Trusted Technology – Solid Strength

KESORAM INDUSTRIES

Cement Division, Unit: Vasavadatta Cement

An IS/ISO 9001:2015 , 14001:2015

ISO / 45001:2018 / 50001 Company

Mr. Lalbabu Yadav	*GM Electrical*
Mr. G. Raja Rao	*Energy Manager*
Mr. Md Saud Salman	*Manager PQC*

Trusted Technology - Solid Strength

Unit-1
1500 TPD
1986

CPP-1
15 MW
1997

Unit-2
2500 TPD
2005

CPP-2
9 MW
2006

Unit-3
3800 TPD
2007

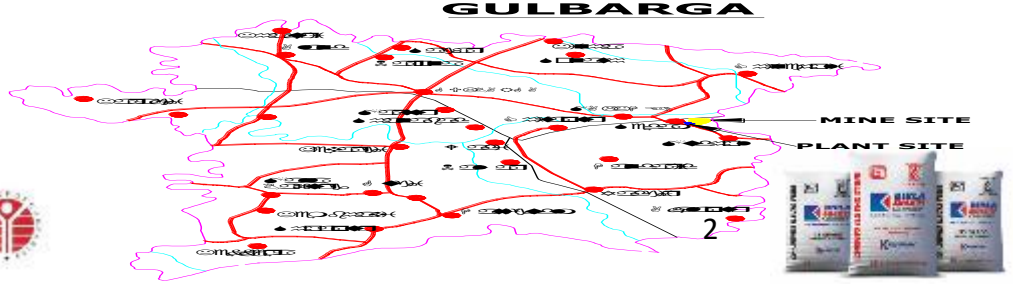
CPP-3
17.5 Mw
2009

Unit-4
3800 TPD
2021

CPP-4
17.5 MW

CPP-5
7.5 MW

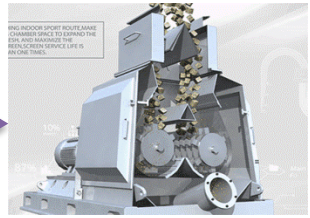
PRODUCTS



KESORAM

Mines

Mines Crusher



Lime Stone

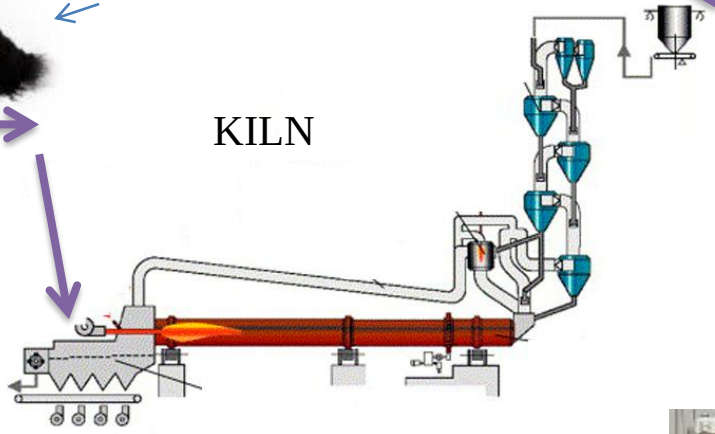
Additives

Raw Mill

Coal Mill

Fine Coal

KILN



Raw Meal

Clinker

Gypsum

Cement Mill

Cement

Packing

Major Equipment Technical Details

Crusher

New Lime Stone Crusher
- Capacity: 1400 TPH
- Type: Double Rotor Hammer
- OEM: TKIL

Old Lime Stone Crusher
- Capacity: 800 TPH
- Type: Single Rotor Impact
- OEM: Hazemage

Additive Crusher
- Capacity: 200 TPH
- Type: Swing hammer
- OEM: Elecon

Secondary Crusher
- Capacity: 300 TPH
- Type: Reversable hammer
- OEM: TKIL

Raw Mill

Raw Mill – 1
- Capacity: 140 TPH
- Type: VRM with Static Separator
- OEM: TKIL

Raw Mill – 2
- Capacity: 210+50 TPH
- Type: VRM with Dynamic Separator tandem with Ball Mill
- OEM: TKIL

Raw Mill – 3
- Capacity: 275 TPH
- Type: Roller Press
- OEM: TKIL

Raw mill – 4
- Capacity: 275 TPH
- Type: Roller Press
- OEM: TKIL

Coal Mill

Coal Mill – 1
- Capacity: 19 TPH
- Type: VRM with Static Separator
- OEM: TKIL

Coal Mill – 2
- Capacity: 25 TPH
- Type: VRM with Dynamic Separator
- OEM: TKIL

Coal Mill – 3
- Capacity: 35 TPH
- Type: VRM with Dynamic separator
- OEM: Pfeiffer

Coal mill – 4
- Capacity: 40 TPH
- Type: VRM with Dynamic separator
- OEM: Pfeiffer

AFR Feeding

Shredder
- Capacity: 10 TPH
- Type: Jaw Type
- OEM: ATS Conveyors India Pvt. Ltd.

Hot Disc
- Capacity: 3.5 to 10 TPH
- Type: Hotdisc Reactor
- OEM: FLSmidth

Major Equipment Technical Details

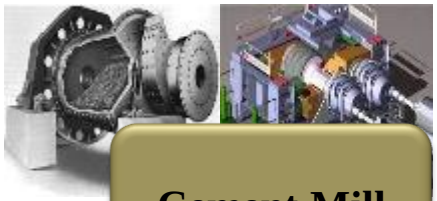
Kiln

Kiln – 1
- Capacity: 1500 TPD
- Type: Three tier, with Girth Gear , Five Stage ILC Pre-Heater & Grate Cooler with IKN static-grate
- OEM: TKIL

Kiln– 2
- Capacity: 2500 TPD
- Type: Three tier with Hydraulic Thruster, Five Stage ILC Pre-Heater & Grate Cooler with 13 Row Jet Stream plate cooler
- OEM: TKIL

Kiln – 3
- Capacity: 3800 TPD
- Type: Two Tier Rotax Kiln with Six Stage ILC Pre-Heater & SF-CB Cooler
- OEM: FLSmidth

Kiln – 4
- Capacity: 3800 TPD
- Type: Two Tier Rotax Kiln with Six Stage ILC Pre-Heater & SF-CB Cooler
- OEM: FLSmidth



Cement Mill

Cement Mill – 1
- Capacity: 225 TPH
- Type: Roller Press with Ball Mill Combi Circuit
- OEM: TKIL

Cement Mill – 2
- Capacity: 225 TPH
- Type: Roller Press with Ball Mill Combi Circuit
- OEM: TKIL

Cement Mill – 3
- Capacity: 225 TPH
- Type: Roller Press with Ball Mill Combi Circuit
- OEM: TKIL

Cement mill – 4
- Capacity: 225 TPH
- Type: Roller Press with Ball Mill Combi Circuit
- OEM: TKIL

Packing Plant

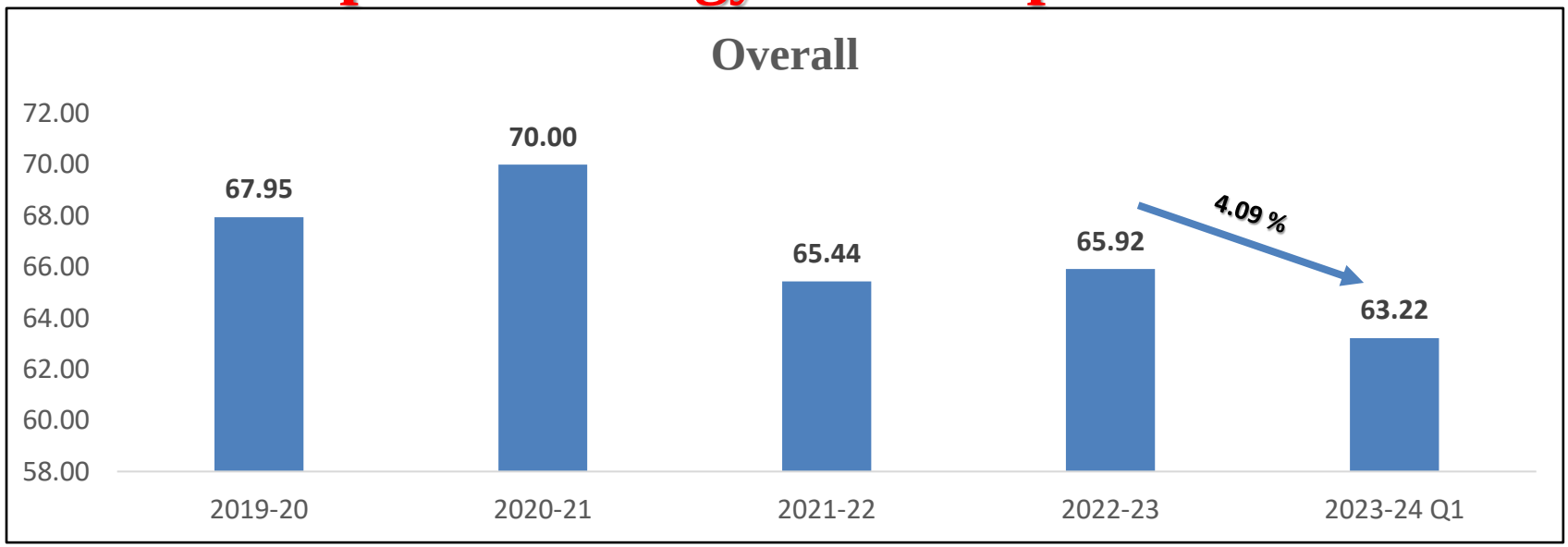
Packing Plant – 1
- Capacity: 240 TPH
- Type: Roto Packer Ventomatic (120 X 2)
- OEM: FLSmidth

