CK BIRLA GROUP

ORIENT CEMENT

ORIENT CEMENT LIMITED, DEVAPUR UNIT

CII National Award for Excellence in Energy Management 2022

Mr. Shiva Kant Pandey
President - Manufacturing

Mr. Y. Padmaveer
AVP-Production & Factory Manager

Great Place To Work® Certified MAR 2022 - MAR 2023 INDIA

Presentation Team:

Mr. Deveshraaj Panjiray, DGM-Process

Mr. Vijayapal Ratna, Sr Manager-Process

Mr. Shailesha Rajawat, Dy Manager-Process

ORIENT CEMENT LIMITED - PLANT PROFILE

OUR VISION & VALUES

Vision

Build Sustainably to Be a Valued Partner in Progress.

Values

- Collaboration
- Humility to Learn
- Walk the Talk
- Respect for All
- Agility with Speed
- Passion to Excel
- Celebrate Diversity

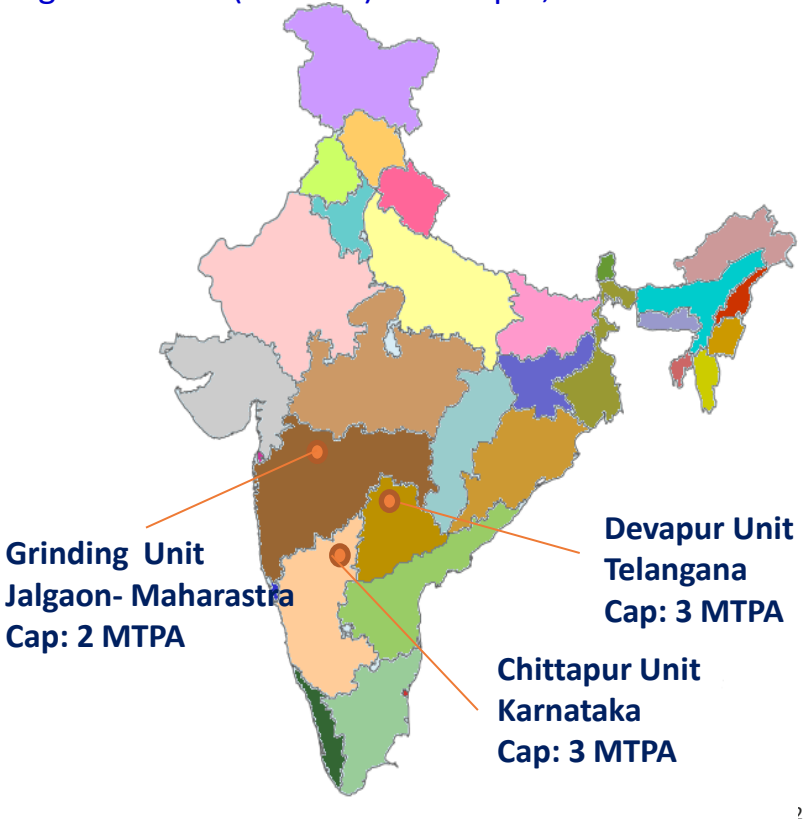
Plant is certified with IMS:

- ISO 9001:2015
- ISO 14001:2015
- ISO 45001:2018
- ISO 50001:2018
- TPM-Phase I & II (Excellence and Excellence in consistent)
- NABL Accredited Quality Control Laboratory
- **Member of CSI (WBCSD)**
- **Green Pro certified by CII**
- **Great Place to Work Certified consecutive Three Year**

Overall Capacity of Orient Cement is 8.0 MTPA.

Orient Cement operating 3 Cement Plants in India:

- Integrated Plant (incl:CPP) - Devapur, Telangana
- Cement Grinding Unit - Jalgaon, Maharashtra
- Integrated Plant (incl:CPP) - Chittapur, Karnataka



ORIENT CEMENT

CAPACITY ENHANCEMENT – DEVAPUR UNIT

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1982
Plant Cap.: 0.45 MTPA

Line-I Plant

1990
Plant Cap.: 0.90 MTPA

Line-II Plant

1997
Plant Cap.: 1.18 MTPA

Line - I Internal modification

1999
Plant Cap.: 1.75 MTPA

Line - I Up gradation with PC

2009
Plant Cap.: 3.0 MTPA

Line - III commissioned

CPP-50 MW Installation

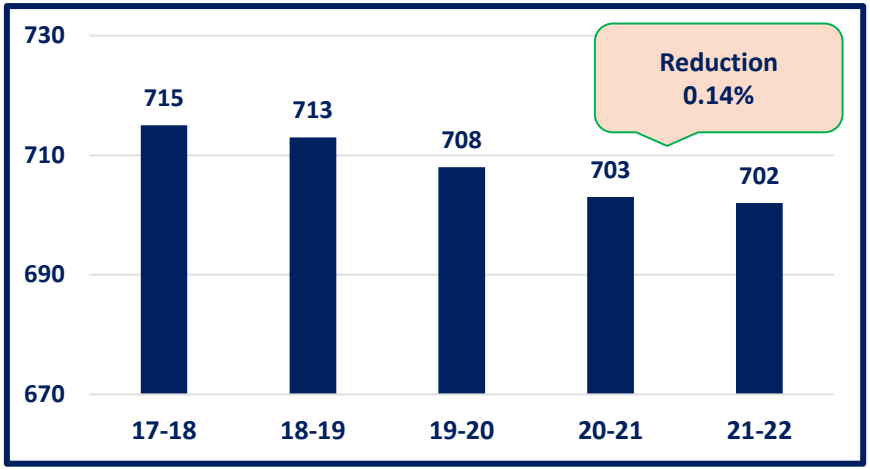
Section	Line-1	Line-2	Line-3
Raw Mill	*Ball Mill with Polycom as Pre Grinder Capacity - 240 TPH Make : Polycom -Krupp Polysius & Ball Mill-FLS*	*Central discharge Ball Mill with HIC as pregrinder Capacity - 160 TPH Make : Ball Mill - KHD & HIC -Barmac*	*Finished mode Roller press Capacity -300 TPH Make : KHD*
Coal Mill	*Ball Mill (Kiln Firing) Capacity - 16 TPH Make : FLS* / *VRM (PC Firing) Capacity - 16 TPH Make : Pfeiffer*	*Ball Mill Capacity - 20 TPH Make : KHD*	*VRM Capacity - 40 TPH Make : Pfeiffer*
Pyro Process	*K- String 4 stage Suspension Pre heater & PC -String 5 stage Suspension Pre heater with Separate Line Calciner. Rotary Kiln with Grate Cooler (Folex Cooler) Capacity -3600 TPD Make: FLS . Plant Commissioned in 1982 and upgraded in 1999*	*Five Stage Suspension Pre heater with In Line Calciner. Rotary Kiln with Grate Cooler Capacity -2800 TPD Make: KHD. Plant Commissioned in 1990 and upgraded*	*Six Stage Suspension Pre heater with In Line Calciner. Rotary Kiln with SF Cross Bar Cooler Capacity -4200 TPD Make: FLS Plant Commissioned in 2009*
Cement Mill	*Ball Mill with Roller Press as Pre Grinder Capacity - 260TPH Make : Roller Press : KHD & Ball Mill: FLS*	*Ball Mill with Roller Press as Pre Grinder Capacity - 230TPH Make : Roller Press & Ball Mill : KHD*	-

