROJECT

PARAMTERS BEFORE AND AFTER BAFFLE PLATE CEMENT MILL 03 (43 GRADE)

S.NO	PARAMETRS	UNITS	BEFORE BAFFLE	AFTER BAFFLE
1	TOTAL FEED	TPH	74	75.5
2	RETURN	TPH	72	76
3	SEPERATOR RPM	RPM	744	730
4	CA FAN	KW	266	256
5	CA FAN FLOW	M3/HR	156500	158500
6	CA FAN EFF	%	87	89
CLASSIFIER EFFICIENCY (45 U)				
1	PRODUCT	%	13	11
2	SEPERATOR FEED	%	51	52
3	REJECT	%	79	83
4	CIRCULATION FACTOR		2.36	2.32
5	SEPARATOR EFF.	%	79	85

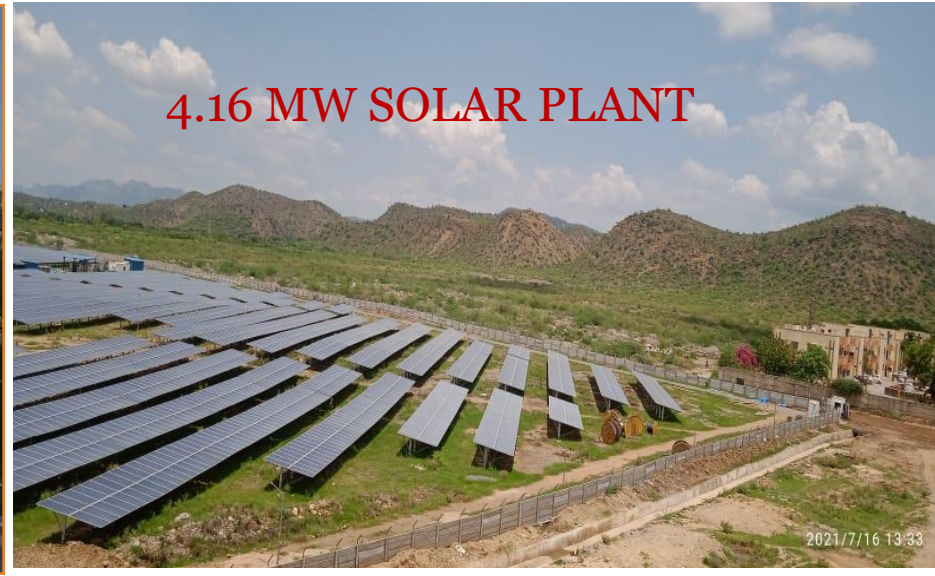
Business Impact:

Total Investment : 0.1 lac
Saving in kWh : 76650 units /Annum
Monitory Gain : Rs. 5.36 Lacs/Annum

