

**“25<sup>th</sup> National Energy Award for Excellence  
in Energy Management “2024”**

**HeidelbergCement India Ltd.-Unit Jhansi  
( 2024-25)**

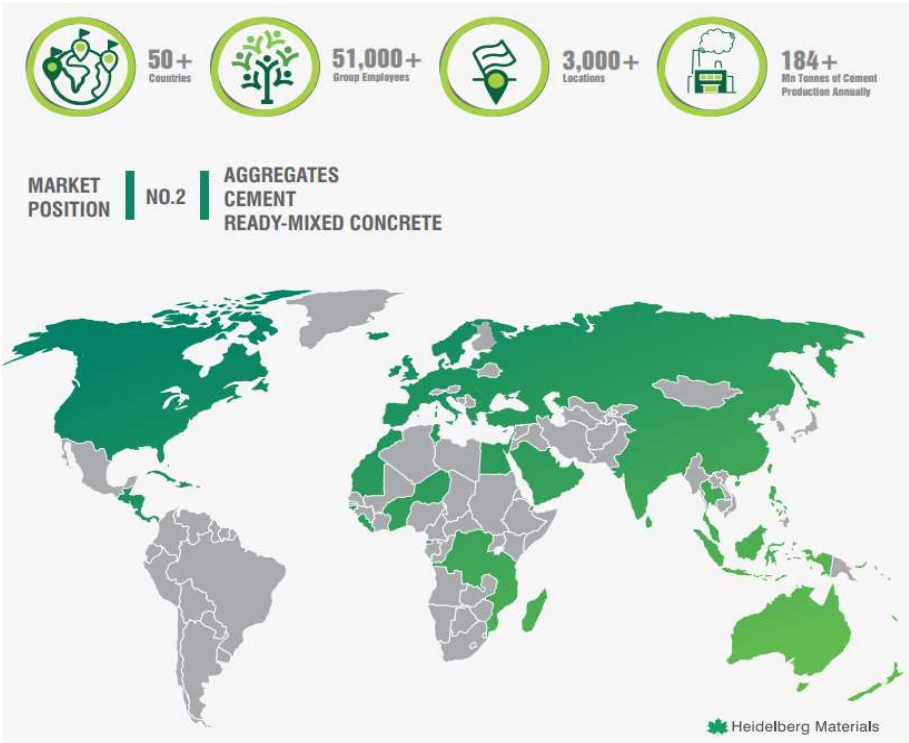
**HEIDELBERGCEMENT**

**Mr. Shailendra Agrawal-E&I Head  
Mr. Anurag Sharma –Production Head**

# 1. Brief introduction on Group/Unit HeidelbergCement Group



## Worldwide Presence



## Presence in India





# 1. Jhansi Unit - Milestone



**0.5 MTPA**  
**1989**  
 • Ball Mill Commissioned



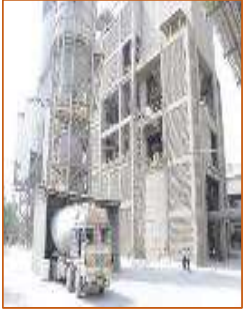
**0.8 MTPA**  
**1991**  
 • Roller Press Installed



**0.8 MTPA**  
**2006**  
 • HC Took Over



**1.0 MTPA**  
**2010**  
 Dry Fly Ash feeding System



**2.7 MTPA**  
**2013**  
 • VRM Commissioned



**3.25 MTPA**  
**2020**  
 • High Efficiency Separator Installed in Ball Mill



**3.25 MTPA**  
**2022 (Continue)**  
 • Execution of PPA of 10.6 MW Solar Power share by 30%



# 1. HeidelbergCement India Limited – Unit Jhansi



- Jhansi Cement Grinding & Packing Unit Commissioned in 1989,
- Initial capacity started with 0.5 MTPA
- 100 % PPC Manufacturing, Close to Power Plants (PTPP 920 MW & LPP 1920 MW)
- Capacity Expanded to 2.7 MTPA, Installed VRM in 2013
- Capacity Expanded to 3.25 MTPA by upgrading High efficiency Separator and debottlenecking of Ball Mill in April 2020.
- Utilization of renewal Green Energy sources 30-34% of total energy consumption.