ORIENT CEMENT

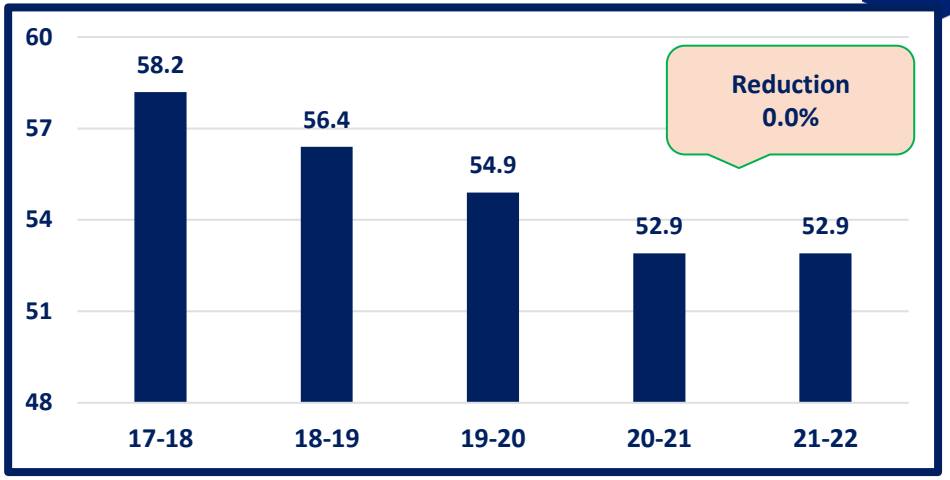
LAST SIX YEARS PERFORMANCE

Great Place To Work. Certified MAR 2022 - MAR 2023

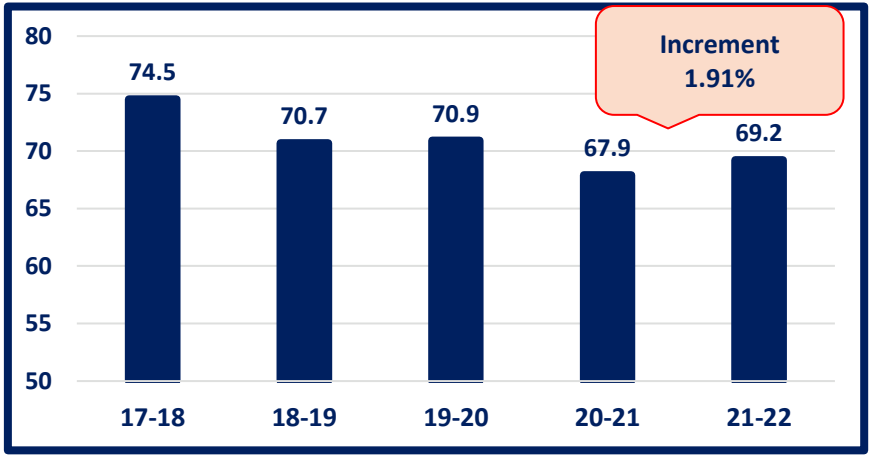
Specific Heat Consumption – Kcal/ Kg Clinker



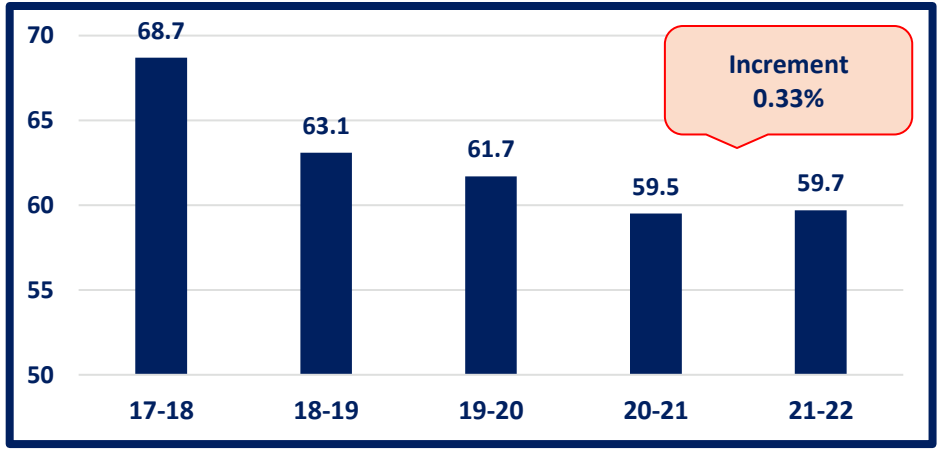
Sp. Power up to Clinker (Kwh/ MT)



Sp. Power up to cement (Kwh/ MT)



Sp. Power up to PPC (Kwh/ MT of Cement)

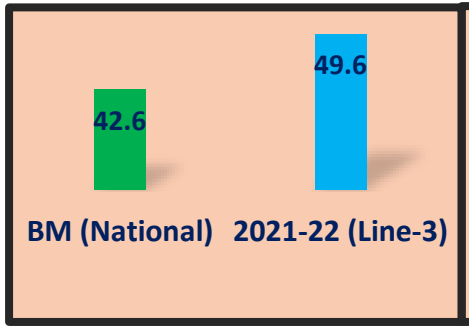


* Premium Product Production Increased by 4 % from Last year.
* Cement Mill-1 Upgradation.

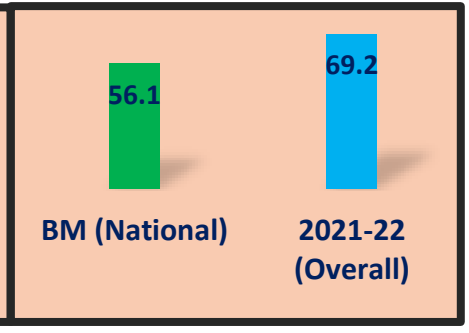
* Cement Mill-1 Upgradation.

Information on Competitors, National & Global benchmark

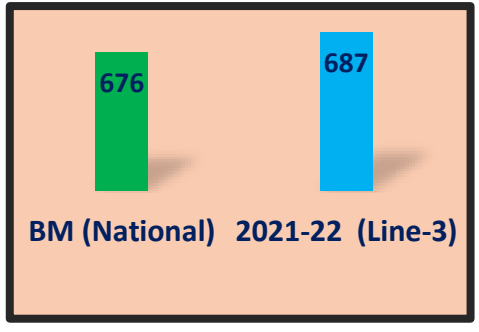
Parameters	Electrical SEC	Thermal SEC
SEC (Specific Energy Consumption) of the Unit	69.2	702
Unit of Measurement	kWh/MT Cement	Kcal /Kg Clinker
Name of Competitor I	Chettinad – Karikkali	Chettinad – Karikkali
SEC Values for Competitor I	73.95	726
Name of Competitor II	Dalmia Cement (Bharat) Limited,Ariyalur	Dalmia Cement (Bharat) Limited,Ariyalur
SEC Values for Competitor II	65.8	722
Name of Competitor III	M/s DALMIA CEMENT (BHARAT) LTD, DALMIAPURAM	M/s DALMIA CEMENT (BHARAT) LTD, DALMIAPURAM
SEC Values for Competitor III	67.96	782
NATIONAL BENCHMARK		
Name of the Company	Plant-1	Plant-1
SEC Value	56.14	676
Unit of Measurement	kWh/MT Cement	Kcal /Kg Clinker
Difference with National Benchmark Company	13.06	26
Comments	Reference:-ENERGY BENCHMARKING for the Indian Cement Industry (CII) and year 20-21 CII Presentation.	