Replication

Same Idea will be replicate in CM-1,CM-2, CM4, CM-5 & CM-6

RENEWABLE ENERGY AT JKLC



CAPACITY : 268 kW
CO2 Saved= 962 Tons



Installed 17.16MW solar PV
Going to Installing 8MW Solar plant

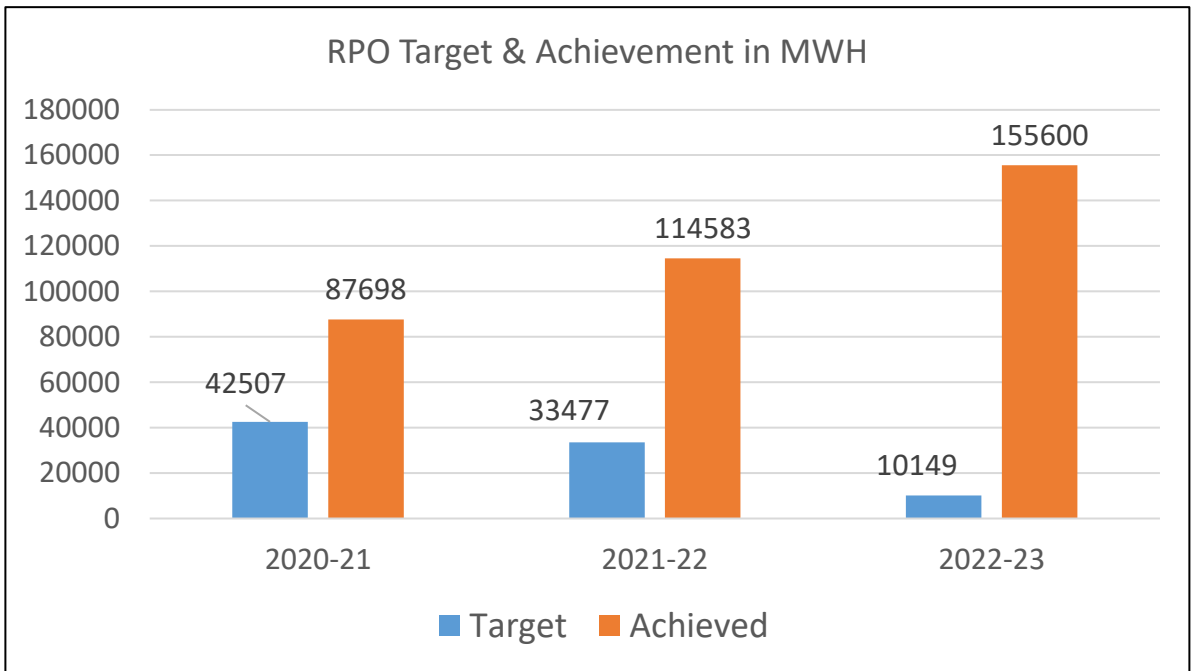
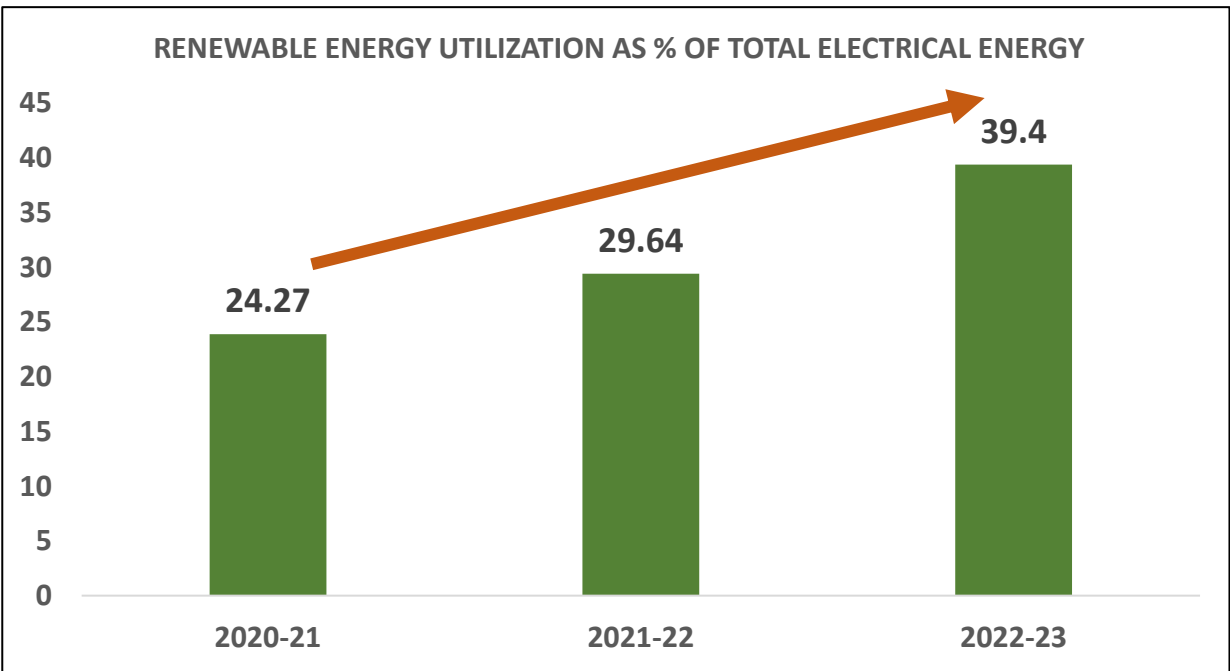
Installed 10.4MW New WHR in Line-3



UTILIZATION OF RENEWABLE ENERGY

Renewable/ Green Electrical Energy Generation in Million kWh

FY. Year	Onsite			Offsite	Total	% of Overall Elect. Energy	0.27 MW Colony Roof Top Solar
	25.4 MW WHR	4.16 MW Solar	7 MW Solar	6MW Solar Phalodi Plant			
2020-21	82.92	5.41	0	0	88.33	24.27	0.031
2021-22	106.16	8.42	0	0	114.58	29.64	0.252
2022-23	131.52	8.49	5.18	10.49	155.68	39.40	0.253



UTILIZATION OF WASTE



1 DOC



2 Argo. Waste



3 Medical Waste



4 ETP Sludge



5 Solid Hazardous Waste



6 Liquid Hazardous Waste



37 Hazardous, Non-Hazardous Solid & Liquid waste incl. TPP Fly ash



In-house development of solid waste feeding system



In-house development of Liquid waste feeding system



"With these In-house developed systems we are able to maximize AFR usage"



AFR for 2022-23: **16**



UTILIZATION OF WASTE AS FUEL IN LAST THREE YEARS

Description	2020-21			2021-22			2022-23		
Name of Fuel	Liquid Waste	Solid Waste	Bio Mass	Liquid Waste	Solid Waste	Bio Mass	Liquid Waste	Solid Waste	Bio Mass
Year	2020-2021	2020-2021	2020-2021	2021-2022	2021-2022	2021-2022	2022-2023	2022-2023	2022-2023
Qty in MT	7544.82	46130.77	2108.12	16336.39	61795.95	14790.95	13014.61	68169.22	14589.45
GCV	292.59	1961.421	3570.148	434.15	1561.434	3414.416	481.338	1501.615	3716.205
Heat Value in Million Kcal	2207.55	90481.87	7526.3	7092.5	96490.28	50502.46	6264.44	102363.91	54217.38