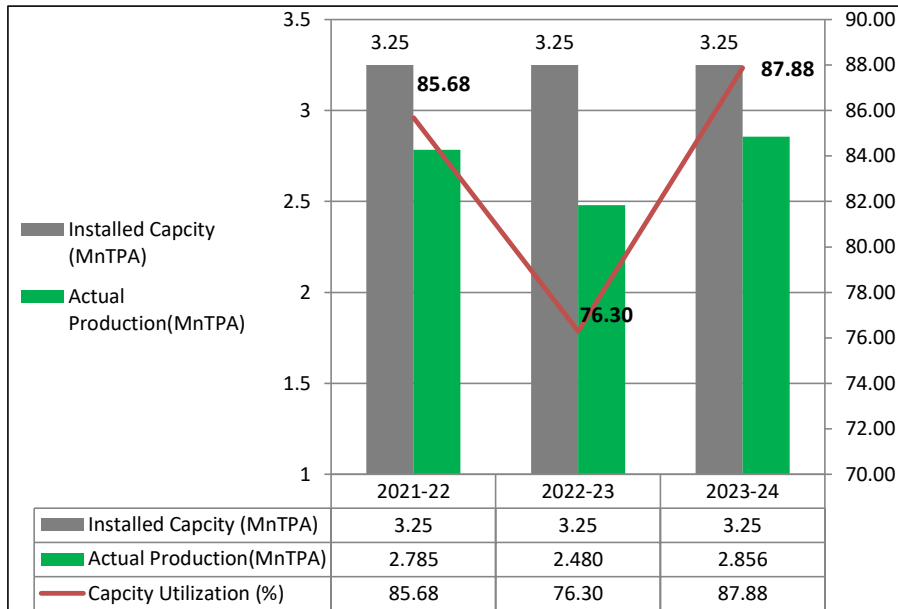
## Major Equipment Details

Major Equipments	Supplier	Type	Installed Capacity
Cement Mill-1 (Ball Mill)	KHD	Closed Circuit Ball Mill	162 TPH
Roller Press	KHD	Pre Grinder for Clinker Open Circuit	200 TPH
Cement Mill-2 (VRM)	Loesche	Vertical Roller Mill(53.3+3)	215 TPH
Wagon Tippler	Metso	Wagon Tippler	1000 TPH
Roto Packers	FLS (EEL)	Rotary Packer(16 Spouts)	4x240 TPH
Wagon Loader Machine	FLS	Rail Mounted	12 X 2400 Bags/Hour
Clinker Storage	FLS		2x40000 Tones Pile
Gypsum Storage	FLS		12500 Tones
Cement Silos	FLS		1x13800 Tones + 2x14000 Tones
Dry Fly Ash Storage	FLS		1x300 Tones + 1x 12000 Tones



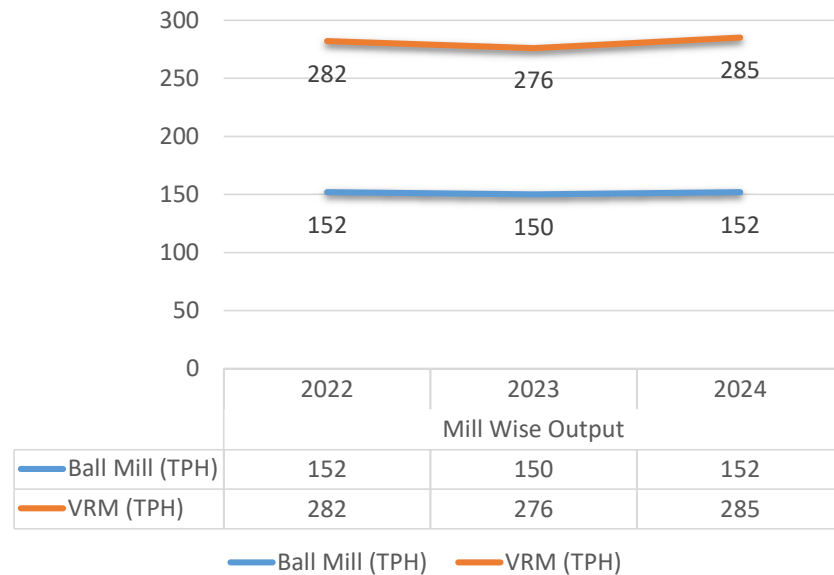
**Capacity Utilization – 88% increased by 15% from last year**