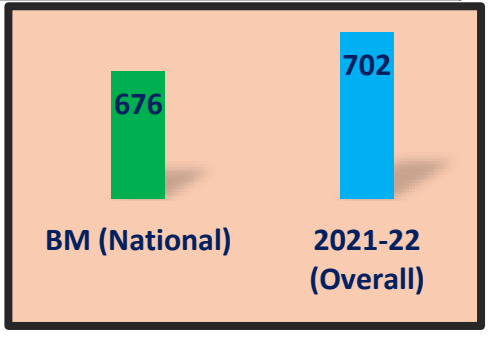
Sp. Energy Consumption to Clinker – KWh/MT



Sp. Energy Consumption Up to Cement – KWh/MT



L-3, Sp. heat Consumption – KCal/ Kg of Clinker



Overall Sp. heat Consumption – KCal/ Kg of Clinker

ROAD MAP FOR REDUCTION OF ENERGY CONSUMPTION

1. INSTALLATION OF ENERGY SAVING DEVICE IN SPLIT OF PACKAGED AC UNITS
2. INSTALLATION OF ENERGY EFFICENT PUMP SETS/VFD TO PUMPS
3. INSTALL ROOF TOP SOLAR PV FOR BUILDINGS
4. REDUCE PRESSURE DROP IN THE PH DOWNCOMER DUCT BY CONDUCTING CFD STUDY
5. INSTALL WASTE HEAT RECOVERY SYSTEM
6. INSTALLATION OF BLDC FANS TO REPLACE CONVENTIONAL CEILING FANS
7. REPLACE IE1 MOTORS WITH ENERGY EFFICIENT IE3 MOTORS (ENERGY EFFICIENT MOTORS REPLACEMENT FOR SELECTED MOTORS)
8. REDUCE THE CONVEYING AIR FOR TRANSPORTATION OF COAL FOR KILN FIRING
9. REPLACEMENT OF EXISTING COOLER WITH LATEST GENERATION COLLER IN LINE-1 & 2

Planned Energy Conservation Projects–2022-23

S. No	Energy Saving Proposals	Electrical energy saving per annum (Units in Lakhs)
1	OPTIMISATION OF COOLER FANS IN KILN-2	2.37
2	REDUCE THE CONVEYING AIR FOR TRANSPORTATION OF COAL FOR KILN FIRING	0.4
3	REPLACE IE1 MOTORS WITH ENERGY EFFICIENT IE3 MOTORS (ENERGY EFFICIENT MOTORS REPLACEMENT FOR SELECTED MOTORS)	1.66
4	INSTALLATION OF ENERGY EFFICENT PUMP SETS/VFD TO PUMPS	2.47
5	REDUCE PRESSURE DROP IN THE PH DOWNCOMER DUCT BY CONDUCTING CFD STUDY	3.96

Energy Saving projects implemented in last three years

Year	No of Energy saving projects	Investments (INR Million)	Electrical Savings (Million kWh)	Savings (INR Million)
FY 2017-18	13	1.27	5.167	20.67
FY 2018-19	12	0.89	1.877	7.51
FY 2019-20	11	2.71	1.845	7.39
FY 2020-21	19	1.02	3.645	14.6
FY 2021-22	07	1.83	1.415	5.66

Energy Saving projects implemented in years 2021-22

Sl. No.	Title of Project	Annual Electrical Saving (kWh)	Annual Electrical Cost Saving (Rs million)	Annual Thermal Saving (Ton/year)	Annual Thermal Saving (Rs million)	Total Annual Savings (Rs million)	Investment Made (Rs million)
1	Kiln-1, Kiln feed Kiln & PC mixing bin venting modification (Bag filter stopped)	43560	0.17			0.17	0.01
2	Optimization of Kiln-1 kiln feed extraction (feeding only single silo)	203544	0.81			0.81	0.00
3	Installation of VFD for Kiln-1 Main ESP Fan and Motor changed from HT (225 kW) to LT (200 kW).	316800	1.27			1.27	0.50
4	Line-1 Cooler fan-2B outlet duct modification.	221760	0.89			0.89	0.20
5	Clinker hopper dust collector discharge modification in CementMill-1 (two blower are stopped)	67320	0.27			0.27	0.12
6	Line-2 Cooler fan-1 Relocation for outlet duct modification & VFD installation	229680	1.03			1.03	0.50
7	Line-2 Cooler fan-2 VFD installation	332640	1.50			1.50	0.50

Line-1 Cooler fan-2B outlet duct modification

Observed Air leakage from telescopic Pipe inside cooler chamber and pressure not developed in movable omega plates.

Before

Replaced telescopic pipe with flexible pipe joint.

After

Challenge:- Observed Air leakage from telescopic pipe inside cooler chamber and pressure not developed in movable omega plates.

Action taken :- Replaced telescopic pipe with flexible pipe.

Description	UOM	Before modification	After modification
Volumetric flow	m3/hr	23309	13717
Power consumption	kW	83	55
Fan Pressure	mmWg	813	1145
Fan RPM	RPM	2974	2825
Total Power saving	kW	28	

Benefits:- Total Power Savings : 28 KWh & Annual Savings 8.9 Lacs.

Line-2 Cooler fan-1 Modification

After

Before

Challenge:- Observed pressure drop higher side in outlet duct and Damper loss high.

Action taken :- Relocated fan and converted from V-belt drive to direct drive and installed VFD .

Description	UOM	Before modification	After modification
Volumetric flow	m3/hr	25238	19060
Power consumption	kW	89	60
Fan Pressure	mmWg	935	755
Fan RPM or Damper	RPM	1988 & 85 %	1610
Total Power saving	kW	29	

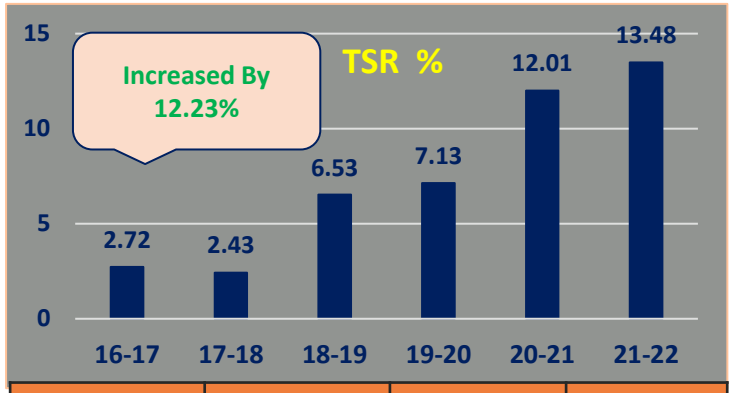
Benefits:- Total Power Savings : 29 KWh & Annual Savings 10.3 Lacs.