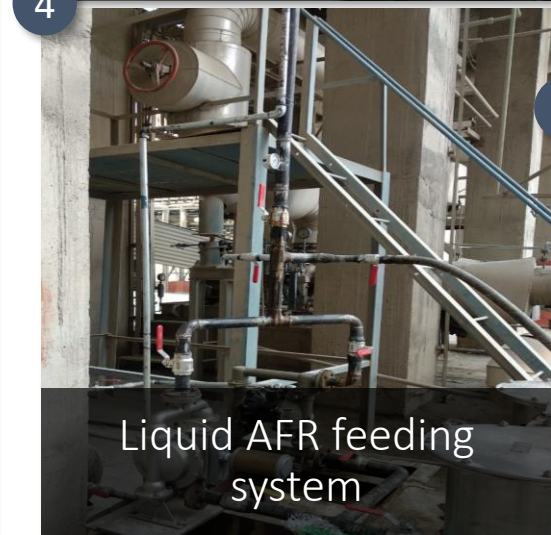
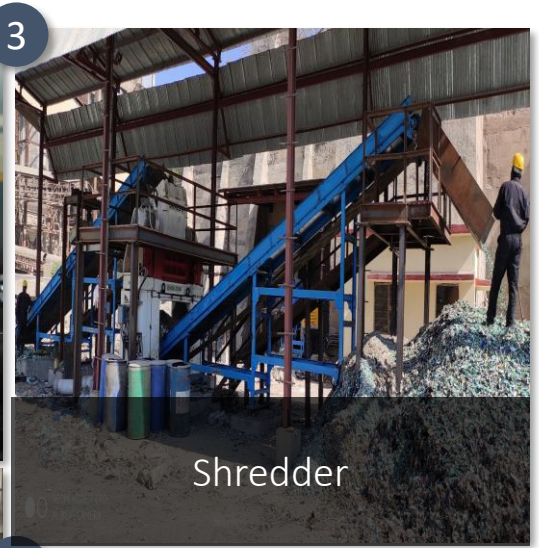
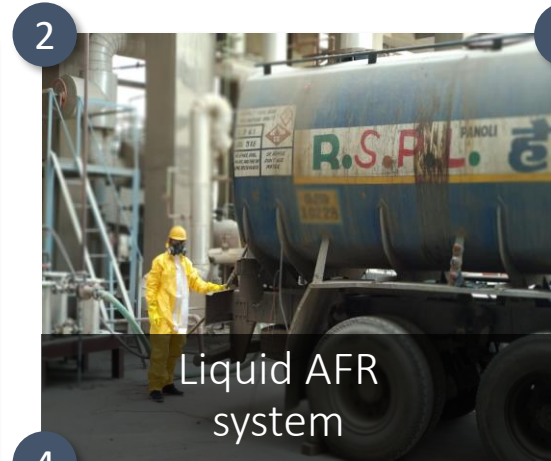
UTILIZATION OF WASTE AS RAW MATERIAL IN LAST THREE YEARS

Description	2020-21				2021-22				2022-23				
Name of Alternative raw material	RED OCHRE	MARBLE KHANDA	CALCITE	HIGH GRADE CALCITE	RED OCHRE	MARBLE KHANDA	CALCITE	JAROSITE CAKE	RED OCHRE	MARBLE KHANDA	WOLLASTONITE GRADE WRG	MARBLE RABBLES	JAROSITE CAKE
Qty in MT	95843	75298	19420.39	468.57	121585	55360	2754	7552	136656	80734	3303	2130	7505
Name of material gets replaced	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone	Lime Stone