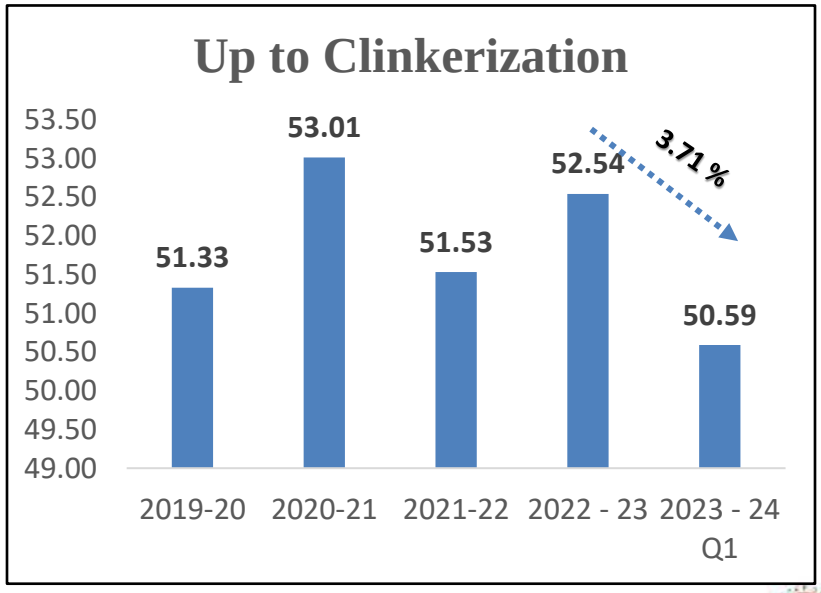
Packing Plant – 2
- Capacity: 480 TPH
- Type: Roto Packer Ventomatic (120 X 4)
- OEM: FLSmidth

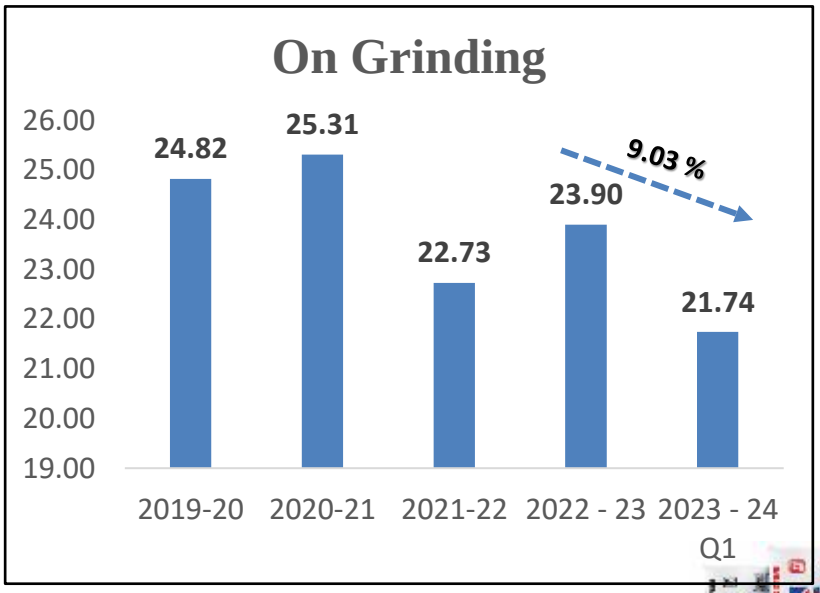
Packing Plant – 3
- Capacity: 360 TPH
- Type: Roto Packer Ventomatic (180 X 2)
- OEM: FLSmidth

Packing Plant – 4
- Capacity: 360 TPH
- Type: Roto Packer Ventomatic (180 X 2)
- OEM: FLSmidth