USAGE OF ALTERNATIVE FUELS

- Rice Husk
- Cotton stalk
- Coconut fiber
- Wood chips
- Carbon Black
- Recovered waste
- Hazardous Waste

LAFR System in Line-3

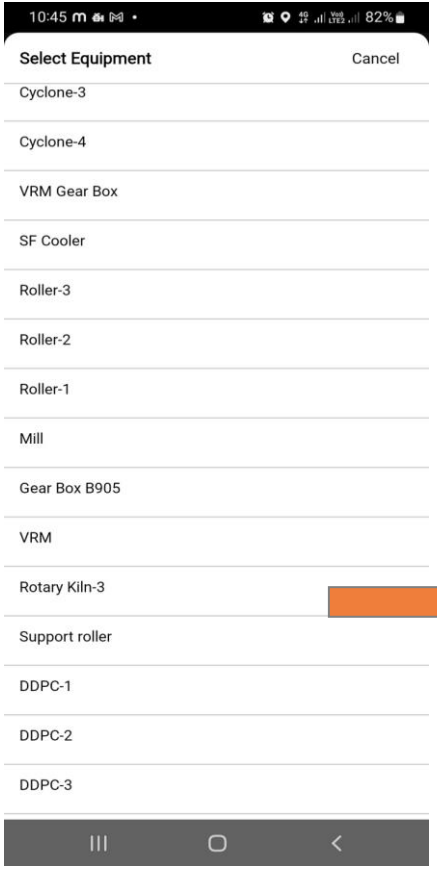
Plastic Shredder Machine

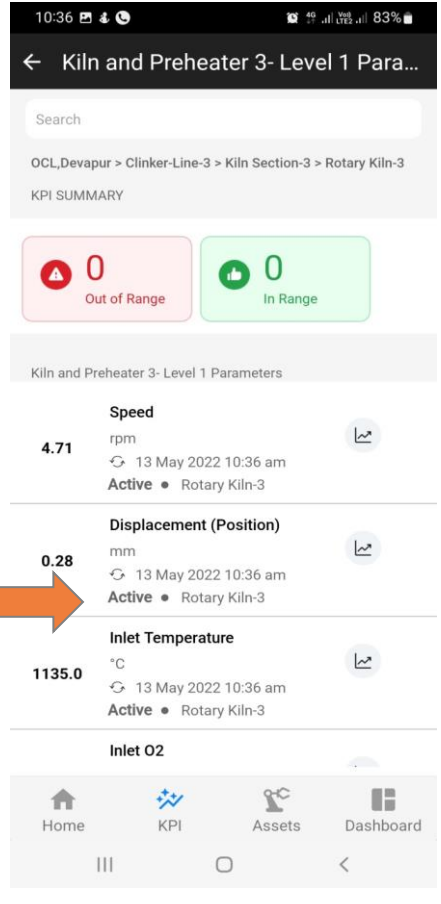


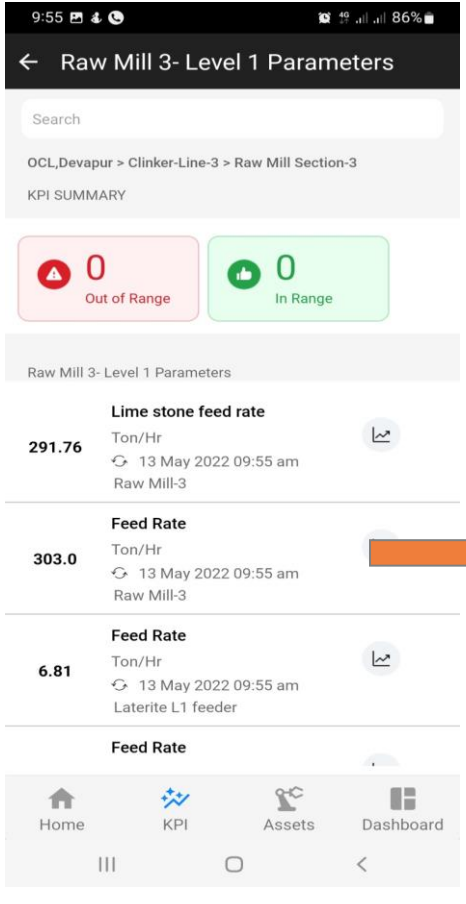
Name of the Fuel	2019-20	2020-21	2021-22
Biomass (MT/year)	16135	33240.42	44703
Solid waste (MT/year)	15134.47	12313.835	16653.715
Liquid Waste (MT/year)	-	-	2642

Double Feeding System Of Rice Husk

REMOTE MONITORING OF PLANT DATA THROUGH **UNIFY TWIN APP (DIGITALIZATION)**

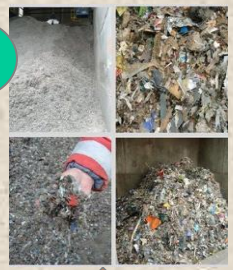






CO2 reduction at Glance by 2030

1



24.7%

Increase usage % of AFR

2

62.3%

Increase PPC, SC+PSC/ PCC mix proportion

3

9.7%

Renewable & WHR Energy

4

2.8%

Reduction of Energy consmn through - ENCON Idea's

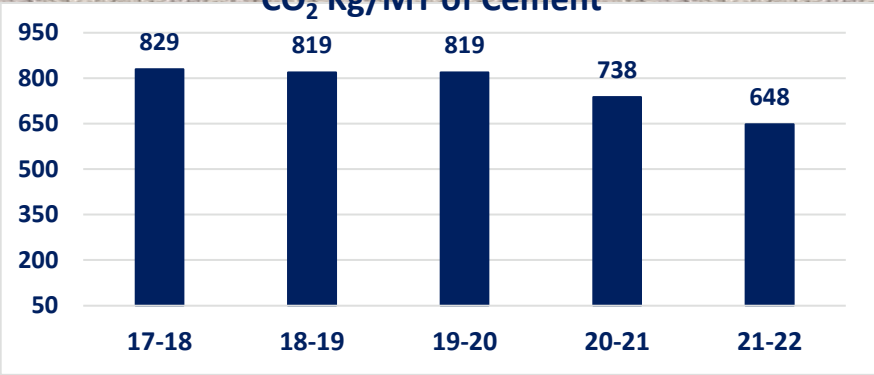
5

0.45%

Process optimization

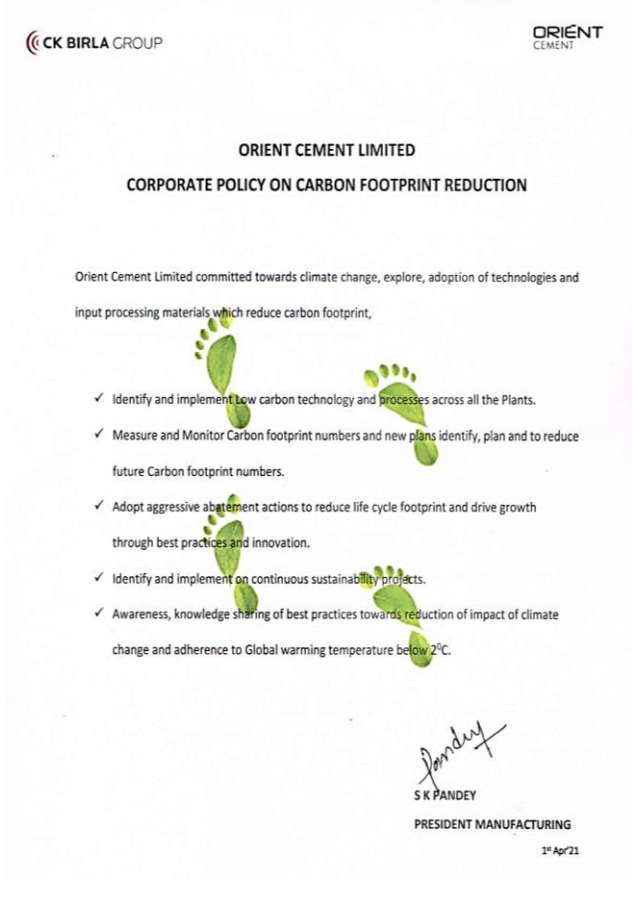
2030

CO_2 Kg/MT of Cement



Future aspects for Green Supply Chain Management :

- Usage of Hazardous waste.
- Usage of agro based waste.
- Ideas towards reduction of Carbon emissions.
- Adoption of automation technologies.
- Safety standards and reliability
- Ban of single use plastic in Colony/Plant.
- Maximizing reverse logistics.