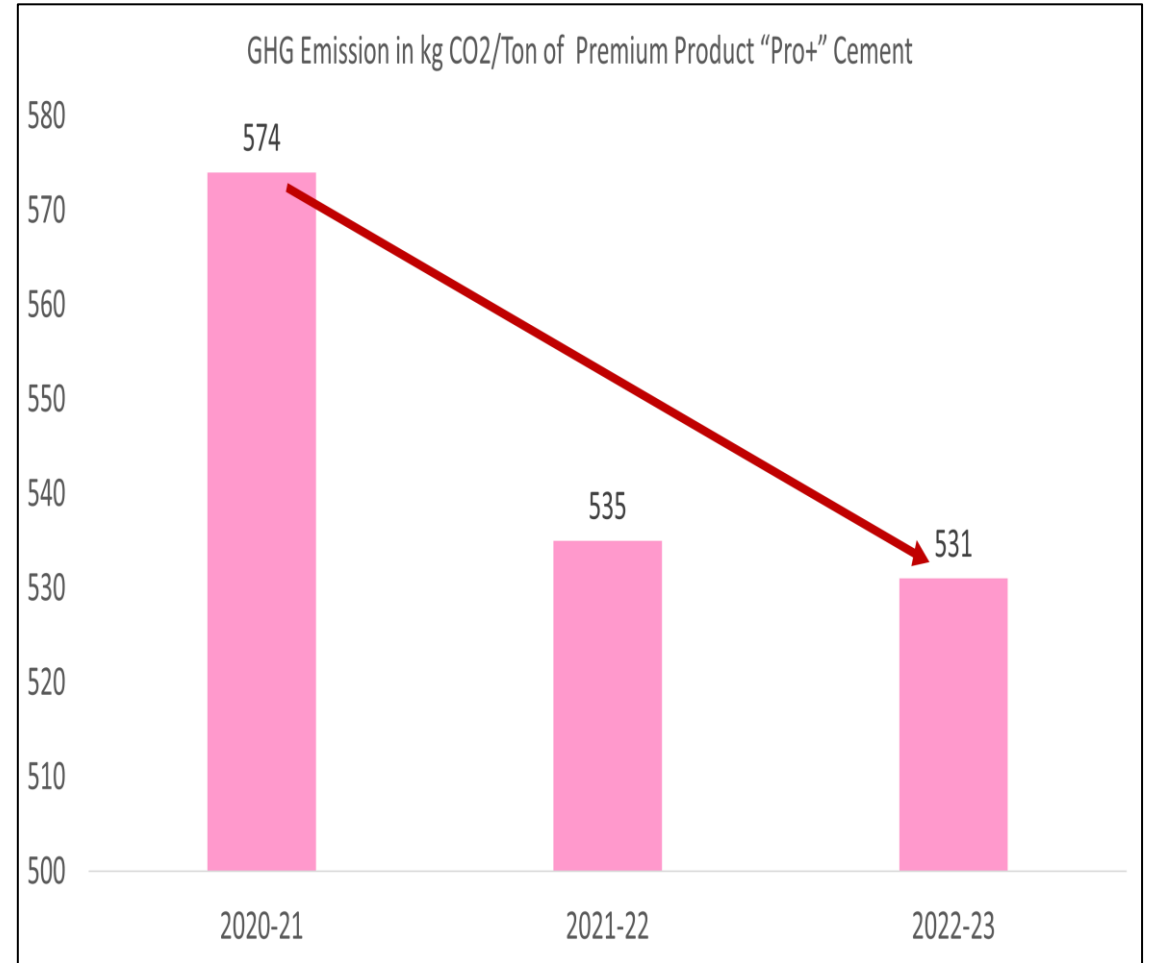
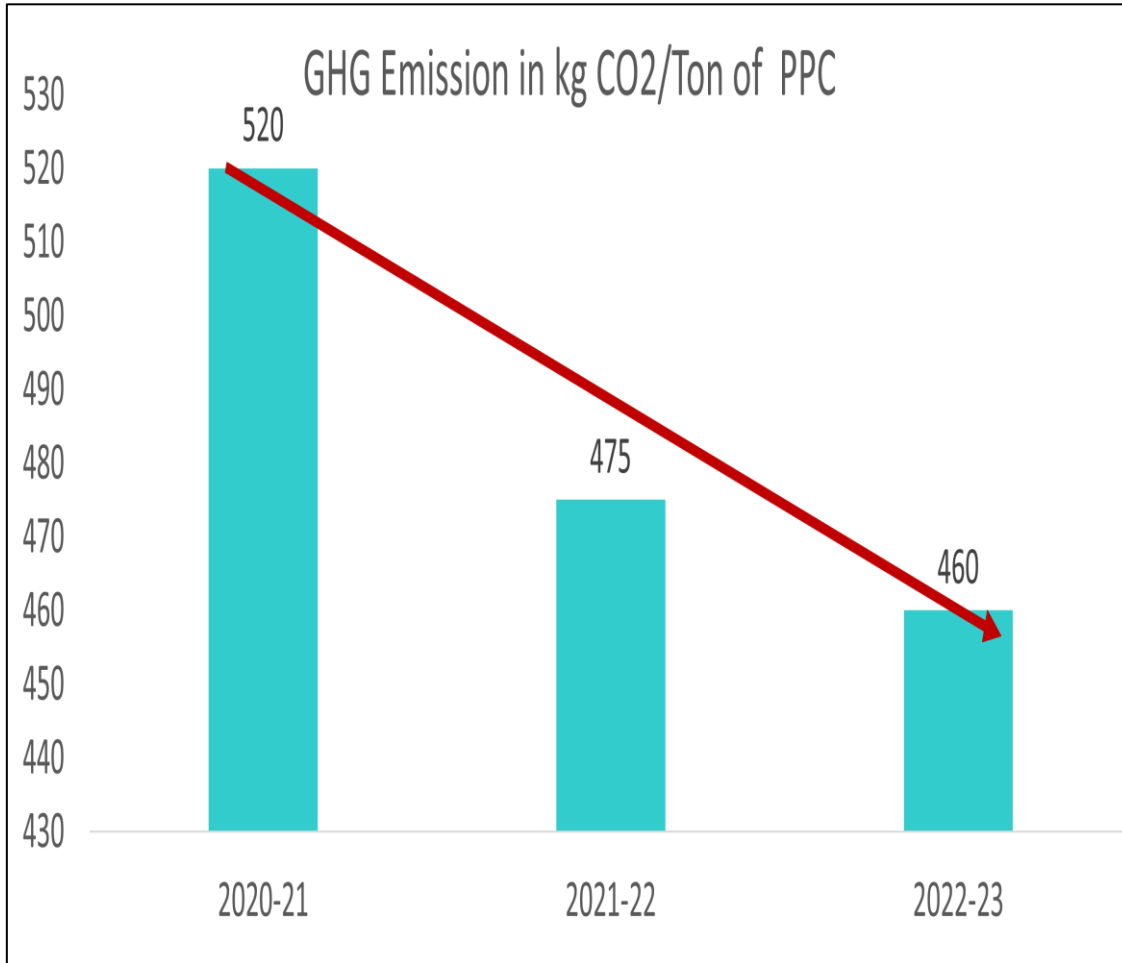
INFRASTRUCTURE FOR AFR CO-PROCESSING