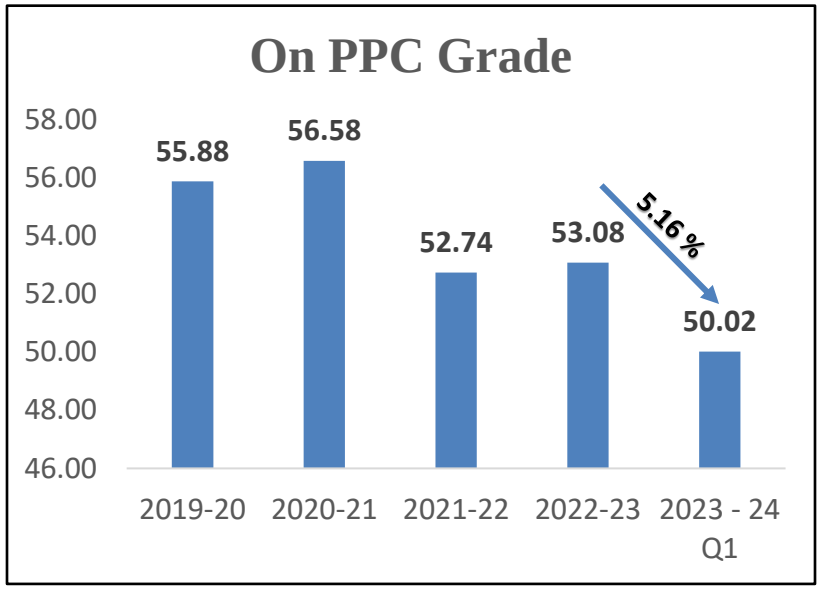
Specific Energy Consumption kWh/MT

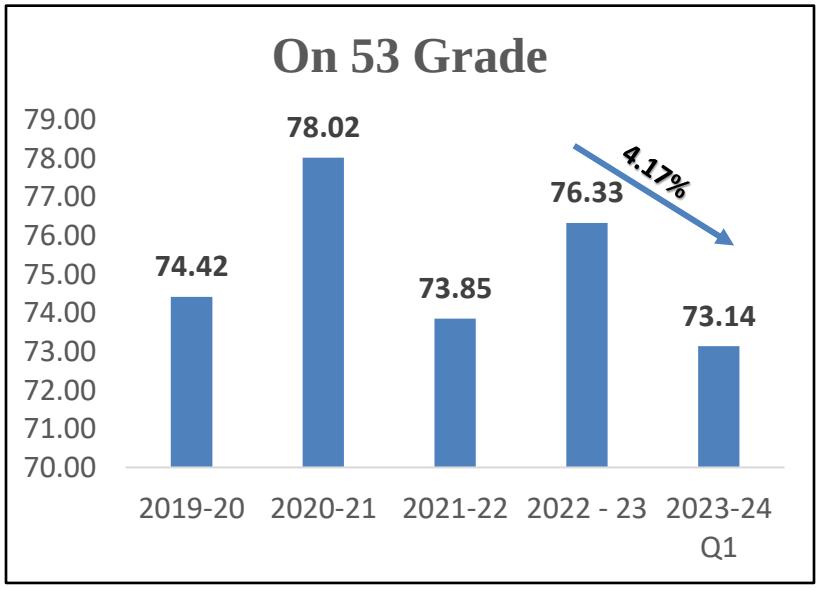


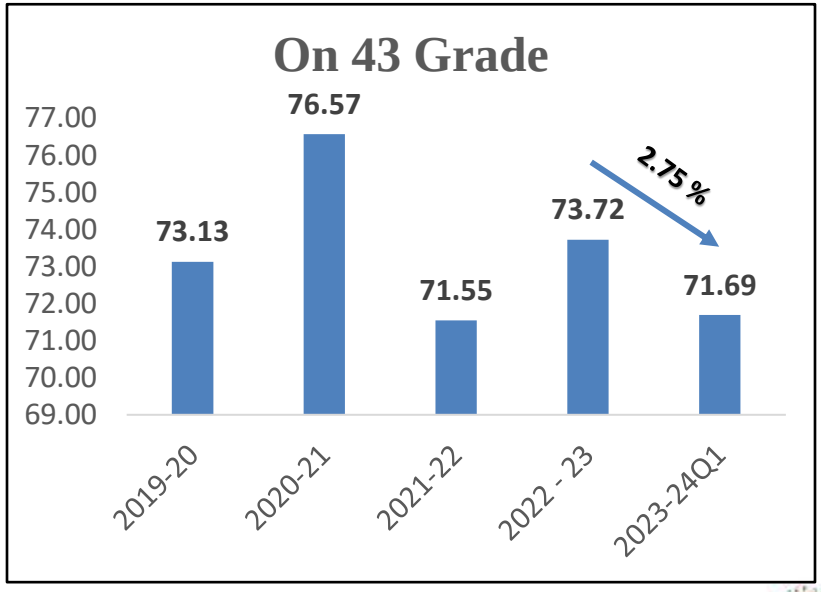


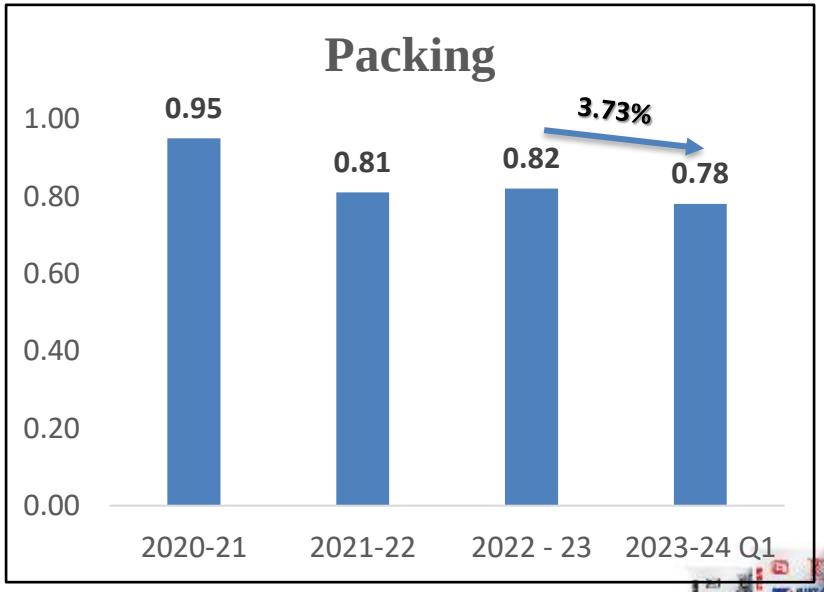


Overall Specific Energy Consumption kWh/MT

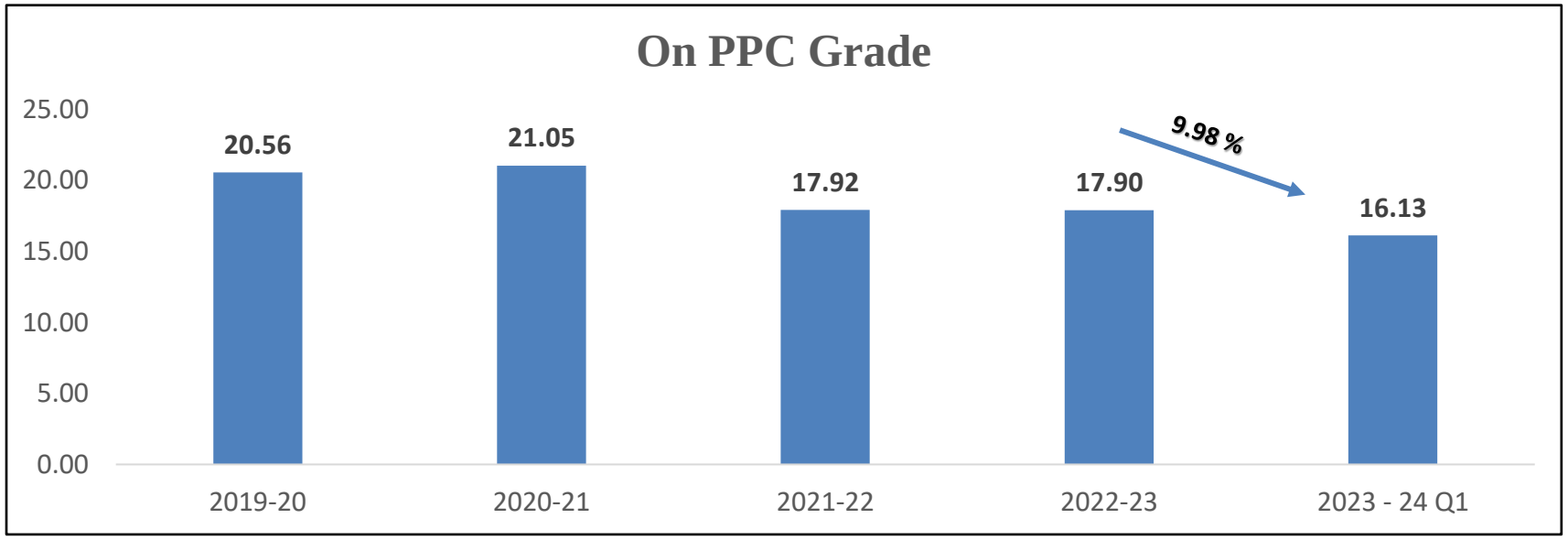


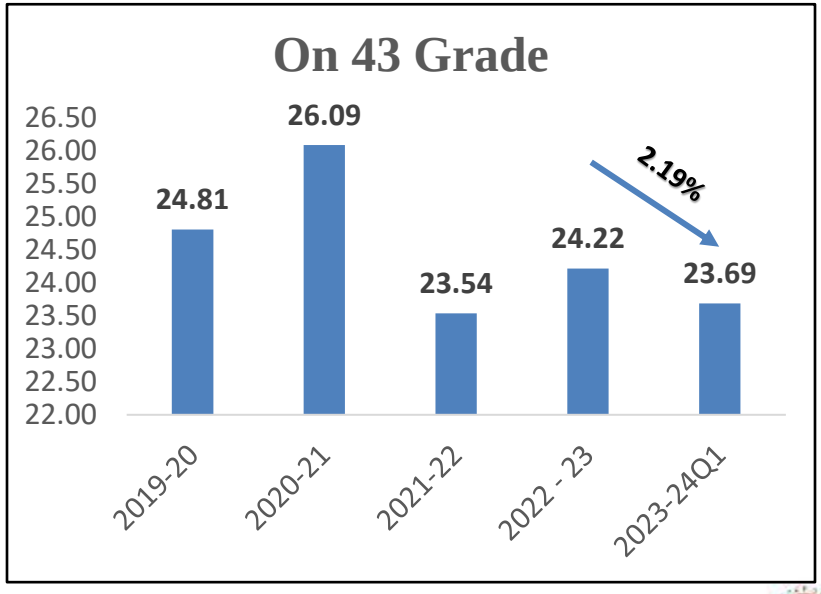


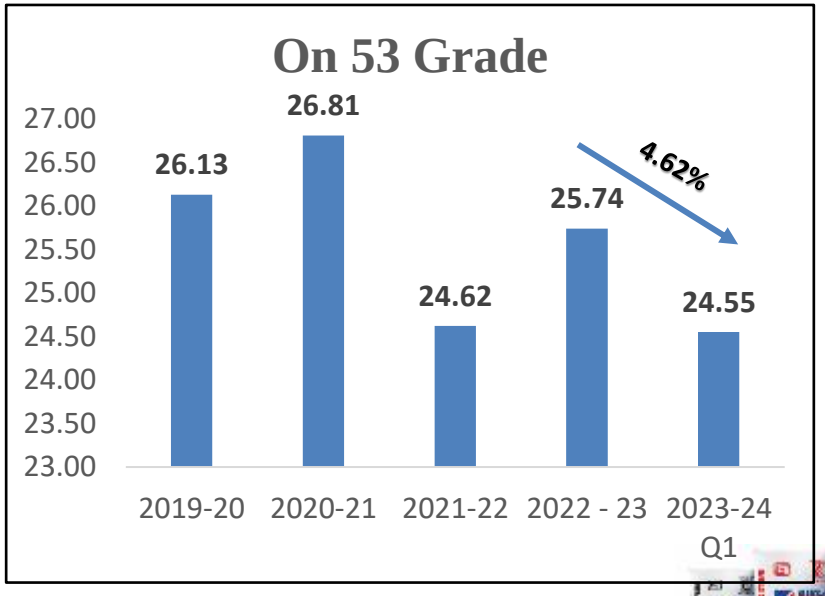




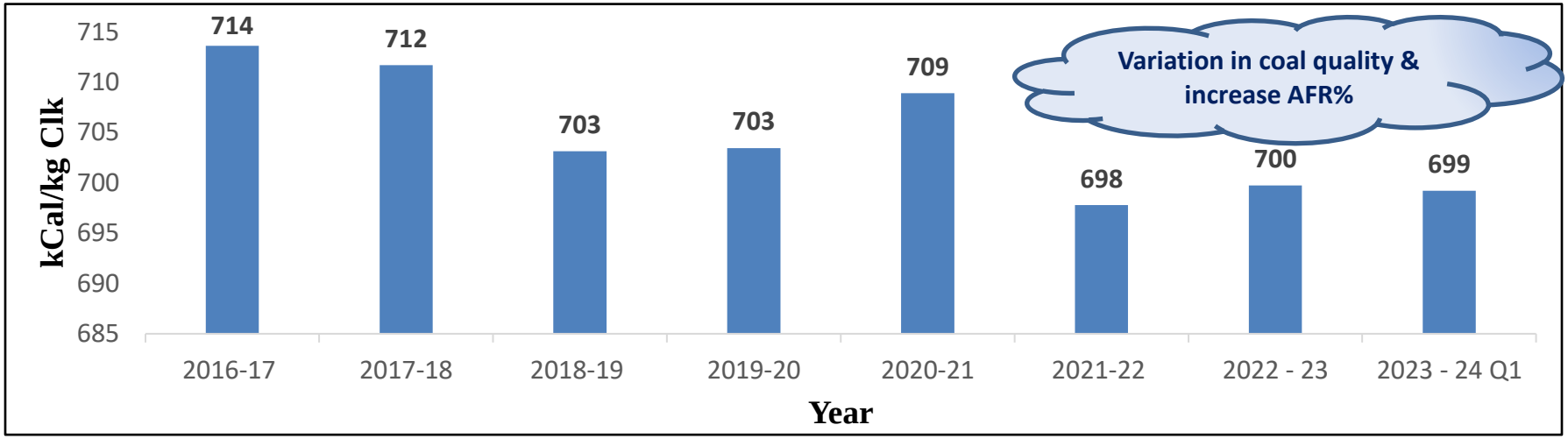
Grinding SEC kWh/MT



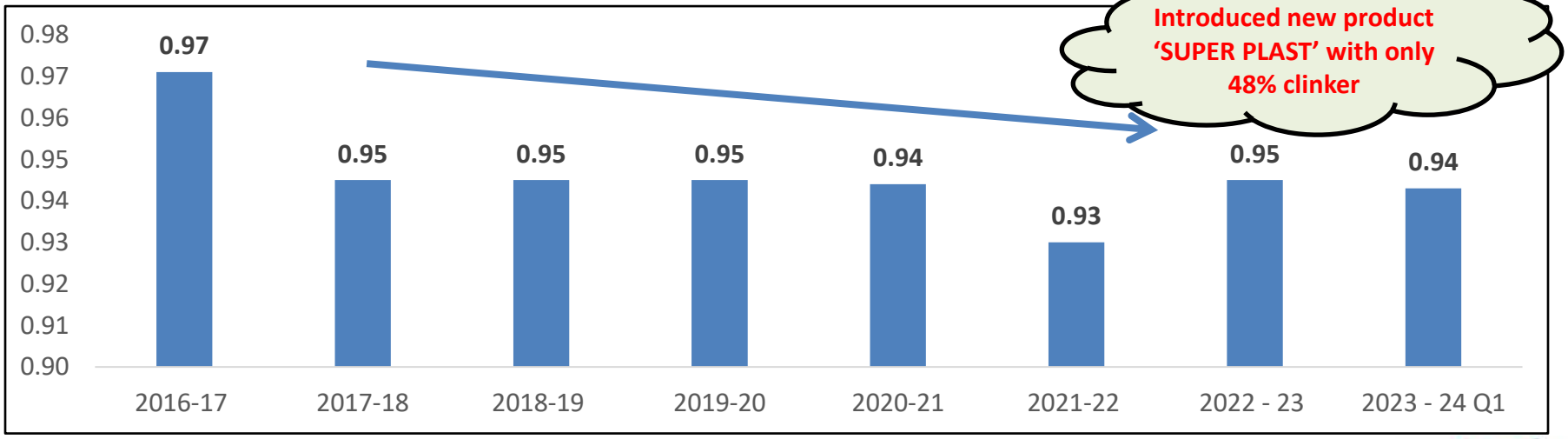




Specific Thermal Energy Consumption



Clinker Factor for OPC cement



PAT cycle 7

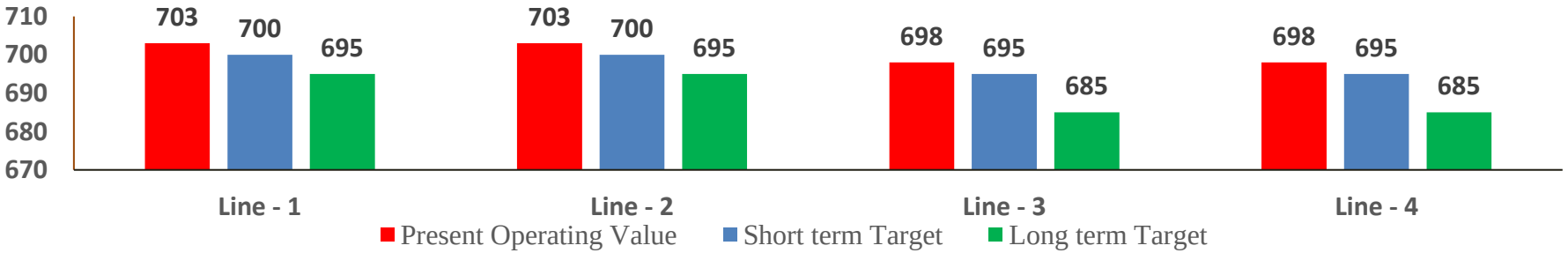
Baseline, in MTOE	Target, MTOE (2022 – 23 : 2024-25)	Achieved, MTOE Presently
0.0924	0.0893	0.0878

Bench Mark Comparison with other Industry

S.No	Energy	Unit	National best	International best	VC Value
1	Thermal energy	Kcal / kg clinker	676 (6 stage PH)	667	699.2 (Avg of all four units)
2	Electrical energy	kWh /MT Cement	56.14	65	63.46
3	On Grinding	kWh/MT of cement	**18.8 (VRM – PPC)** **20.39 (BM + RP – PPC)**	---	**16.13**

Source – CII Energy Benchmarking V: 5.0

Internal Short Term & Long Term Targets for Thermal Energy



Road Map for achieving Benchmark value :

- Upgradation from conventional cooler to new generation cooler in Unit 1 & 2.
- Increasing AFR consumption.
- Increasing market share of PPC & **SUPERPLAST** by continuous awareness & training programs to end users.
- Replacement of low-efficiency process HT fans & motors with high-efficiency fans.
- Installation of WHR system, a feasibility study has been conducted.
- Solar plant execution of 5MWp capacity is under the planning stage.

Major EnCon Projects Planned from FY 23-24 to FY 24-25

Sl. No	Energy Efficiency improvement measures	Investment Million Rupees	Date of completion of measure	Life Cycle years	Annual Savings	
					Coal, toe	Electricity, MWh
1	Raw Mill - 1, cyclone below one RAL removal and distance piece fixing (two cyclones)	0	2023-24	15	1108	
2	Optimizing compressor unloading for Line 3,4 pyro compressor by installing VFD	0	2023-24	15		218
3	Replacement of high efficiency pumps for Mine pit B – dewatering	1.0	2023-24	15		182
4	Replacement of high efficiency pumps for Kiln 1,2 GCT	2.0	2023-24	15		452
5	Improving line 3 PH fan efficiency by reducing “cut off” clearance	3.0	2024-25	15		370
6	Replacement of ball mill diaphragm to improve the output in cement mill-4 (5% increase in production)	4.0	2024-25	20		119
7	Replacement of high efficiency fan for Cement mill 3 - HR separator	5.0	2023-24	15		924
8	Replacement of high efficiency fan for Cement mill 4 - HR separator	5.0	2024-25	15		1272