### Capacity Utilization



**Mill Output increased by 3.25% from last year**

### Mill Wise Output

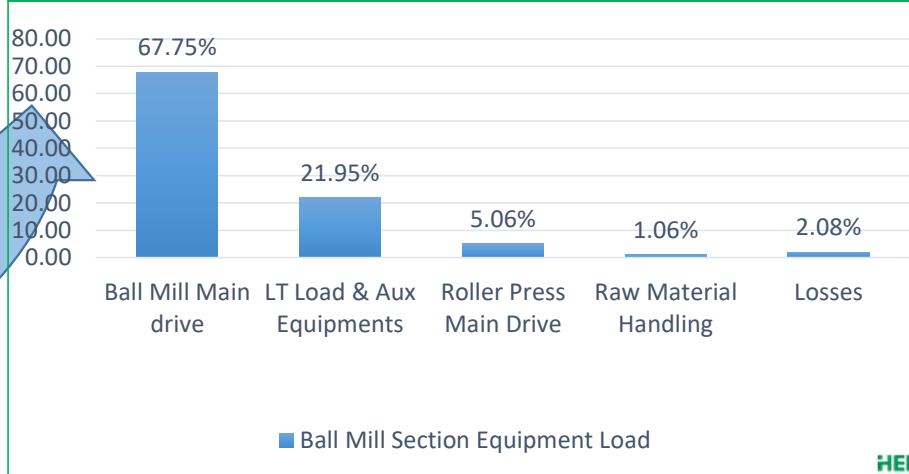
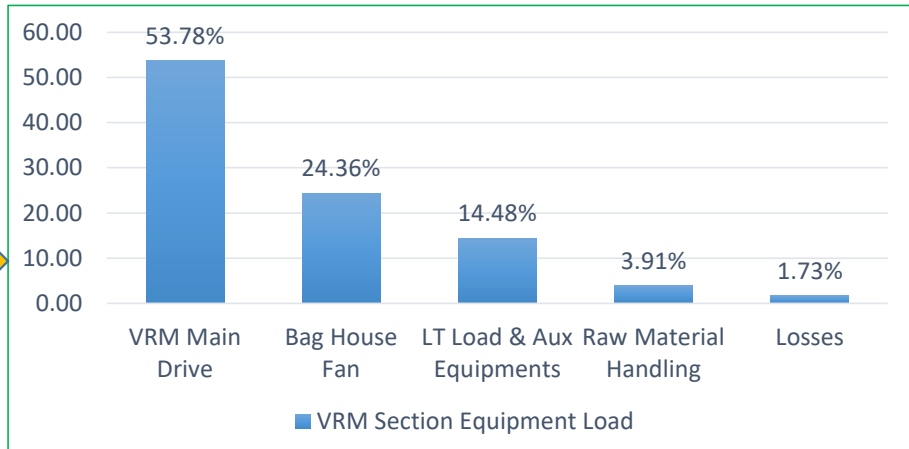
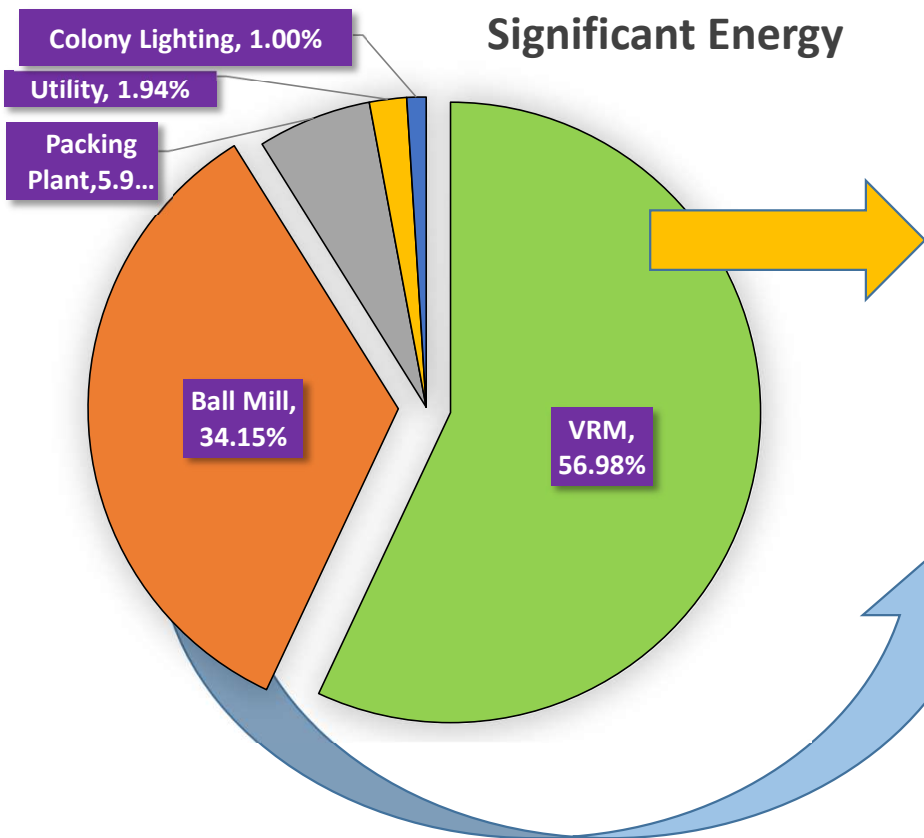