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ORIENT CEMENT LIMITED

CORPORATE POLICY ON CARBON FOOTPRINT REDUCTION

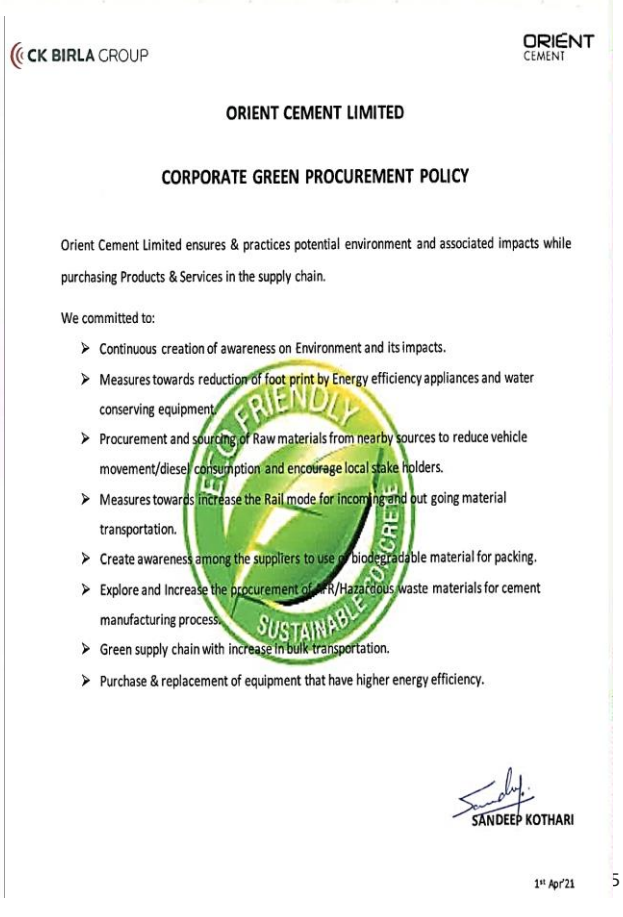
Orient Cement Limited committed towards climate change, explore, adoption of technologies and input processing materials which reduce carbon footprint,

- ✓ Identify and implement Low carbon technology and processes across all the Plants.
- ✓ Measure and Monitor Carbon footprint numbers and new plans identify, plan and to reduce future Carbon footprint numbers.
- ✓ Adopt aggressive abatement actions to reduce life cycle footprint and drive growth through best practices and innovation.
- ✓ Identify and implement on continuous sustainability projects.
- ✓ Awareness, knowledge sharing of best practices towards reduction of impact of climate change and adherence to Global warming temperature below 2°C.

S K PANDEY

PRESIDENT MANUFACTURING

1st Apr'21



CK BIRLA GROUP ORIENT CEMENT

ORIENT CEMENT LIMITED

CORPORATE GREEN PROCUREMENT POLICY

Orient Cement Limited ensures & practices potential environment and associated impacts while purchasing Products & Services in the supply chain.

We committed to:

- Continuous creation of awareness on Environment and its impacts.
- Measures towards reduction of foot print by Energy efficiency appliances and water conserving equipment.
- Procurement and sourcing of Raw materials from nearby sources to reduce vehicle movement/diesel consumption and encourage local stake holders.
- Measures towards increase the Rail mode for incoming and out going material transportation.
- Create awareness among the suppliers to use of biodegradable material for packing.
- Explore and Increase the procurement of AFR/Hazardous waste materials for cement manufacturing process.
- Green supply chain with increase in bulk transportation.
- Purchase & replacement of equipment that have higher energy efficiency.

ECO FRIENDLY SUSTAINABLE SOURCE

SANDEEP KOTHARI

1st Apr'21

List of active members of Energy Management Cell within the organisation and their role.

1. Mr. Y. Padmaveer
2. Mr. Bala Gridhar
3. Mr. MNV Satyanarayana
4. Mr. Atul Kumar Agrawal (EA-11170)
5. Mr. Deveshraaj Panjiray
6. Mr. Vijayapal Ratna
7. Mr. Shailesha Rajawat
8. Mr. M Mahesh
9. Mr. B SathishKumar