Major EnCon Projects Planned from FY 22-23 to FY 24-25

Sl. No	Energy Efficiency improvement measures	Investment Million Rupees	Date of completion of measure	Life Cycle years	Annual Savings	
					Coal, t/year	Electricity, MWh
9	Improving line 4 Raw mill HR fan efficiency by reducing “cut off” clearance	3.0	2024-25	15		191
10	Reducing fines in the cement mill separator and improving output by changing the separator in the cement mill 3	50.0	2024-25	15		1540
11	Improving the fan efficiency of cooler fans (FN2 &FN7)-Line1	1.5	2024-25	15		200
12	Installation of high-efficiency impeller for Coal mill 1 Booster Fan-Line1	2.0	2024-25	15		1267
13	Improving the fan efficiency of cooler fan No 5-Line4	1.0	2024-25	15		211
14	Installation of Kiln - 4 inlet and outlet graphite sealing system	3.5	2024-25	15	4.12	0

Energy Saving Projects for last 3 years

Year	No. of Energy saving projects	Investments (INR millions)	Electrical savings (Million kWh)	Total savings (INR million)	Impact on SEC , kWh/MT cement
FY 2020-21	19	0.85	1.75	7.90	0.41
FY 2021-22	20	17.69	3.21	16.49	0.53
FY 2022-23	**08**	**2.986**	**1.38**	**20.67**	0.38

Sl. No	Year	Project description	Investment in INR Lakhs	Energy Savings, kWh	Cost Savings, INR Lakhs/ Annum
1	2020 - 21	**Optimization of TG frequency from 49.80 Hz to 49.60 Hz.**	0	1304546	58.70
2	2020 - 21	**U-3 fly ash re circulation system power optimization**	0	169468	7.63
3	2020 - 21	Conversion of TPP-4 Fine Ash silo Bag filter into Vent filter.	0	39420	1.77
4	2020 - 21	Derating of Raw Mill - 3 Bag filter fan motor from 22 kw to 11 kw.	0.3	36600	1.65
5	2020 - 21	**Replacement with double flap in place of RAL-1 & 2 at Raw mill - 3 HR separator discharge.**	2.24	48312	2.17

Energy saving projects for the year FY 2021 - 22

Sl. No	Year	Project description	Investment in INR Lakhs	Energy Savings, kWh	Cost Savings, INR Lakhs/ Annum
01	2021 - 22	**Removal of grit separator from Mill Bag House circuit of Cement Mill-1 and 2.**	1.7	1254000	37.08
02	2021 - 22	**Modification of PH Cyclone-1 High Pressure to low Pressure to reduce PH fan power in Kiln-1.**	95	349272	18.87
03	2021 - 22	**Installation of SPRS for Raw mill Fan in Raw mill-2.**	20	720000	37.08
04	2021 - 22	Installing VFD for Kiln-1 PC firing conveying blower.	3	79200	4.28
05	2021 - 22	Optimisation of ash Handling system cycle gap timings.	0	139400	6.97
06	2021-22	**Kiln-2 Cooler ESP chimney height increased by 5 mtrs.**	15	128850	6.63
07	2021-22	Replacing cast iron blades for shell cooling Fan-9 to 16 with FRP blade fan in Kiln-4	1.92	78370	4.32