- Less capacity utilization FY2021-22 & FY2022-23 due to low market demand.
- Increasing trend of output of VRM & BM (TPH).

## 2. Section wise Significant Energy Uses – VRM & Ball Mill (23-24)



Major Energy consumption



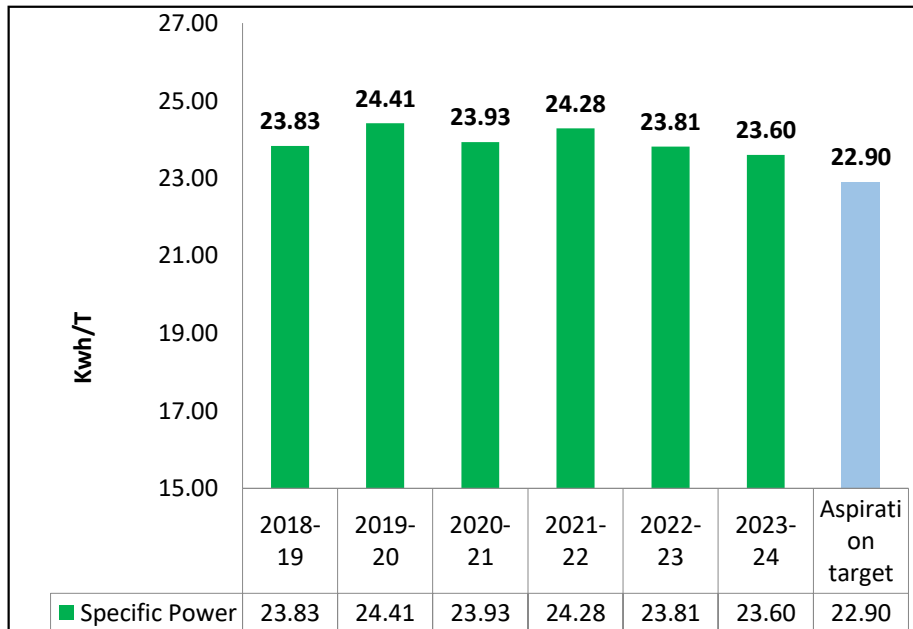
## 2. Cement Mill -1 & Cement Mill-2 PPC Grinding SEC (KWh/Ton)