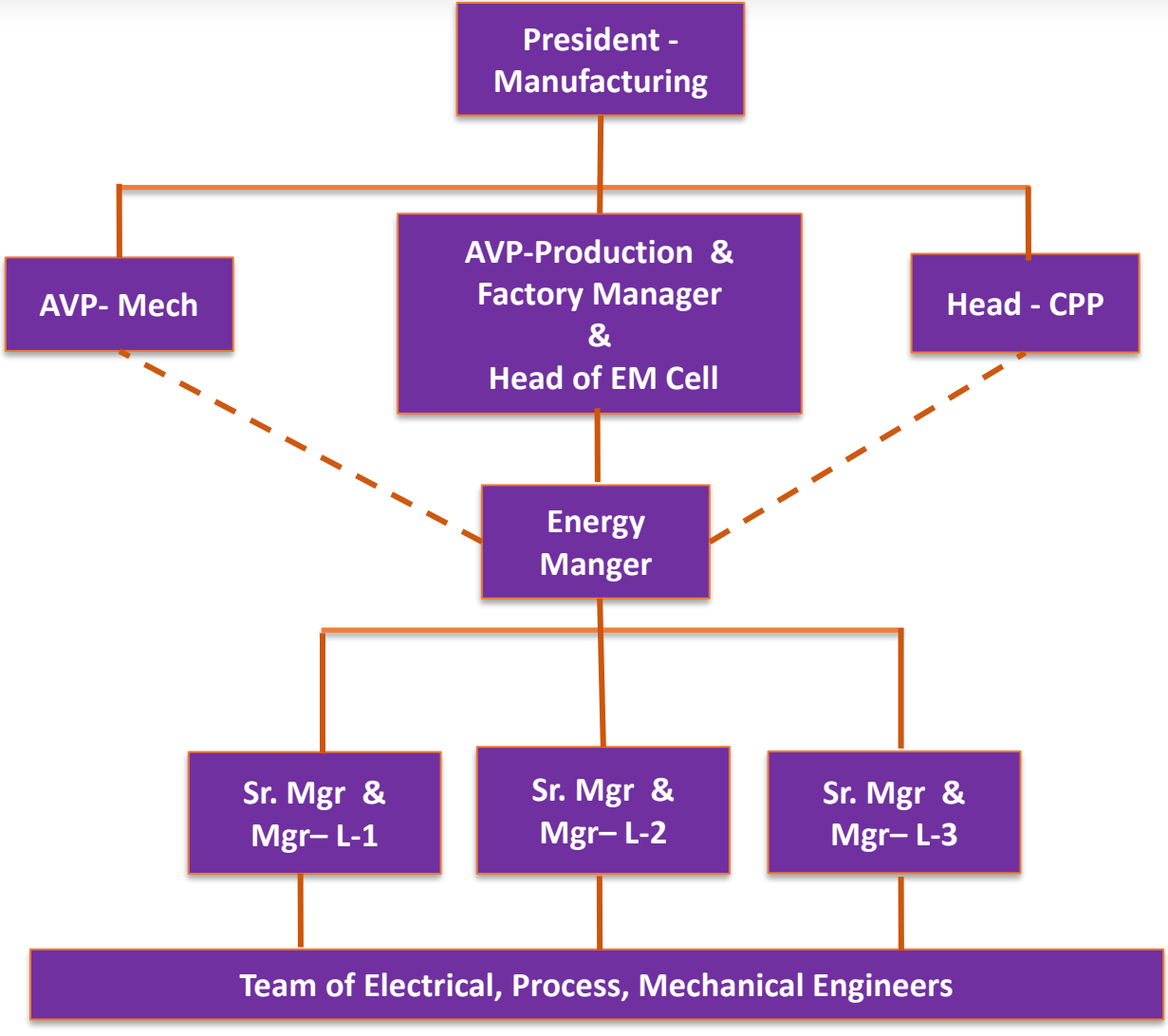
Responsibilities of Energy Manger:-

a) Planning and Conducting Energy review meetings
b) Energy monitoring activities.
c) EnMS – ISO 50001, Documentation and compliance to standard.
d) Energy conservation projects
e) Conducting periodical Energy Audits
f) Create Awareness & training to employees on Energy conservation activities.
g) Compliance to PAT schemes etc.

Energy Management Activities:-

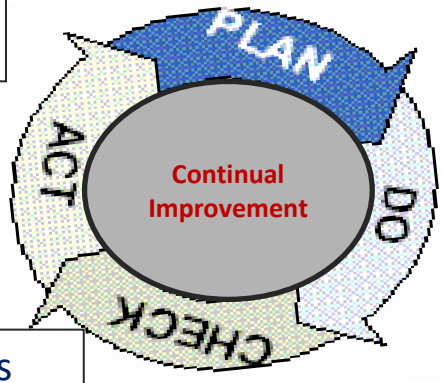
Activities are monitoring of section wise and main motors electrical consumption, Monitoring Thermal energy consumptions, Heat balance, Leakage monitoring, Suggesting new energy efficient equipments and modifications, Explore usage of alternative fuels, Conduct energy audits, awareness & training etc.

ENERGY MANAGEMENT CELL



IMPLEMENTATION & REVIEW PLAN

Analyse and Act on results



- Capturing of Energy consumptions
- Discuss and Compare
- Identify the Problem
- Identify Causes along with Actions/ solutions

Check for Results

Implement solutions

A special team has been designated for monitoring of Energy consumptions. Electrical as well as Thermal consumption is been monitored on daily basis and highlighted to down the level. The daily Energy consumptions of concerned departments are discussed during daily review meeting. Actions and brain storming are done based on actual vs targets.

Energy Management system installed for online capturing of all Energy consumption details of Major fans ,HT drives and above 75kW drives different departments and specific energy usages

ORIENT CEMENT

CK BIRLA GROUP

ORIENT CEMENT : DEVAPUR

DAILY POWER REPORT

Date: [illegible]