A Step towards Clean & Green Environment



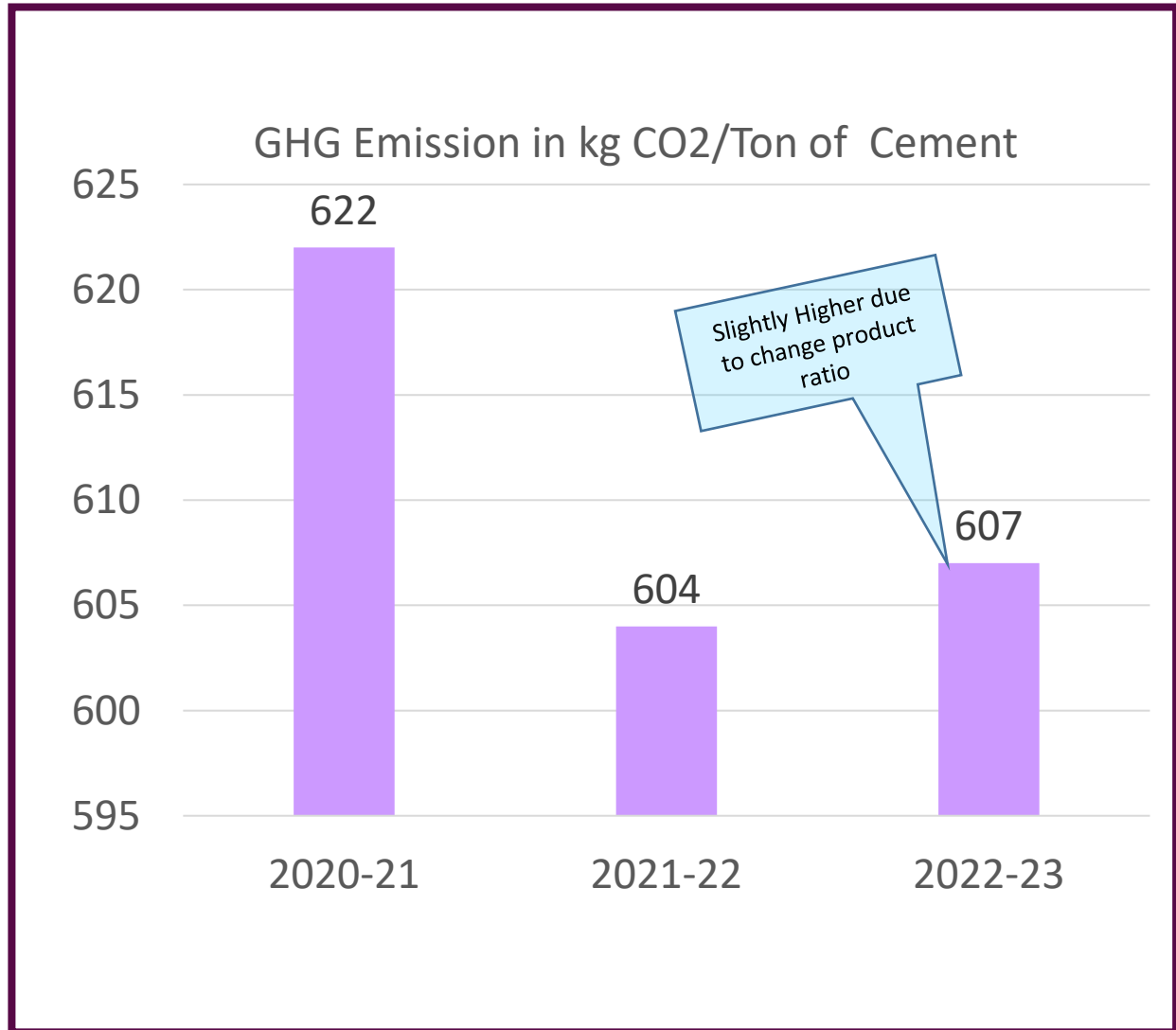


ACHIEVEMENT IN GHG INVENTORISATION





ACHIEVEMENT IN GHG INVENTORISATION



Road Map for Reduced GHG Emission:

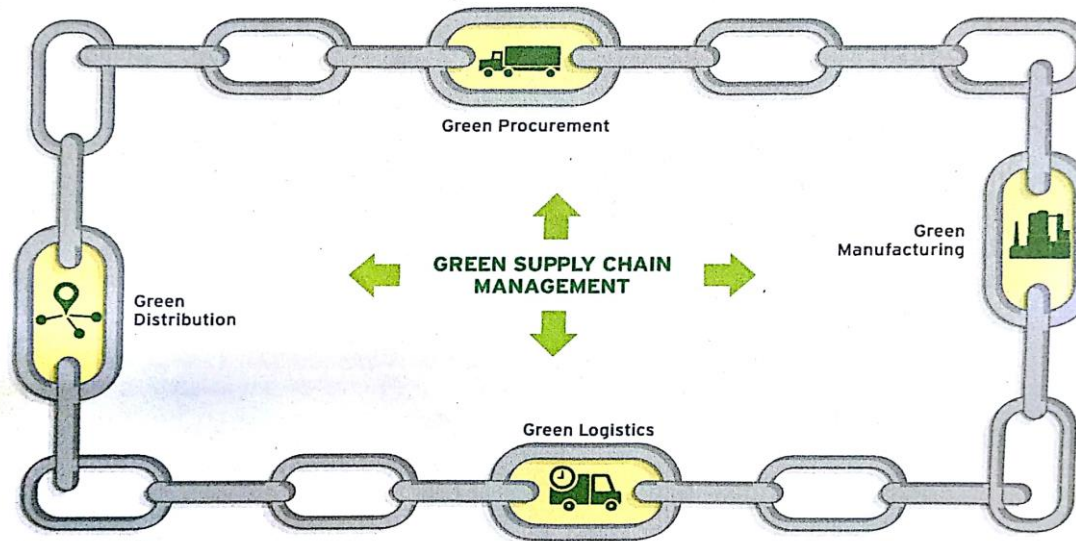
- Increase Fly ash contribution from 34% to 35 %.
- Increase Renewable Energy consumption from 39.4% to 55% of total Electrical Energy consumption by 2025.
- Increase TSR from 6% to 15% by increasing the consumption of hazardous and non-hazardous wastes.
- Reduction in Electrical & Thermal Energy consumption

GREEN SUPPLY CHAIN POLICY

GREEN DISTRIBUTION, GREEN LOGISTIC & GREEN PROCUREMENT

The supply chain of a company has a major environmental impact right from procurement of raw materials to transportation and distribution of products. In order to incorporate elements of sustainability in its supply chain, JK Lakshmi Cement Ltd. has adopted the management approach of Green Supply Chain Management (GSCM), which consists of diverse aspects such as Green

Procurement, Green Manufacturing, Green Distribution, and Green Logistics. Green Procurement is an upstream segment of the GSCM which aims to minimise environmental impact throughout the lifecycle of our products by implementing green strategies in our procurement process.