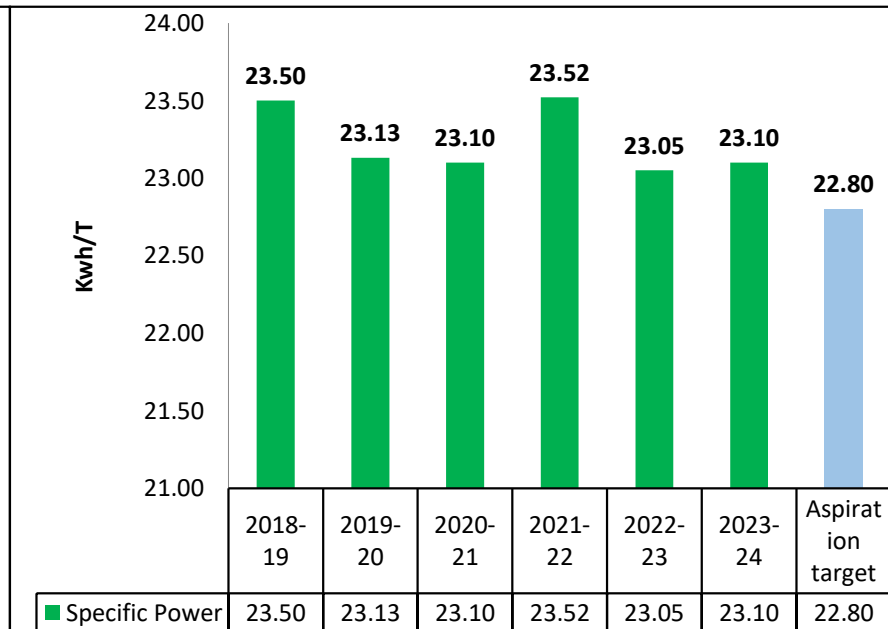
Ball Mill SPC reduction by 0.88%

VRM SPC increased by 0.2%

**Ball Mill SPC – PPC (CM-1)**



**VRM SPC – PPC (CM-2)**



❑ VRM - Higher SEC in FY2023-24 due to use of more wet fly ash.

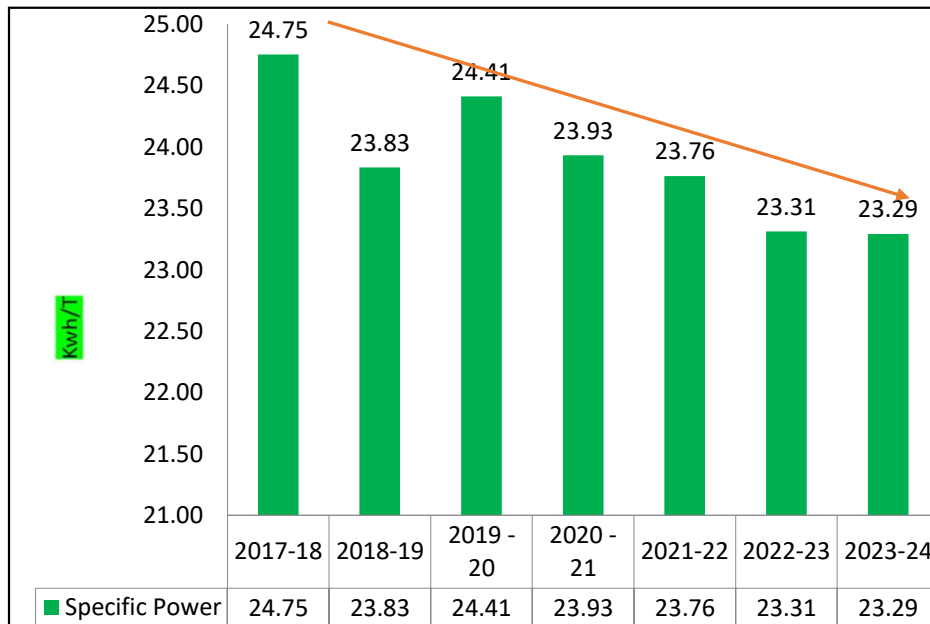
## 2. Overall PPC Grinding / Utility SEC (KWh/Ton)

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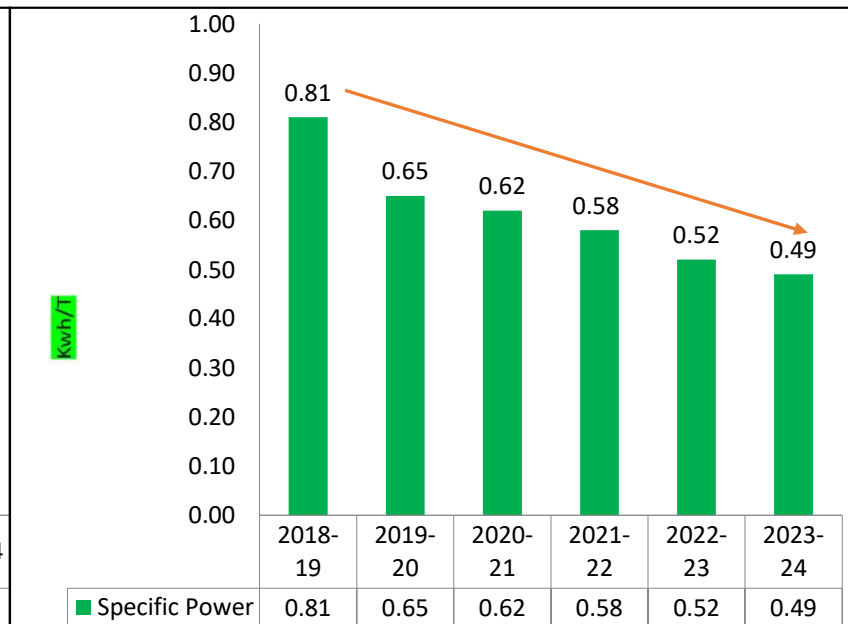
SPC reduction by 0.1% from last year