Energy saving projects for the year FY 2022 - 23

Sl. No	Year	Project description	Investment in INR Lakhs	Energy Savings	Cost Savings, INR Lakhs/ Annum
1	2022 - 23	Installation of Flash steam recovery system in CPP-3.	23.6	1029600000 kCal	10.29
2	2022 - 23	Replacement of 4 Nos of IE2 motor with IE3 motor at Raw mill 3 Silo top air slide blower, recirculation Belt conveyor and Kiln silo aeration blowers.	2.56	45.66 MWh	3.42
3	2022 - 23	Bag filter Fan stopped by giving Unit-3 DPC-4 venting through DPC-5 venting Bag filter Fan.	0	20.79 MWh	1.55
4	2022 - 23	Replacement of motor having NDE side insulated bearing.	2	26.4 MWh	1.98
5	2022 - 23	Replacement of 4 Nos of Raw Mill air slide blowers old IE2 motor with IE3 motor in unit-3.	1.2	18.28 MWh	1.37
6	2022 - 23	**HR Fan inlet cone modification in CM-3.**	**0**	**17.82 MWh**	**1.33**
7	2022 - 23	Installation of VFD for CPP-4 neutralization Pit Pump.	**0.5**	**8.32 MWh**	**0.62**

Projects with high cost benefits

Sl .No	Project Description	Saving Rs Lac/Annum
1	Pipe conveyor modification for capacity enhancement in cement mill-3	70.8
2	Unit-3 cyclone gas cooling system	32.6
3	Reduction in radiation loss by application of Heat resistant paint to Pre – Heater of line - 2	13.30
4	Unit-4 reclaimer discharge modification	12.9
5	Gypsum transportation by-pass system	9.9
6	Avoiding operation of higher capacity compressor for Raw mill 1&2 hopper top bag filters.	5.52
7	Installation of VFD drives for Packer bag filters.	4.90
8	Replacement of Kiln shell Cooling Fan Metal blade with FRP Blades	1.97
9	Cement mill - 3 HR separator fan modification	1.4

Innovative Project - 1

Cyclone gas cooling system

Challenge:

- Higher pre-heater exit gas temp (300^0C to 310^0C)
- Pre-heater fan running at 90% to 100% RPM

Counter Measures:

- Atomized water spraying was installed at the top cyclone
- Reduction in pre-heater exit temp (up to 260^0C)

Perticulars	UOM	Before	After	Diff	Remarks
Kiln feed rate	TPH	280	301	21	Hike in Kiln Feed Rate
Clinker Production	TPD	4541	4881	341	Hike in Clinker Production
PH fan RPM	RPM	970	950	-20	PH Fan RPM Decreased by 20 RPM
PH Fan Power	KW	1669	1686	17	
PH fan Sp Power	KWH/MT of clk	8.82	8.29	-0.53	Reduction In PH Fan Sp power
PH Exit Drought	mmWg	580	637	57	Increase in drought by reducing gas temp
PH Exit Temp	Deg C	304	255	-49	Reduction in Gas temp
PH Fan Inlet Temp	Deg C	287	240	-47	Reduction in Gas temp
Plastic waste consumption	TPH	2.1	4	2	Increase in Plastic waste consumption
Plastic waste consumption	TPD	50.4	96	46	Increase in Plastic waste consumption
Preheater exit Oxygen (Min)	%	1.77	3.00	1.23	

Savings from PH Fan Power	0.53	Kwh/MT of Clk
Power Cost	8.85	Rs/Kwh
Power saving /Day	2596	Kw/Day
Savings from PH Fan Power/day	22976	Rs/Day
Savings from Reduction in PH Fan Power/Month	**689291**	**Rs/Month**

Coal savings from plastic waste/day	18.24	MT/Day
Coal savings from plastic waste/Month	547.2	MT/Month
Heat Value	2298240	Kcal
Savings from Increase plastic waste /Month	**4688409.6**	**Rs /Month**

Feed Pump & Booster pump Power consumption /Day	1200	Kw/day
Feed Pump & Booster pump PowerConsumption /Month	36000	Kw/Month
Tank Filling Pump power consumption /Month	7920	Kw/Month
Feed Pump & Booster pump PowerConsumption Cost /Month	**388692**	**Rs/Month**
Net Savings	**4989009**	**Rs /Month**

Pump skid feed pump & booster pump

Lancer control valve

Pump skid feed pump & booster pump

Innovative Project - 2

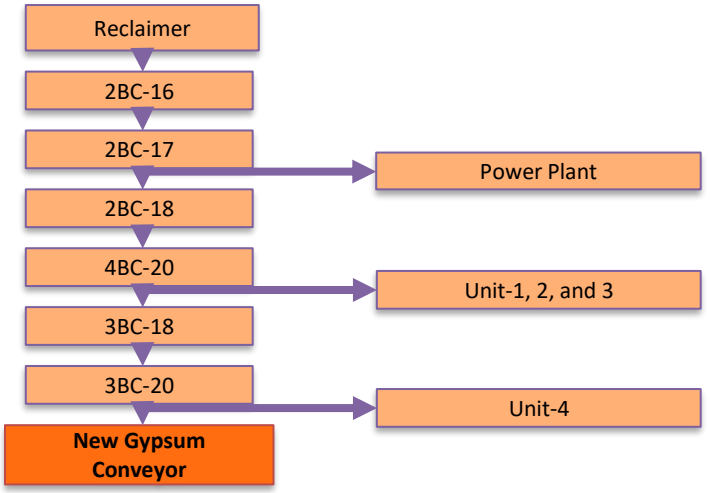
Gypsum transportation through belt conveyors

Challenge:

- Manual gypsum transport using loaders & tippers
- High cost due to diesel consumption
- More time consuming

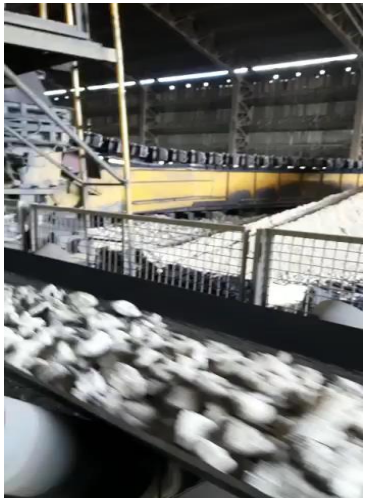
Counter Measures:

- Installation of belt conveyor & utilizing existing coal reclaiming system for transportation of gypsum to gypsum storage shed.



Implementation Cost & recurring savings:

Sl. No.	Description	UOM	Value	Remarks
1	Average Gypsum consumption in Lines 1, 2, and 4	MT / Month	12,000	
2	Contractor charge for transporting Gypsum	₹ / MT	19	
3	Average Diesel consumption for transportation of Gypsum	Ltr / Month	3,100	
4	Cost of diesel	₹ / Ltr	115	
5	Power consumption for transporting gypsum	₹ / Month	2,61,120	256 (kW) * 5 (Hrs) * 0.85 (85% utilization) * 20 (avg no. of days per month) = 32640 units * 8.00 (Unit Rate) = 261120
6	Total Saving per month	₹ / Month	3,23,300	(12000 * 19) + (3100 * 115) - 2,61,210 = 323300
	Total savings per annum	**₹ / Annum**	**38,80,560**	3,23,380 * 12 = 3880560



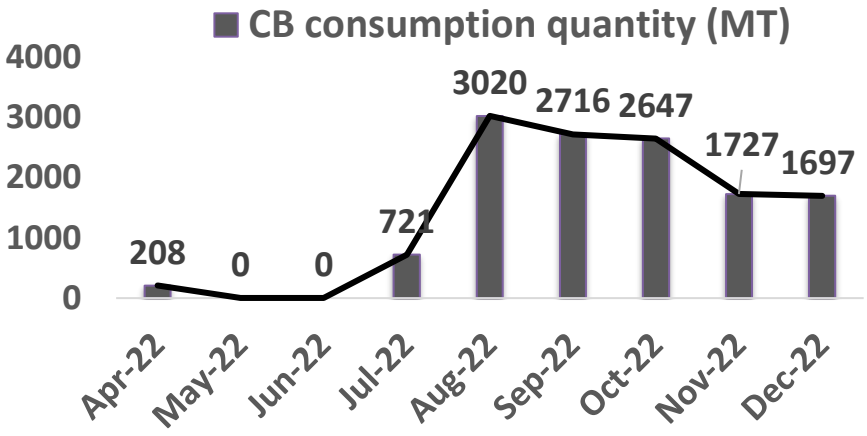
Innovative Project - 3

Carbon Black Feeding in Kiln-4 Inlet Raiser Duct.