Green Supply Chain Management at JK Lakshmi Cement Ltd.

At JK Lakshmi Cement Ltd. we have established Green Procurement Guidelines, which consist of a comprehensive set of assessment criteria and recommendations for selection of suppliers. These guidelines help us in collaborating with suppliers who illustrate ideal practices such as optimal use of raw materials, minimisation of carbon footprint, energy and resource efficiency, preservation of ecosystems, material recycling, and initiatives towards enhancing economic and social sustainability.

In order to establish long-term relationships with suppliers committed towards sustainable development, JK Lakshmi Cement Ltd. evaluates their policies / processes on the following parameters at their manufacturing locations:

- Environmental Sustainability
- Social Sustainability

- Utilizing same Truck to dispatch packed cement in same route which is coming with additives at plant site
- Utilization of same Bulker to dispatch loose cement in the same route which is coming with Dry Fly Ash.
- Procuring only Energy Efficient Motors (IE3) and LED Lights
- Utilizing the various hazardous and non-hazardous waste of various industry as alternative fuels.
- Use of LNG trucks for Cement Dispatch
- Motivating to vendors and suppliers for energy conservation



GREEN MANUFACTURING: CII GREEN PRO CERTIFICATION





ENERGY MONITORING SOFTWARE & REPORTS

CEMENT MILL-6 EMS REPORT 8/9/2012 2:34:27 PM

CEMENT MILL PRODUCTION : 290 TONS (OD) 27015 TONS (MTD)
 RUNNING HOURS : NaN HRS (OD) NaN HRS (MTD)

S. NO	EQUIPMENT	TAG	POWER CONSUMPTION			SPECIFIC POWER	
			TODAY	OD	MTD	OD	MTD
1	MILL MAIN MOTOR	JH4E	30488	10381	194398	38.48	35.81
2	RECIRCULATION FAN	JH1E	5437	1343	104138	2.88	2.89
3	TRANSFORMER	JH7E	2597	824	38187	2.34	2.19
TOTAL							

30-Aug-12 10:59:26 Controllers FTEB, CMIN, OFFNET U 15 CSn02 Connection TIMEOUT

24-hrs parameters for the month of AUG-2010 (KILN NO -1)

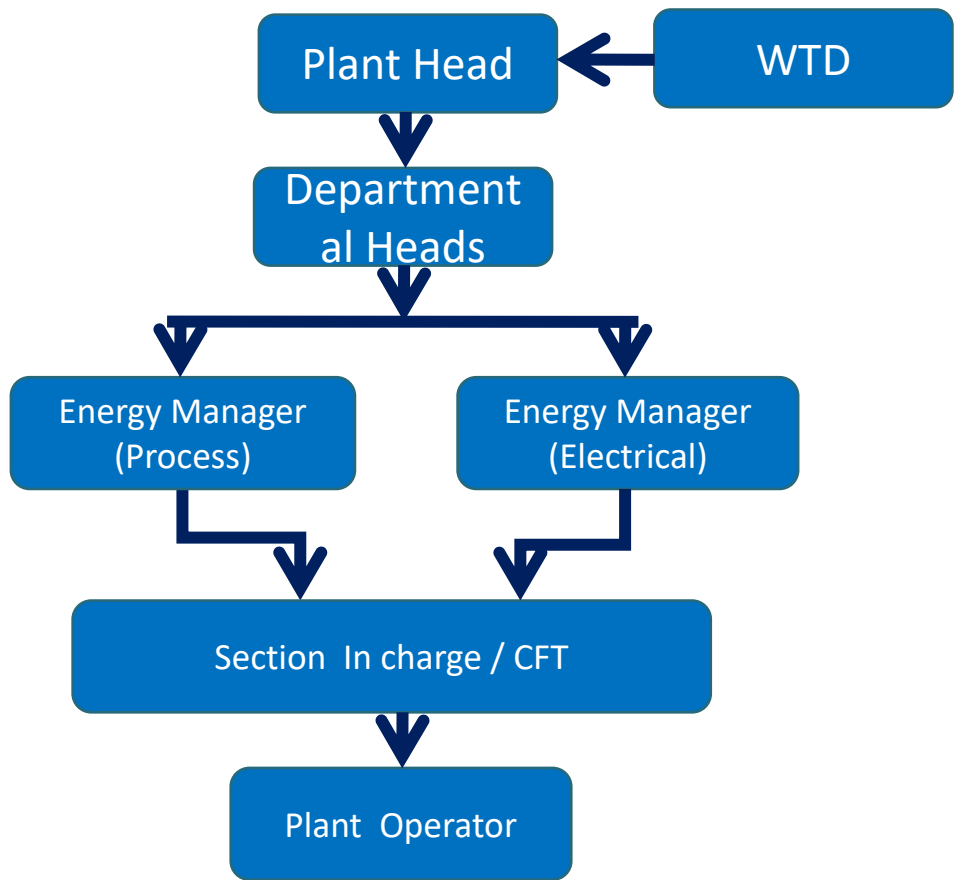
No.	Parameters	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	Avg		
1	kiln feed																																	
2	B.E.KW																																	
3	pan con kw																																	
4	kiln coal																																	
5	pc coal																																	
6	PH FAN RPM																																	
7	PH FAN KW																																	
8	water spray																																	
9	TOP TEMP																																	
10	Cy-6 gas temp																																	
11	Cooler o/L T																																	
12	clinker temp																																	
13	kiln amp																																	
14	B.Z temp																																	
15	PH fan o/l o2																																	
16	NCV																																	
17	Coal con																																	
18	Heat con																																	
19	Available hrs																																	
20	Running hrs																																	
21	Run factor																																	
22	production																																	
23	Rate																																	
24	PH fan KW																																	
25	CV Fan KW																																	
26	K/F&SilokW																																	
27	cooler fan																																	
28	L T drives																																	
29	Total																																	
30	Power																																	