SPC reduction by 6.12% from last

**Overall SPC PPC (BM+VRM)**



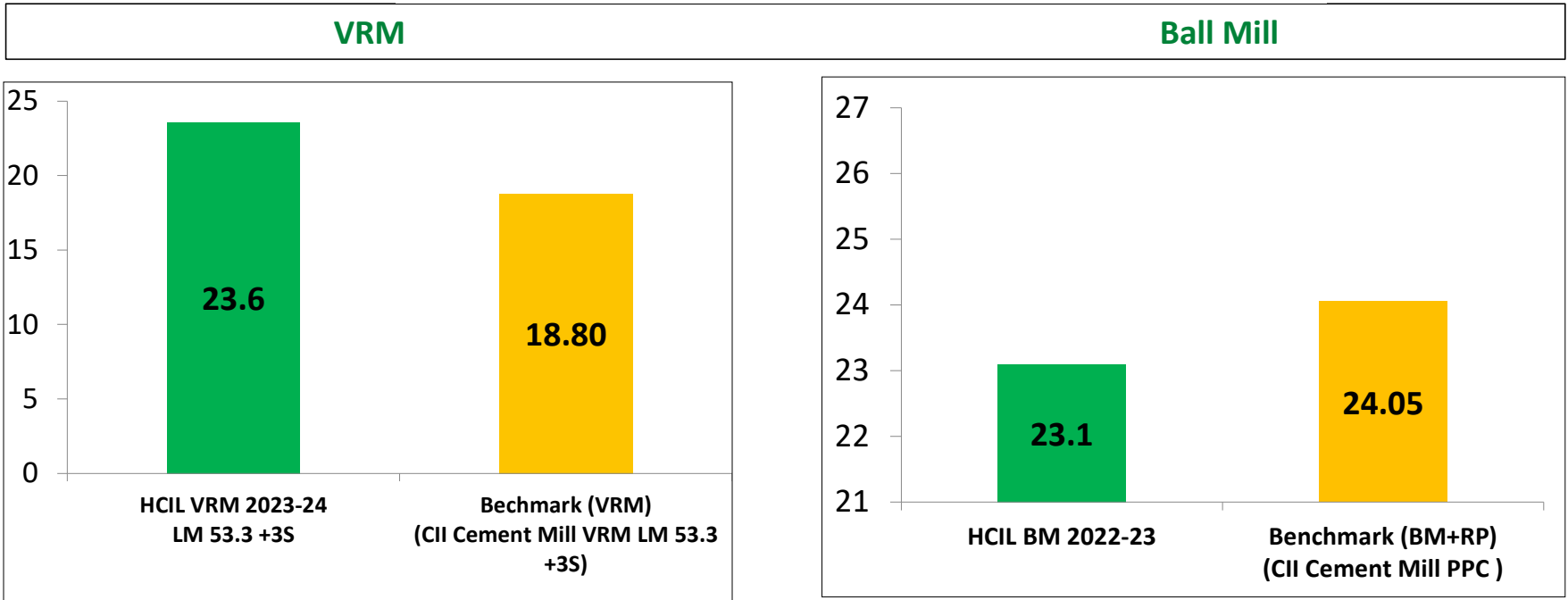
**Utility SPC**



- Reduction in Utility SEC due to following reasons,
- Use of LED lights,
- Optimisation of ACs operation at 24° C Temp.
- Installation of Occupancy Sensors in Offices & Buildings.
- Auto ON/OFF Plant Lighting through DCS.