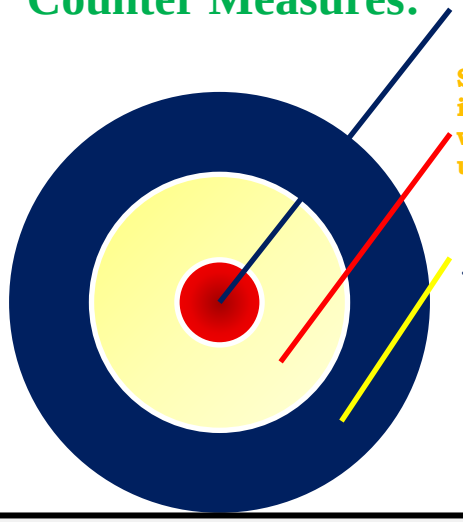
Challenge:

1. BH DP high
2. Flushing of CB on WF
3. Mill Vibration high
4. Low CB consumption

Savings:



Counter Measures:



SAVINGS
(In Rupees)

1. Savings from soda ash : 16 Lacs
2. Savings from increased Carbon black consumption: 1033.05 Lacs
3. Savings from decrease in additive consumption: 179.69 Lacs
4. Power savings because of use of carbon black : 35 Lacs

TOTAL SAVINGS : 1263.74 Lacs

Renewable Energy

Significant potential for renewable energy is not available.

•21.29% of captive consumption is the RPO obligation for FY 2022-23.

•Under RPO obligation, 136.35 Lakhs kWh green energy purchased in June-2023

•13.52% of captive consumption in Q1 under RPO obligation for FY 2023-24.

•Planning to purchase 100 lakhs kWh every month from August-2023 onwards

•5MWp capacity solar plant execution is under planning stage

Waste utilization & management

AFR Consumed MT	2020-21			2021-22			2022-23		
	Consumed, MT	Coal Saved	Annual TSR %	Consumed, MT	Coal Saved	Annual TSR %	Consumed, MT	Coal Saved	Annual TSR %
Tyre Chips	15.61	12.7		**	**		**	**	
Carbon Black	11995	16176		30920.4	39219		32696.8	39483	
RDF	**	**	2.6	**	**	4.5	**	**	6.75
Stalk (Agri Waste)	**	**		45.75	15		45.75	15	
Plastic Waste	6835	3136		12655.05	6328		15202.38	8876.3	
Total	**18846**	**19325**		**34077.3**	**35322**		**47899.18**	**48359.3**	

Infrastructure for AFR co - processing

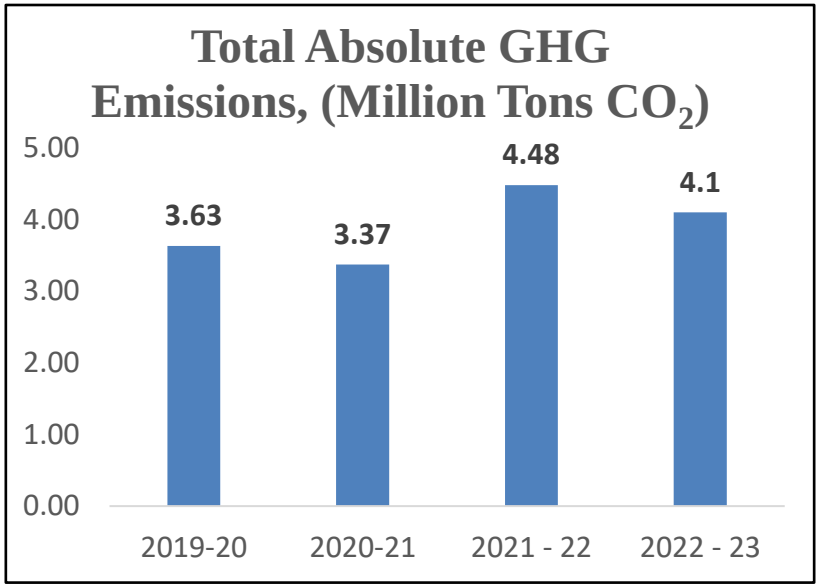
- *Presently permissions from PCB for Liquid AFR are taken and trials are conducted*
- *New Shredder for co-processing of AFR*
- *Carbon black feeding arrangements in PC in all lines*
- *HOT DISC Reactor for co-processing MSW, plastic waste, tyres, and tyre chips*
- *Sheds & feeding arrangements in place to co-process hazardous waste*

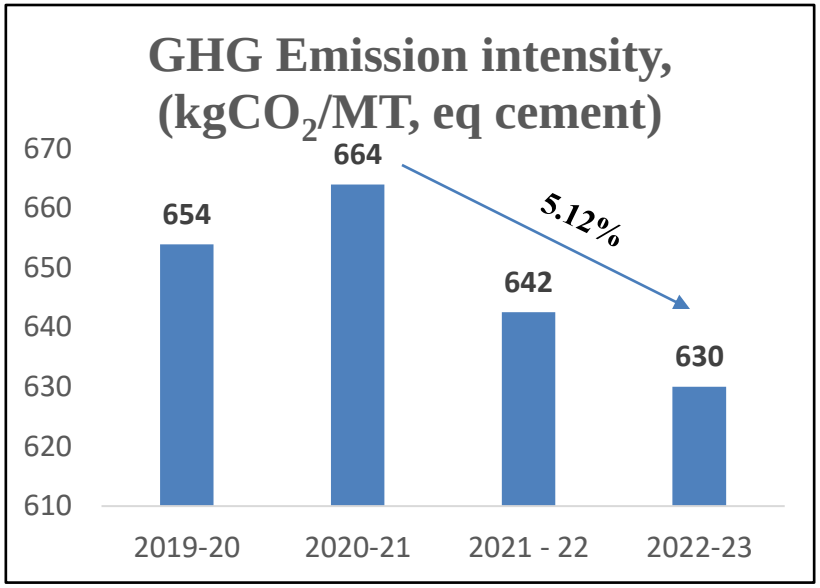
Carbon black feeding

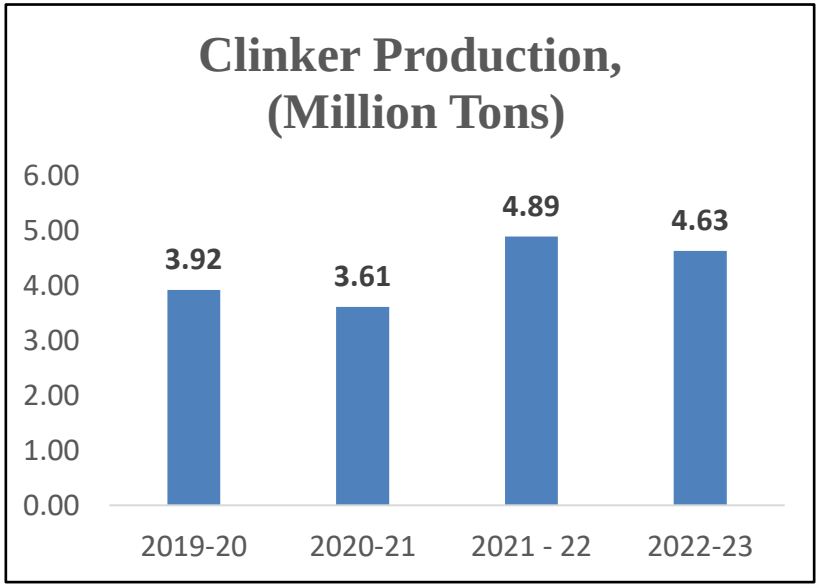
Co-process of hazardous waste

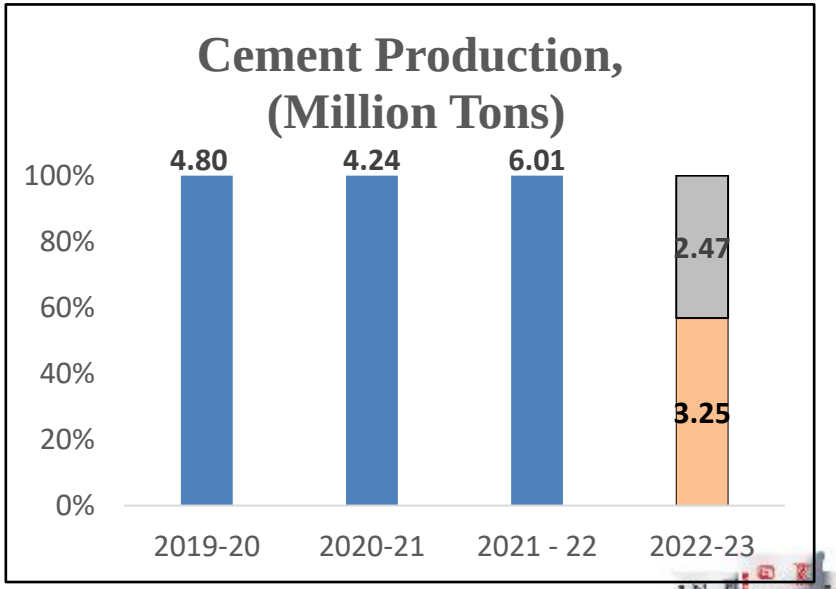
Shredder for co-processing of AFR

GHG Inventorization









Net Zero Path way

Short Term Goal

- Improvement in Operation efficiency.
- Increase in PPC production up to 50%
- Grid power from Renewal energy
- Increase in AFR Consumption from 4-10% TSR
- Cement Bulk transportation though rail
- Use of Solar Power

Medium Term Goal

- Transition to 100% PPC cement.
- Waste heat recovery (15 MW)
- Study & Trails of LC3 Cement
- Increase in Solar Power
- Increase in AFR Consumption from 10-25% TSR

Long Term Goal

- Production of LC3 cement
- Green Hydrogen for kilns, electricity & logistics.
- Carbon capture, utilization, and storage (CCUS)