WEEKLY POWER LOSS ANALYSIS (FROM TO) (MATERIAL)

S. NO.	SECTION	TARG ACTU ET AL	POWER LOSSES						REMARKS	
			1	2	3	4	5	6		
			STOPPAGES			IDLE RUNNING	HIGH KW.	LOW TPH	LOSS IN	
			DEPTT.	STOP.DETA ILS	LOSSES	EQUIPMEU/To NT n	U/Ton	U/Ton	U/To n	Rs./=
			FREQ.	Hrs	Min	UnitU/To n	cem.	cem.	cem.	cem.
1	CRUSHER									
	PROD.	MECH.								
	AVR.PROD/DAY	ELECT.								
	AVR. R.HRS/DAY	INSTM N.								
	TPH	PROC ESS.								
	CR. < DR.KW	OTHER S.								
	STACKER KW	POW. INTR.								
	TOTAL KW UNITS/TON	TOTAL								
2	VRM-1									
	PROD.	MECH.								
	AVR.PROD/DAY	ELECT.								
	AVR. R.HRS/DAY	INSTM N.								
	TPH	PROC ESS.								
	AVR.B.H. D.P.	OTHER S.								
	AVR.BHF.RP M	POW. INTR.								
	AVR.RMF.RP M	MINES								
	RM DRV KW	TOTAL								
	RM FAN KW									
	BH FAN KW									
	RECLAIMER KW									
	L.T. DRIVE KW	RESIDUE AT 90 MIC. =								
	TOTAL KW UNITS/TON	RESIDUE AT 212 MIC. =								

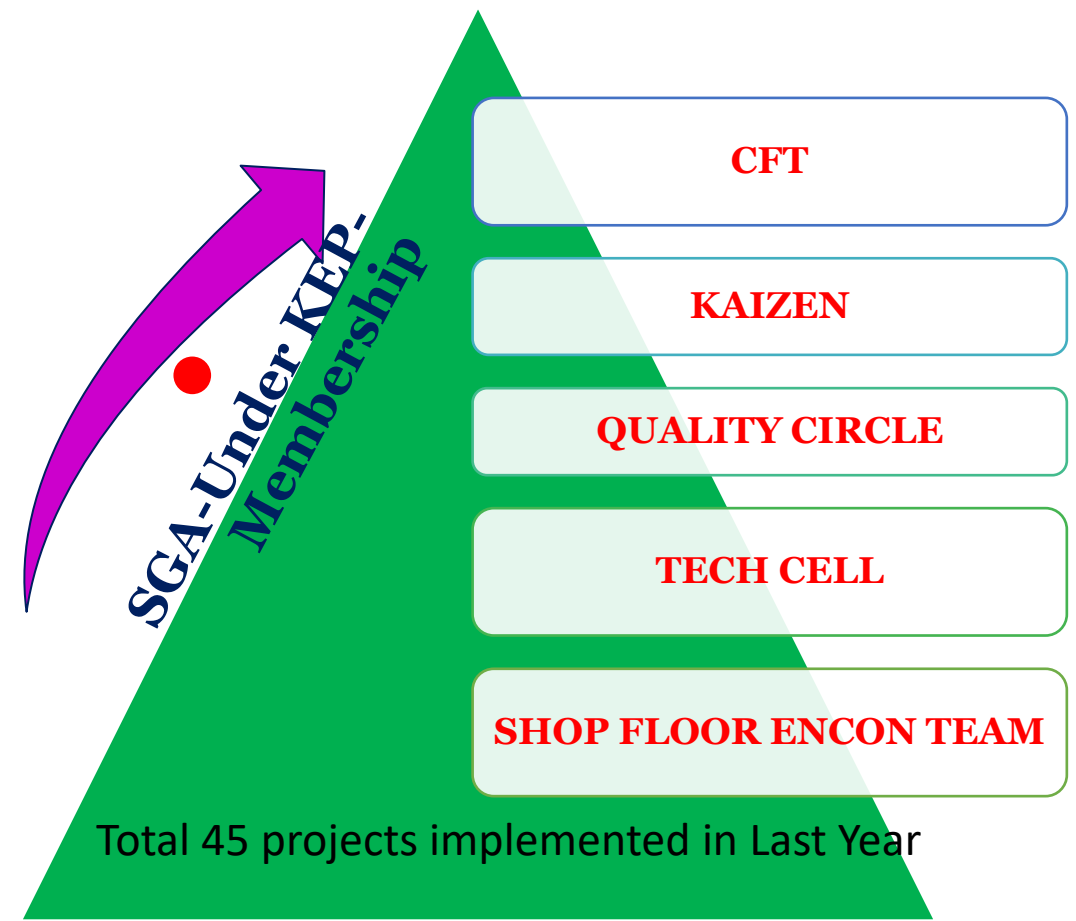


ENERGY MANAGEMENT TEAM



Energy Review Meeting Chaired By Unit Head

EMPLOYEE ENGAGEMENT ACTIVITIES AT JKLC





IMPLEMENTATION OF ISO 50001

QENHSE POLICY



JK Lakshmi Cement Limited, Jaykaypuram, is a leading manufacturer of clinker and cement. We operate our plant with zero water discharge, promote use of alternative fuel, and are committed to meet the requirements. We shall work with our customers to enhance their satisfaction with Quality product and services