### 3. Specific Power Comparison with CII Benchmark



- ❑ VRM Main Drive SPC – 14.03 KWh/T
- ❑ VRM Bag House Fan SPC – 6.35 KWh/T
- ❑ VRM Classifier SPC – 0.45 KWh/T
- ❑ VRM Aux. – 2.77 KWh/T

- ❑ BM Main Drive SPC – 17.45 KWh/T
- ❑ RP Main Drive SPC – 1.10 KWh/T
- ❑ BM CA Fan SPC – 2.10 KWh/T
- ❑ BM SEP SPC – 0.38 KWh/T
- ❑ BM Bag House Fan – 0.32 KWh/T
- ❑ BM Aux. – 1.75 KWh/T

## 4. Summary of Energy Saving Projects Implemented in Last 4 Years



Year	No of Energy saving projects	Investments (INR Million)	Electrical savings Million Units	Savings (INR Million)
FY 2020-21	5	97.93	1.24	9.31
FY 2021-22	5	81.08	0.64	4.2
FY 2022-23	6	76.12	1.39	9.46
FY 2023-24	8	81.79	2.08	10.57
4 Year	24	336.92	5.35	33.54



## 4. Major Energy Saving Projects Implemented in Last 3 Years

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- Installation of Expert control System for Ball Mill & VRM process optimization.
- Stopped one Bag Filter (22 KW)fan with RAL of Packing Plant by connecting venting line from other Bag filter.
- Replacement of Ball mill compressor based on VFD.
- Installation of Energy management system for the monitoring of equipment load.
- Replacement of Conventional lights with LED lights.
- Control of plant lighting & street lighting through DCS.
- Installation of Solar panel on roof & solar garden light for colony premises.
- Install occupancy sensors at various locations in office lighting, toilets & area lighting.
- AI based bag Counter in packing plant.
- Procurement of IE3 Motors.
- Installation of Px trend system software for historian data of plant



## 4. Major Energy Saving Projects Implemented in last three years



Sl. NO.	Title of Project	Year	Category	Investment Made (million INR)	Annual Electrical Cost Saving (million INR)	Annual Electrical Saving (kWh)
1	<p>Optimisation of Ball Mill Circuit</p> <p>a) Optimisation of grinding media charging pattern, removed 90 mm and topped up 17 mm &amp; 20 mm grinding media</p> <p>b) Repaired the square bar on wear out portion and reduced the separator seal gap 15-18 mm to 1.5-4 mm.</p> <p>c) Bag House fan RPM increased from 1000 to 1200 RPM to increase the gas velocity inside the mill.</p> <p>d) Roller Press chick plate gap reduced from 25-30 mm to 6-10 mm.</p>	2022-23	Process	0.25	0.24	31687
2	VRM Classifier Rotor Replacement	2022-23	Process	20	2.92	512468
3	<p>Optimisation of VRM Circuit</p> <p>a) VRM rotor vertical seal gap reduced from 25-30 mm to 10 mm.</p> <p>b) Reduced the mill gas velocity from 54 m/s to 50 m/s by increasing nozzle area</p> <p>c) Increased water spray nozzle angle from 15 to 35 from vertical</p>	2022-23	Process	0	0.07	9218
4	Modification in rake loading circuit resulted reduction in loading time and equipment utilization increased	2022-23	Process	55	4.23	564166
5	Stopped two nos 3 KW screw conveyor by installing airslide system in Packer 3&4 reject discharge	2022-23	Process	0.1	1.43	190317





## 4. Major Energy Saving Projects Implemented in last three years

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Sl. NO.	Title of Project	Year	Category	Investment Made (million INR)	Annual Electrical Cost Saving (million INR)	Annual Electrical Saving (kWh)
6	VRM table liner replacement from Hi-chrome to Pronamic High wear resistant property, required less downtime for material reclamation.	2023-24	Process	15.0	0.24	31687
7	VRM dam ring height optimization	2023-24	Process	0.02	1.94	389000
8	Optimisation of VRM Circuit Stub cone removal – reduction of weight approx. 900kg on table, caused the reduction mill main load. Reduction in mill velocity by reduced blocked area by increasing the nozzle area.	2023-24	Process	0.02	0.07	9218
9	Replacement of Old motors with IE3 grade	2022-24	Replacement	4.0	0.24	47904
10	Expert Control System (ECS) for Mills optimization is installed for Cement Mills (VRM, BALL MILL).	2022-24	Process	4.0	5.85	799505
11	Modification in rake loading circuit resulted reduction in loading time and equipment utilization increased	2023-24	Process	55	4.23	564166
12	Replacement of EMS System, better monitoring of PF, ideal running average load of the equipment etc.	2023-24	Replacement	3.0	Under Study	Under Study
13	Replacement of LED Lights	2023-24	Illumination	0.75	0.57	88137