NAME	ON DATE UNITS KWH	PROD TONS	R.Hrs.	RATE TPH	LOAD KW	LOAD %	* SP.ENERGY ACT.	SP.ENERGY target	KWH/T Var.	MONTH TO DATE UNITS KWH	OUTPUT TONS	Run. Hrs	RATE TPH	LOAD KW	ENGY
LSC-3	**21961**	**17831**	**15.0**	**1189**	**1464**		**1.23**	**1.34**	**0.11**	**199125**	**154368**	**130**	**1186**	**1530**	**1.29**
RM-1 M.M (S)	29478				1282	67.5	5.17	5.66	0.49	196398				1347	5.40
RM-1 M.M (N)	30619				1331	70.1	5.37	5.67	0.30	204009				1400	5.61
SEPOL FAN	9218		23.47		393	93.5	1.62	1.50	-0.12	58208				399	1.60
VENT FAN	2265		23.43		97	38.7	0.40	0.50	0.10	14510				100	0.40
POL. (E)	10882				473	91	1.91	2.05	0.14	65891				452	1.81
POL. (W)	9308				405	77.8	1.63	1.80	0.17	58370				400	1.61
B/E	2430				106	57.1	0.43	0.45	0.02	13718				94	0.38
Other Aux withB/E & S	9335				406		1.64	1.70	0.06	65602				450	1.80
RM-1 Total	**103535**	**5704**	**23.0**	**248**	**4502**		**18.15**	**19.33**	**1.18**	**676706**	**36357**	**146**	**249**	**4643**	**18.61**
ESP-1	2699				112	50	0.72	0.76	0.04	25393				140	1.02
PH-1	8039				335	67	2.16	2.30	0.14	61352				339	2.47
CLM-1M.M	6570	194	20.1	10	327	76.9	1.76	1.74	-0.02	48780	1276	147	9	331	1.96
CLM -1 Aux. (M-11)	1128				56		0.30	0.42	0.12	8700				59	0.35
CESP-1	2674				111	31.8	0.72	0.80	0.08	23048				127	0.93
CLR FANS-1	14089				587		3.78	4.73	0.95	111002				614	4.46
PC FAN	16872				703	87.9	4.53	4.51	-0.02	120997				669	4.87
VRM-MM	3973	292	23.0	13	173	86.4	1.07	1.00	-0.07	28411	1890	154	12	184	1.14
VRM-D/C M.	3597				156	65.2	0.97	0.80	-0.17	23978				156	0.96
VRM Aux.(MCC)	4249				185		1.14	1.03	-0.11	31439				204	1.26
Oth. Aux.	35346				1473		9.48	9.02	-0.46	265792				1470	10.69
KILN -1 Total	**99236**	**3727**	**24.0**	**155**	**4135**		**26.63**	**27.11**	**0.48**	**748892**	**24864**	**181**	**137**	**4141**	**30.12**
CM-1 MM (East)	11090				875	58.4	4.49	4.60	0.11	160340				837	4.34
CM-1 MM (west)	10590				836	55.7	4.29	3.90	-0.39	154320				805	4.18
CM-1 AUX.(M-14)	932				74		0.38	0.45	0.07	10680				56	0.29
CM-1 SEP.MCC	1330				105		0.54	0.50	0.04	16931				88	0.46
CM-1 R. PRESS (East)	7930				626	62.6	3.21	3.70	0.49	123510				644	3.34
CM-1 R. PRESS (West)	8070				637	63.7	3.27	3.45	0.18	124040				647	3.36
CM-1 R. PRESS SKS FA	7890		13.95		566	103	3.19	3.30	0.11	109750				573	2.97
CM-1 R. PRESS Aux.MC	9902				782		4.01	4.00	-0.01	144235				753	3.90
Other auxi with comp	5052				399		2.04	2.70	0.66	79641				520	2.70
CM-1 Total	**62786**	**2471**	**12.7**	**195**	**4956**		**25.41**	**26.60**	**1.19**	**943447**	**36943**	**192**	**193**	**4922**	**25.54**
RM-2 M.M.(S)	34570				1440	75.8	8.68	8.90	0.22	318350				1400	8.13
RM-2 M.M.(N)	36350				1515	79.7	9.12	9.32	0.20	335170				1474	8.56
RM-2 VENT FAN	10255				427	58.9	2.57	2.55	-0.02	96265				423	2.46
RM-2 AUX.(M-18)	4366				182		1.10	1.30	0.20	42396				186	1.08
other auxi with sep &	5088				212		1.28	1.60	0.32	81410				358	2.08
RM-2 Total	**90629**	**3984**	**24.0**	**166**	**3776**		**22.75**	**23.67**	**0.92**	**873591**	**39169**	**227**	**172**	**3843**	**22.30**
ESP-2	6019				251	83.6	2.26	2.40	0.14	59541				248	2.21
PH-2	26444				1102	80.4	9.92	9.98	0.06	269314				1122	10.01
CLM-2	9374	336	24.0		391	78.1	3.52	3.50	-0.02	82976	3283	232	14	358	3.08
CLM-2 Aux. (M-25)	3898				162		1.46	1.40	-0.06	39154				169	1.46
CESP-2	1627				68	33.9	0.61	0.65	0.04	15976				67	0.59
CLR-2	11338				472		4.25	4.60	0.35	113771				474	4.23
Oth. Aux.2	18348				765		6.88	7.23	0.35	188390				785	7.00
KILN -2 Total	**77048**	**2665**	**24.0**	**111**	**3210**		**28.91**	**29.76**	**0.85**	**769122**	**26909**	**240**	**112**	**3205**	**28.58**
CM-2 MM (East)	31510				1360	75.5	7.43	6.00	-1.43	295490				1365	6.99
CM-2 MM (west)	30040				1292	71.8	7.06	5.80	-1.26	279910				1293	6.62
CM-2AUX.(M-28)	2231				96		0.52	0.45	-0.07	21887				101	0.52
CM-2 R. PRESS (North	15950				686	68.6	3.75	3.4	-0.35	150290				694	3.56
CM-2 R. PRESS (South)	15960				686	68.6	3.75	3.20	-0.55	149050				689	3.53
CM-2 R. PRESS SKS FA	13494		23.7		571	67.1	3.17	2.75	-0.42	129645				599	3.07
CM-2 R. PRESS SKS SE	2036				88	27.8	0.48	0.4	-0.08	16624				77	0.39
Oth auxi with fly ash	14309				615		3.36	2.82	-0.54	133497				617	3.16
CM-2 R. PRESS (Total)	0	0	0.0				####		####	0	0	0			####
CM-2 Total	**125630**	**4253**	**23.3**	**183**	**5403**		**29.54**	**24.82**	**-4.72**	**1176393**	**42256**	**216**	**195**	**5436**	**27.84**
P.PLANT	4570	2407					1.90	1.60	-0.30	93005	69110	0			1.35
RM-3 RP MOVABLE	31930				1330	73.9	4.42	4.50	0.08	314850				1361	4.45
RM-3 RP FIXED	29260				1219	67.7	4.05	4.10	0.05	288480				1247	4.08
RM-3 SKS FAN	36680				1528	84.9	5.07	5.00	-0.07	359130				1552	5.08
RM-3 RP DISG B/E-NO	3772				157	62.9	0.52	0.52	0.00	36602				158	0.52
RM-3 RP DISG B/E-SO	4004				167	66.7	0.55	0.55	0.00	38870				168	0.55
OTHER AUXILARY	14370				599		1.99	2.00	0.01	141390				611	2
RM-3Total	**120016**	**7231**	**24.0**	**301**	**5001**		**16.60**	**16.67**	**0.07**	**1179322**	**70763**	**231**	**306**	**5096**	**16.67**
BAGHOUSE FAN	8383				349	36.8	1.82	1.90	0.08	83763				349	1.82
PRE HEATER FAN	24770				1032	62.6	5.36	5.79	0.43	247210				1030	5.37
KILN MAINDRIVE	7947				331	47	1.72	1.75	0.03	75939				316	1.65
COOLER FANS	19155				798	42.3	4.15	4.65	0.50	194489				810	4.23
VRM MAIN DRIVE	9045	566	17.0	33	530	82.9	1.96	1.7	-0.26	80274	5146	149.5	34	537	1.74
VRM FAN	4575				268	41.9	0.99	0.86	-0.13	41099				275	0.89
VRM-3 AUX	1241				73	23.1	0.27	0.3	0.03	11214				75	0.24
OTHER AUXILARY	23384				974		5.06	6.04	0.98	259368				1081	5.64
KILN -3 Total	**98500**	**4618**	**24.0**	**192**	**4104**		**21.33**	**22.99**	**1.66**	**993356**	**46004**	**240**	**192**	**4139**	**21.59**
COM.SER.	4509									47359					
MAINTENANCE L1,L2	0									20080					
LOSSES	-800									-6991					
COLONY	6439									64333					
TOTAL POWER	814060									7777740					
UP TO CLINKER (average)							**54.17**			0					**55.11**
UP TO CEMENT (average)							**79.27**			0					**79.42**
UP TO CEM. PPC (average)							**63.27**			0					**64.88**
UP TO CEM. HS PPC (average)							**73.50**								**80.78**
CPP Aux. From MRSS	0									0					
MINES DEWATERING	1155									11165					
POWER EXPORT	300									5300					

CK BIRLA GROUP

ORIENT CEMENT

ORIENT CEMENT LIMITED

INTEGRATED MANAGEMENT SYSTEM POLICY
(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 & ISO 50001:2018)

Orient Cement Limited aims to be a leading company by providing consistent quality products and customer satisfaction through capabilities building, use of best practices, reliable relationships with all stakeholders and innovative cement products with a commitment to maintain environment friendly, safe, healthy and sustainability working condition in all its operations.

We are committed to:

- Operating the plant energy efficiently and increase the usage of alternative fuels & minimizing the energy losses;
- Complying applicable legal & other requirements;
- Protection of environment includes prevention of pollution by optimising the consumption, responsible sourcing, reuse and recycle;
- Eliminating hazards, reducing risks and exploring opportunities by continual improvement of all processes to enhance the IMS performance, professional development and knowledge sharing;
- Developing safety culture, safeguarding employees, workers, and their representatives from injury & ill health through their consultation and participation in safety assessment and adherence to PPE;
- Available information is utilised for enhancing objectives & targets with optimal resources.

SK PANDEY
PRESIDENT - MANUFACTURING

Date: 01.04.2019

DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 310228-2016-AE-IND-RvA | Initial certification date: 09 February 2017 | Valid: 09 February 2020 – 09 February 2023

This is to certify that the management system of

Orient Cement Limited

P.O. Devapur Cement Works,Mancherial - 504218, Telangana, India
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Energy Management System standard:
ISO 50001:2018

This certificate is valid for the following scope:
Manufacturing of Cement.