We are committed to

- Protection of environment (including prevention of pollution);
- Provide safe and healthy working conditions for prevention of injury and ill health;
- Eliminate hazards and reduce OH&S risks;
- Consultation and participation of workers;
- Energy efficient operations; and
- Fulfil compliance obligations

We shall achieve this by

- ✓ Adopting latest management system standards;
- ✓ Operating our mines and plant in safe and efficient manner;
- ✓ Optimum utilization of resources including energy and water in sustainable manner;
- ✓ Waste reduction at all level, utilizing waste and promotion of reuse and recycle;
- ✓ Conserve natural resources by utilizing alternative fuel and alternative raw material;
- ✓ Adopting and implementing technological improvements for process improvements and development;
- ✓ Ensuring availability of information and necessary resources;
- ✓ Promotion of greenery at our mines, plant and surroundings;
- ✓ Implementation of risk control measures;
- ✓ Identifying significant energy consuming processes, equipment, facilities & systems and implementing actions to reduce energy consumption;
- ✓ Emphasizing on procurement of energy efficient products and services that impact energy performance and design for energy performance improvement;
- ✓ Creating an atmosphere of openness and awareness by training and educating personnel at workplace;
- ✓ Effective relationship management with external providers, customers and other relevant interested parties; and
- ✓ Supplier development and up-gradation

Keeping in view of our organizational values and best management practices, we shall integrate management system requirements in all our business processes and continually improve our management system to achieve improved Quality, Environment, Health & Safety and Energy performance.

01 May 2021
Jaykaypuram

Dr. Sunil Kumar Saxena
Plant Head





IMPLEMENTATION OF INTEGRATED QENHSE

QEnHSE External Audit Report

(There were no non-conformities/observations during QEnHSE Audit)

S. No.	Observations	Status
1	History of mechanical breakdowns to be maintained at the department.	Completed
2	To ensure active involvement in emergency preparedness, sectional safety committee meeting may also include discussion on ERP Drills, Fire Drills, Fire trainings & any other activities conducted in the section so that to improve awareness of all.	Completed
3	Encourage reporting first aid cases inside the plant.	Completed
4	Internal audit report may have identified format no.	Completed
5	Consider to include clause for return of near expiry medicines to the supplier in the Purchase Order.	Completed
6	Involvement of health officer in risk evaluation criteria for HIRA & Significant environmental aspect, may be considered.	Completed
7	Mining operation is outsourced. LOA to be maintained at the department.	Completed
8	Apply reasonable controls to restrict assembly of unwanted workers or waiting trucks in the loading area.	Completed
9	Consider health checkup of lorry drivers (vision & color blindness) for those transporters, who have regular contract with us and have permanent drivers.	Completed
10	Bi Mass operations may be considered for assessment of environmental aspects and HIRA risks.	Completed
11	Copy of legal compliance related to the department, may be maintained.	Completed



LEARNING FROM CII ENERGY AWARD PROGRAMME

- Insulating paint over high temperature area to reduce radiation losses implemented in Kiln3
- Installation of Active Harmonic Filter for Power factor improvement (installed)
- Use of Thermodynamic Steam Trap in our WHRS Steam line (applied)



JKLC COMMITMENT TOWARDS NET ZERO

We had registered with SBTi last year IN 2022 and target will be finalized by SBTi by 2024

ROAD MAP TO ACHIEVE TO ACHIEVE NET ZERO TARGET :

- ❖ Committed to meet our total Electrical requirement through renewable energy by 2040 and same has been committed by the RE100 membership
- ❖ We are also committed to double our energy productivity by 2040 from the base line year 2015 by taking the membership of EP100
- ❖ We have also targeted to fulfil the requirement of 10 principals of UNGC by taking its membership
- ❖ To align our sustainable initiatives with Indian cement industry we have taken the membership of GCCA-India. Through all Initiatives we are committed to meet our sustainable target and reduced our carbon foot print and to meet sustainable development goals.

DIFFERENT MEMBERSHIP FOR NET ZERO TARGET :

- (1) Membership of SBTi
- (2) Membership of RE100
- (3) Membership of EP100
- (4) Membership of UNGC
- (5) Membership of GCCA- India

Recognition of Our Efforts in the various field

- 1 Since 2006, Received "Excellent energy efficient unit Award" 8 times complimented by CII, Hydreabad
- 2 Since 2006, Received "Efficient energy efficient unit Award" 8 times complimented by CII, Hydreabad
- 3 Received "Most Innovative Project" award by CII, Hyderabad 3 times
- 4 Received award for being One of "Top 25 most innovative companies" by CII
- 5 Received 2nd Best in "Thermal & Electrical energy consumption" by NCCBM 2 times
- 6 Received award for being 2nd Best in "Environmental Excellence" by NCCBM



One of **Top 25**
Most Innovative
Companies

REWARDS AND RECOGNITION



National award for Excellence in Energy Management



Rajasthan Govt Energy Efficiency Award



AFR Co-Processing Award



5 Star rating Award



THANKS