Carbon Negative by 2040

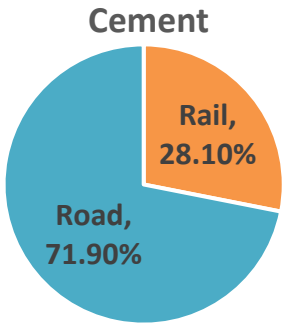
Short Term way foreword for reduction in CO_2 emission

1. Improvement in Clinker factor by increasing PPC Production
2. Increase of "ConQUerete" cement (26% fly ash) in place of OPC
3. Introduced 'SUPER PLAST' with only 48% clinker consumption, & increasing its share by awareness & marketing for use of non structural works.
4. Increased Power contract demand from 2 MVA to 35 MVA
5. Production of belite clinker against alite clinker
6. Introduction of blended cement (Clinker + Fly ash + Slag)
7. Increase in use of renewable energy by the installation of a solar power plant of 5 MW

Trusted Technology - Solid Strength

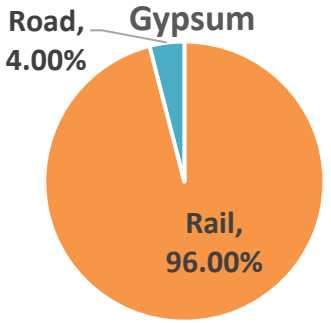
Cement

- Focus on reverse logistics has increased
- Started NAVKAR bulk cement rake loading with reverse logistics
- Navkar handles 7% of total dispatches
- In road dispatches, 44% is bulk loading, with reverse logistics



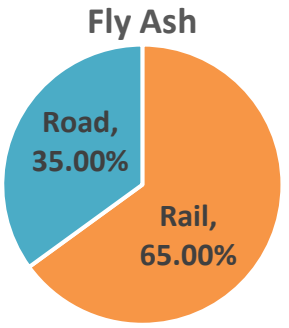
Laterite

- Procurement of laterite from the nearest source, resulting in a reduction of CO_2 emission from vehicles
- The procurement ratio is 54% from the nearest source i.e., Thatepally (90 km), and 46% from the range of 110kms (Vikarabad Area)
- Road movement has been reduced and initiated Rail movement for laterite



Gypsum

- Road movement has been reduced by 22% and initiated Rail movement.



Fly Ash

- Utilization of Fly Ash, in the Cement Industry, using reverse logistics through bulk loadings
- Transportation of fly ash by Rail through closed wagons & NAVKAR bulk rake.

Employees and team work

1. Suggestion Scheme
2. Brain Storming
3. 5s Activity
4. Kaizen
5. Leakage Detection

Year	Total Suggestions	Suggestions Implemented	Suggestions Rejected
2020-21	285	256	29
2021-22	285	243	42
2021-22	183	157	26

Energy Conservation Week celebration

Awareness programs

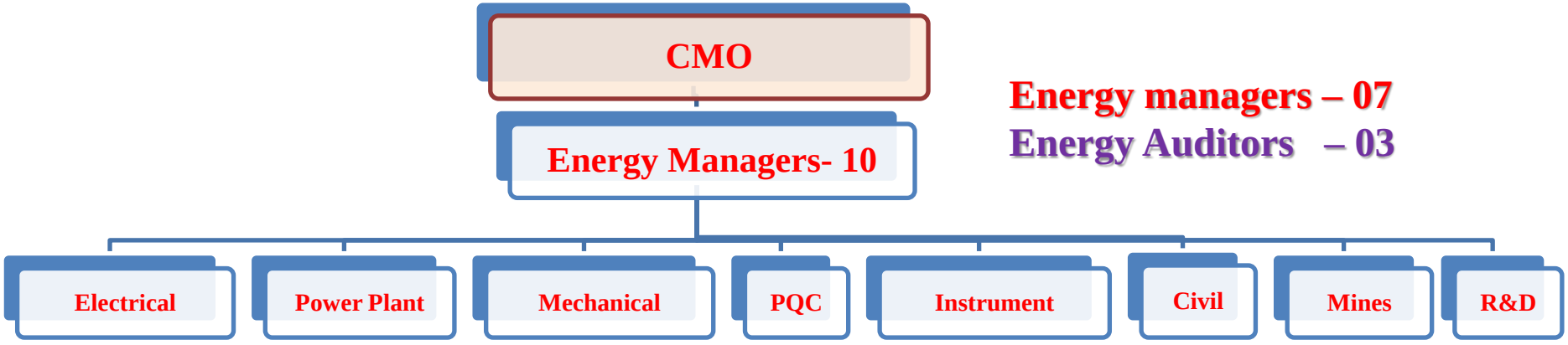
Energy Saver Rath

Year	No Of Kaizens Registered	No Of Kaizens Completed	No.of Best Kaizens
2020 - 21	1025	971	22
2021 - 22	1025	987	20
2022 - 23	983	901	20

Leakage Detection Area	Points Detected	Points Attended
Air Leakages	42	31
Fugitive dust & spillages	905	889
Steam & water	71	59
Compressed air	86	75

No Vehicle Day Celebration, Safety Gate Meeting, Internal/External Trainings, Organizing Competitions, Training class to nearby villages, Street Plays

Energy management cell & energy manager



Energy managers – 07
Energy Auditors – 03

List of Energy Conservation Committees

Water management committee	Packing plant- power consumption reduction committee	Cement mills-power consumption reduction committee	Idle running equipment detecting committee	Steam leakages detection committee at thermal power plants
Team Leader : Mr. Vikash Singh	Team Leader: Mr. Gangadhar	Team Leader: Mr. LB Yadav	Team Leader: Mr. KVR Murthy	Team Leader: Mr. Chandrashekhar Ujja
Team Members : 1) Mr. Ravindra L 2) Mr. Rajarao 3) Mr. Shankar Rao Patil	Team Members : 1) Mr. Mishra 2) Mr. Shashikanth 3) Mr. Venkatesh Marla	Team Members : 1) Mr. Gunaseelan 2) Mr. D. Pramod 3) Mr. Sanket K 4) Mr. Ganapati 5) Mr. Deepak 6) Mr. Vishwanath	Team Members : 1) Mr. Sriram Arsid 2) Mr. Vishwanath 3) Mr. V. Madhukrishna	Team Members : 1) Mr. Vishveshwarayya Hiremath 2) Mr. K.V. Ramana 3) Mr. R.D.B. Patil

Review pertaining to energy efficiency

FREQUENCY	REPORT/SYSTEM	RESPONSIBILITY
24 Hrs X 7days	➢ "Prevention is better than Cure" So On line SP power Monitoring facility provided at CCR.	CCR Operator
Daily	➢ Energy consumptions reviewed in Production Meeting headed by CMO.	CMO
Daily	➢ Daily review meeting with power plant O & M team by HOD to optimize plant performance by monitoring and controlling of parameters like auxiliary power, coal, water and plant heat rate.	HOD
Weekly	➢ Energy consumptions reviewed in Cross functional Meeting headed by CMO.	CMO
Monthly	➢ Stoppage , OEE & Benchmark Presentation (Specific Power Consumption, Details of Stoppages, Heat Balance ,Power plant performance)	CMO

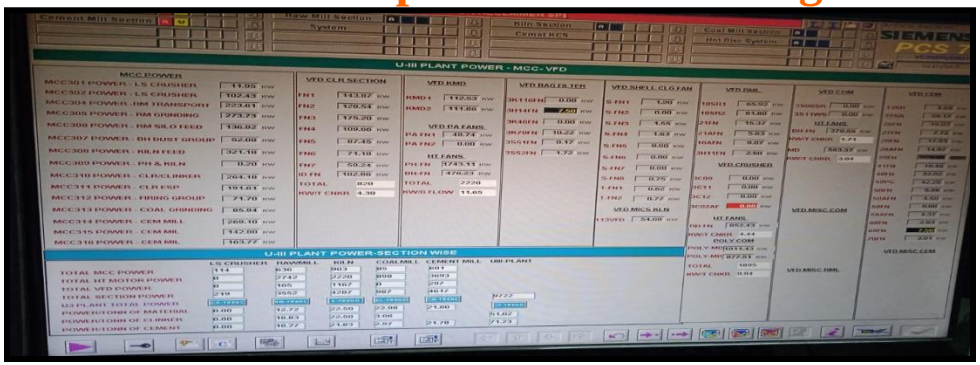
Review pertaining to energy efficiency

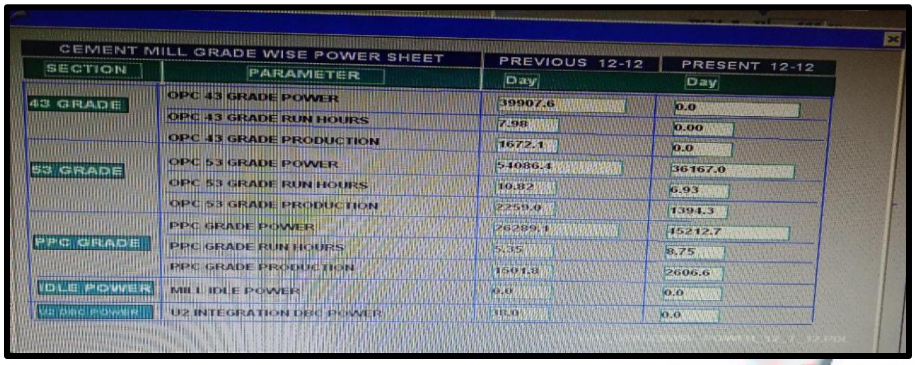
Sample Comparison Statement for daily power monitoring:

Section	Name	Unit-1				Unit-2				Name	Unit-3				Unit-4			
		Yesterday's Production & Running Hrs	Monthly (Day) Best Achieved Power in kWh/T of Clinker	Yesterday's Power in kWh/T of Clinker	MTD Power in kWh/T of Clinker	Yesterday's Production & Running Hrs	Monthly (Day) Best Achieved Power in kWh/T of Clinker	Yesterday's Power in kWh/T of Clinker	MTD Power in kWh/T of Clinker		Yesterday's Production & Running Hrs	Monthly (Day) Best Achieved Power in kWh/T of Clinker	Yesterday's Power in kWh/T of Clinker	MTD Power in kWh/T of Clinker	Yesterday's Production & Running Hrs	Monthly (Day) Best Achieved Power in kWh/T of Clinker	Yesterday's Power in kWh/T of Clinker	MTD Power in kWh/T of Clinker
Raw mill	R.M MD	3600 MT	10.40 (9.61)	12.30	11.51	3880 MT	11.04 (10.11)	12.47	12.63	RM Poly-1	7070 MT	5.58 (4.98)	5.53	5.50	7680 MT	5.29 (4.53)	6.29	6.32
	R.M Fan	24 Hrs	11.42 (11.09)	12.47	13.07	16.5 Hrs	11.70 (10.45)	11.17	11.06	RM Poly-2	22.08 Hrs	5.30 (4.53)	4.72	4.82	24 Hrs	5.23 (4.53)	6.38	6.35
	Ball Mill	150 TPH				235.15 TPH		0.00	0.00	R.M Fan	320.2 TPH	3.85 (3.51)	4.16	4.16	320 TPH	4.01 (3.59)	3.79	3.82
	RM Aux		3.37 (2.23)	2.61	2.58		3.86 (3.10)	4.20	3.58	RM Aux		4.00 (3.21)	3.86	3.88		4.37 (3.57)	4.23	4.06
	Misc		0.22 (0.18)	0.50	0.51		0.47 (0.30)	0.42	0.49	Misc		0.22 (0.20)	0.30	0.33		0.51 (0.41)	0.59	0.66
	Sub Total	**Jan-20 (16-06-21)**	**25.41 (24.72)**	**27.89**	**27.67**	**JAN-19 (28-09-19)**	**27.08 (25.80)**	**28.25**	**27.77**	**Sub Total**	**JAN-20 (15-08-22)**	**18.96 (17.60)**	**18.56**	**18.68**	**Nov-19 (09-11-19)**	**19.41 (18.14)**	**21.28**	**21.21**
Kiln	BH FAN	2155 MT	3.40 (2.96)	3.53	3.53	3445 MT	3.12 (2.53)	3.92	3.98	BH FAN	4258 MT	2.26 (2.07)	2.80	2.90	4651 MT	2.35 (2.07)	2.44	2.37
	P.H.Fan	24 Hrs	9.67 (6.91)	8.28	8.40	24 Hrs	6.86 (4.24)	7.40	7.08	P.H.Fan	24 Hrs	8.07 (7.88)	9.15	9.37	24 Hrs	7.13 (6.36)	7.27	7.37
	W.G Fan	89.79 TPH	0.87 (0.41)	1.00	0.94	143.54 TPH	0.45 (0.30)	0.74	0.73	Booster Fan	177.42 TPH		-	-	193.79 TPH	1.17 (0.75)	0.93	0.97
	I.D Fan		0.09 (0.05)	0.13	0.12		0.48 (0.15)	0.59	0.62	-			-	-		- -	-	-
	Kiln Aux		6.47 (6.47)	10.00	9.56		9.03 (8.59)	10.38	10.44	Kiln Aux		11.67 (10.04)	11.44	11.81		10.26 (8.96)	11.38	11.09
	Misc		0.45 (0.38)	0.68	0.68		0.54 (0.29)	0.41	0.50			0.43 (0.37)	0.52	0.58		0.47 (0.44)	0.63	0.71
	Sub Total	**JAN-19 (19-01-19)**	**20.96 (20.39)**	**23.61**	**23.24**	**AUG-19 (30-09-19)**	**20.48 (18.98)**	**23.44**	**23.34**	**Sub Total**	**JAN-20 (7-01-20)**	**22.43 (21.54)**	**23.91**	**24.66**	**JAN-20 (09-06-2021)**	**21.37 (19.73)**	**22.66**	**22.52**
Coal mill				% Mill	% Clinker			% Mill	% Clinker				% Mill	% Clinker			% Mill	% Clinker	
	Coal Mill	461 MT	1.87 (1.48)	11.01	2.36	670 MT	1.85 (1.31)	9.42	1.83	Coal Mill	614 MT	1.78 (1.24)	16.00	2.31	324 MT	1.85 (1.19)	21.64	1.51	1.59
	C.A. Fan	24 Hrs	1.67 (1.24)	10.14	2.17	22.83 Hrs	2.19 (1.75)	13.88	2.70	C.A. Fan	18 Hrs	1.19 (0.93)	11.89	1.71	12 Hrs	1.57 (1.08)	16.35	1.14	1.27
	Coal Mill Aux	19.21 TPH	0.22 (0.06)	0.70	0.15	29.35 TPH	0.72 (0.35)	2.90	0.56	Coal Mill Aux	34.1 TPH	0.41 (0.19)	2.35	0.34	27 TPH	0.37 (0.15)	3.36	0.23	0.21
	Misc		0.07 (0.04)	0.54	0.11		0.14 (0.06)	0.52	0.10	Misc		0.06 (0.05)	0.62	0.09		0.13 (0.08)	1.32	0.09	0.12
	Coal Transfer	0 MT			0.00	60 MT			0.57	Coal Transfe	-60 MT			-0.46	0 MT			0.00	-0.04
	Sub Total	**JAN-20 (16-03-21)**	**3.83 (3.00)**	**22.39**	**4.79**	**MAY-19 (24-09-**	**4.91 (4.07)**	**26.72**	**5.77**	**Sub Total**	**OCT-18 (29-11-21)**	**3.44 (2.60)**	**30.86**	**3.99**	**4.43**	**MAR-19 (17-08-22)**	**3.93 (2.54)**	**42.67**	**2.97**	**3.15**
Coal Handling Power			**0.64**	**2.06**	**0.44**		**0.34**	**1.97**	**0.38**	**0.40**			**0.48**	**1.97**	**0.28**	**0.41**		**0.33**	**2.02**	**0.14**	**0.18**
TOTAL ON CLINKER		**JAN-19 (25-01-19)**	**51.99 (49.87)**	**58.28**		**57.57**	**Sept-19 (27-09-19)**	**53.57 (51.78)**	**59.39**		**58.45**		**NOV-21 (14-11-21)**	**47.50 (45.53)**	**48.29**		**49.87**	**JAN-22 (05-05-21)**	**47.37 (45.66)**	**48.59**		**48.77**
Kcal/kg of Clinker			**705.00**	**705.00**		**705.00**		**700.00**	**705.00**	**704.42**			**693.00**	**696.00**		**696.00**		**693.00**	**695.00**		**695.00**
Shutdown power On Clinker (kWh/T)						**0.39**				**0.00**						**6.56**					**0.00**
Coal in MT for start up and stop of kiln						**60**				**0.00**						**140**					**0.00**

Note: Misc power includes plant lighting, Water Services, Welding works, Work shops supply, Common building supply, AC's & Distribution losses.

On line Electrical Sp. Power Monitoring at CCR :





List of System Certifications

ISO / 50001:2018

Green Pro Certificate

Learnings from EE Awards :

- Installation of Bag jamming detectors in packing plant belt conveyors – learned from Ms Orient Chitapur.
- Process Optimization / PID tuning through AKXA systems – Learning from UTCL units.
- Yard management, weigh bridges & packing plant automation, logistics automation through auto plant systems – learning from UTCL.
- Replacement of Kiln & PC conveying blowers to high efficiency blowers in unit 2.
- Increasing classifier inlet velocity by reduction of classifier annular gap.
- Installation of VFD in Packing plant compressors to save power.
- Up gradation of IE2 motors with IE3 motors.

Recognitions and awards

Energy Efficiency Awards

Mines Awards

Safety Awards

Productivity & water efficiency Awards

GreenCO Platinum Award

First cement plant to get GREENCO Platinum award consecutively 2nd time


CII - Sohrabji Godrej Green Business Centre
hereby certifies that
Kesoram Industries Ltd [Cement Division]
Unit: Vasavadatta Cement - Sedam
has successfully achieved the standards as required for the following level of certification under the GreenCo - Green Company Rating System which is valid for a period of 3 years
GreenCo Platinum
Issue Date: 10-09-2022
Expiry Date: 09-09-2025
Jamshyd N Godrej
Chairman
CII-Godrej GBC
Pradeep Bhargava
Chairman
GreenCo Rating System
L S Ganapati
Chairman
GreenCo Assessor Panel
K S Venkatagiri
Executive Director
CII-Godrej GBC
CII
VASAVADATTA

Sedam -Green Belt at Colony

Sedam- Green belt at colony

Sedam- Green belt at Power Plant

Sedam-Flora & Fauna


Thank you
“Growth and improvement is about acknowledging weakness.”
CMO -
Mr. UV Raju