Place and date:
Barendrecht, 11 May 2020

MGMT. SYS. RvA C 021

For the issuing office:
DNV GL - Business Assurance
Zwolseweg 1, 2994 LB Barendrecht, Netherlands

Erie Koek
Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV GL Business Assurance B.V., Zwolseweg 1, 2994 LB, Barendrecht, Netherlands. TEL:+31(0)102922689.
www.dnvgl.com/assurance

Learning from CII Energy Award or any other award program

- We would like to thanks CII Team to their efforts towards Energy initiatives.
- We learnt Lot of things from CII award functions such as New Initiatives, New technology and new ideas which are implemented in our Plant and got huge benefits in the area of energy savings.
- CII Provided us Knowledge exchange platform, we shared our ideas and we inspired from other competitors.
- We applied Bell mouth idea in our Line-1 and Line-3 Cooler fans and we got very good results and reduced 1kwh/MT Electrical energy in Both Section.
- We installed many VFDs and removed damper in different location in our Plant.

WAYFORWARD:

INSTALL ROOF TOP SOLAR PV FOR BUILDINGS

Present Status:

Office Buildings in the plant have a potential for installation of Solar Panels on the rooftop in order to generate extra power that can feed the offices and buildings. The roof areas can be utilized in order to make the buildings self sufficient

Savings Calculation:

	Units	Technical Office	Admin Office
Total approximate area available	m2	940	567
Recommended solar PV plant	KWp	105	65
Annual energy generated from SPV	MWH/year	211	128
		339 MWH	
Annual Monetary cost Benefit	Rs/years	15.25 Lakhs	
Cost of SPV system	Rs	60.3 Lakhs	
Simple payback period	months	48	

Benefits:

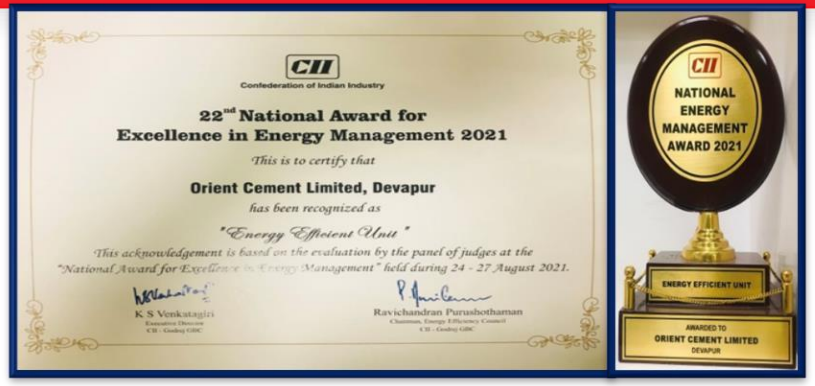
The estimated annual Energy offset potential is INR 15.25 Lakh. The investment required for this is INR 60.3 Lakhs which will have a payback period of 48 months.

PROMOTIONAL ACTIVITIES - REWARDS FOR ENCON IDEA'S

Muchas Gracias Card & Good To Find :

AWARDS & ACCOLADES

"Telangana State Energy Conservation Award-2021" received on 19th Dec 2021



"Energy Excellence Award 2021" received from "CII"

"GreenTech Energy Conservation Award 2021".

APEX INDIA EXCELLENCE AWARD 2021 in the Category of "Platinum" for Energy Efficiency**.**

AWARDS & ACCOLADES

ORIENT CEMENT LIMITED: DEVAPUR

CII

Confederation of Indian Industry
125 Years - Since 1895

21st National Award for Excellence in Energy Management 2020

This is to certify that

Orient Cement Limited, Devapur

has been recognized as

"Energy Efficient Unit"

This acknowledgement is based on the evaluation by panel of judges at the "National Award for Excellence in Energy Management" held during 25 - 28 August 2020.

K S Venkatagiri
Executive Director
CII - Godrej GBC

Ravichandran Purushothaman
Chairman, Energy Efficiency Council
CII - Godrej GBC

"Excellence in Energy Management 2020" award as Energy Efficiency Unit by CII.
21st National Award (Virtual) Event held on 25 - 28 Aug 2020.

AWARDS & ACCOLADES

APEX INDIA EXCELLENCE AWARD 2019 in the Category of "Platinum" for Environment**,** **"Gold" for Safety and Energy Efficiency** received on 24th September 2019 at New Delhi.

AWARDS & ACCOLADES

ORIENT CEMENT LIMITED: DEVAPUR

CII
Confederation of Indian Industry

20th National Award for
Excellence in Energy Management 2019

This is to certify that

Orient Cement Limited
Devapur

has been recognized as

"Energy Efficient Unit"

This acknowledgement is based on the evaluation by panel of judges at the "National Award for Excellence in Energy Management" held during 16 - 18 September, 2019 at Hyderabad.

S. Raghupathy
Deputy Director General
Confederation of Indian Industry

Meher Pudumjee
Chairperson, Energy Efficiency Council
CII - Godrej GBC

"Energy Excellence Award 2019" received from "CII" at Hyderabad on 18th Sep 2019

AWARDS & ACCOLADES

ORIENT CEMENT LIMITED DEVAPUR

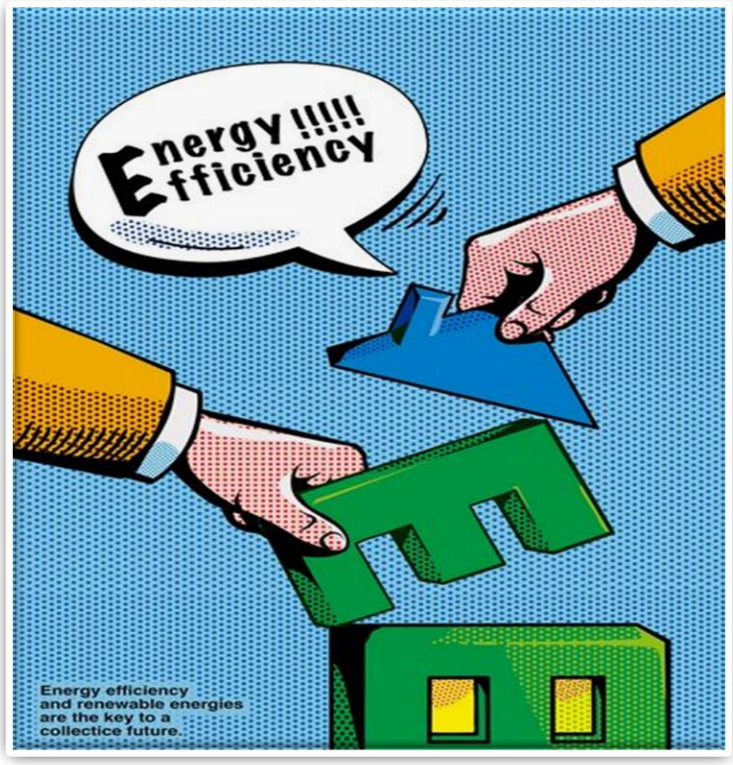
SEEM NATIONAL ENERGY MANAGEMENT PLATINUM AWARD 2019

From SEEM received at Delhi on 27th September 2019

AWARDS & ACCOLADES

ORIENT CEMENT LIMITED: DEVAPUR

"Telangana State Energy Conservation Award" received on 20th Dec 2019



Thank You