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### 3. Energy Target setting & Planned Encon Project

Long Term Commitment to Reduce Energy & Road Map To Achieve Aspiration targets



Project Description	Investment (Million Rs.)	Proposed SEC Saving (Kwh/MT)	Section	Planned in Year
Replacement of Existing Air Conditioners with Highly Efficient & 5 Star Rating Air Conditioners	4.5	0.05	Utilities	2023-2024
Up gradation of Roller press hydraulic system & Replacement of Old Rollers	15.0	0.1	Ball Mill	2025-2026
Reduction in Ball Mill first chamber length by 0.5 meter.	6.0	0.5	Ball Mill	2024-2025
Increase in Ball mill speed from current 72.18% (15.5 rpm) to 76% (16.4 rpm)	6.0	Under Study (0.25 Kwh/T)	Ball Mill	2025-2026
Replacement of Roller Press Bucket Elevator to bucket elevator	8.0	0.26	Ball Mill	2024-2025
Procurement of Energy Efficient Compressor for Packing Plant	7.0	0.12	Packing plant	2024-2025
Replacement of old & inefficient LT motors with highly efficient motors of ball mill section	5.0	0.07	Overall	2024-2025
Strategic replacement of old wagon loading machine to improve the reliability	60.0	0.05	Packing plant	2024-2026
Installation of Additional Packer	160.0	0.05	Packing plant	2024-2025
Installation of VFD for wagon tippler and other dust collector fans	4.0	0.02	Overall	2024-2026
Ball Mill CA fan damper removal	0.01	0.01	Ball Mill	2024-2025



## Replacement of Conventional Lights with LED Lights



Material details	Qty	Present Watt/led	Existing watt / light	power saving in kw	Days used	Hours used ( 12 hours in a day)	Kwh Saving =( SAVING kw * used hours)	Saving in INR(per unit charges 6.5 Rs.)
FIXTURE LIGHT;LED STREET;240VAC;45W	30	45	100	1.65	167	2004	3307	21493
HAND LANTERN;LEDSC;24VAC;7-10W	28	10	10	0	193	2316	0	0
LIGHT;SPIKE;LED;230vac;6w;ALUMINIUM;50h>	11	6	12	0.066	293	3516	232	1508
LIGHT;TUBE;LED;230vac;20w;4 FT	45	20	40	0.9	394	4728	4255	27659
LIGHT FIXTURE;LED;230AC;18W	4	18	40	0.088	217	2604	229	1489
FIXTURE LIGHT;LED;230VAC;20W- 30W	16	35	70	0.56	248	2976	1667	10833
FITTING;LED TUBE LIGHT;4 FEET;19 WATT,	80	20	40	1.6	394	4728	7565	49171
LIGHT;SURFACE;LED;230VAC;11W	18	11	20	0.162	860	10320	1672	10867
FIXTURE LIGHT;LED;230VAC;50W	27	50	100	1.35	911	10932	14758	95928
FIXTURE LIGHT;LED FOOD LIGHT;230V;100-17	22	100	250	3.3	1179	14148	46688	303475
BULB;LED HIGH POWER;60W, BASE-E27	5	60	100	0.2	888	10656	2131	13853
FIXTURE LIGHT;LED WELL GLASS;240VAC;45W	253	45	70	6.325	73	876	5541	36015
FIXTURE LIGHT;LED FLOOD LIGHT;240VAC;100	17	100	250	2.55	3	36	92	597

Total Investment Made – 0.77 MINR  
 Electrical Energy saved in FY 23 – 0.08 Million Units  
 Saving in FY 23 – 0.57 MINR

## 5.1 Innovative Projects implemented

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### Lump Separator on feed belt



There was frequent jamming in the diverting gate in feed circuit.

Lump/stone used to get stuck in the chute causing feed stop to VRM mill. There are many instances water spray nozzles got damage, mill vibrations causing frequent breakdown in the VRM mill.

To overcome such nuisance stoppage there was urgent need to find the solution for removal of lumps/stones from the running belt.

A team was formed to study to eliminate the problem

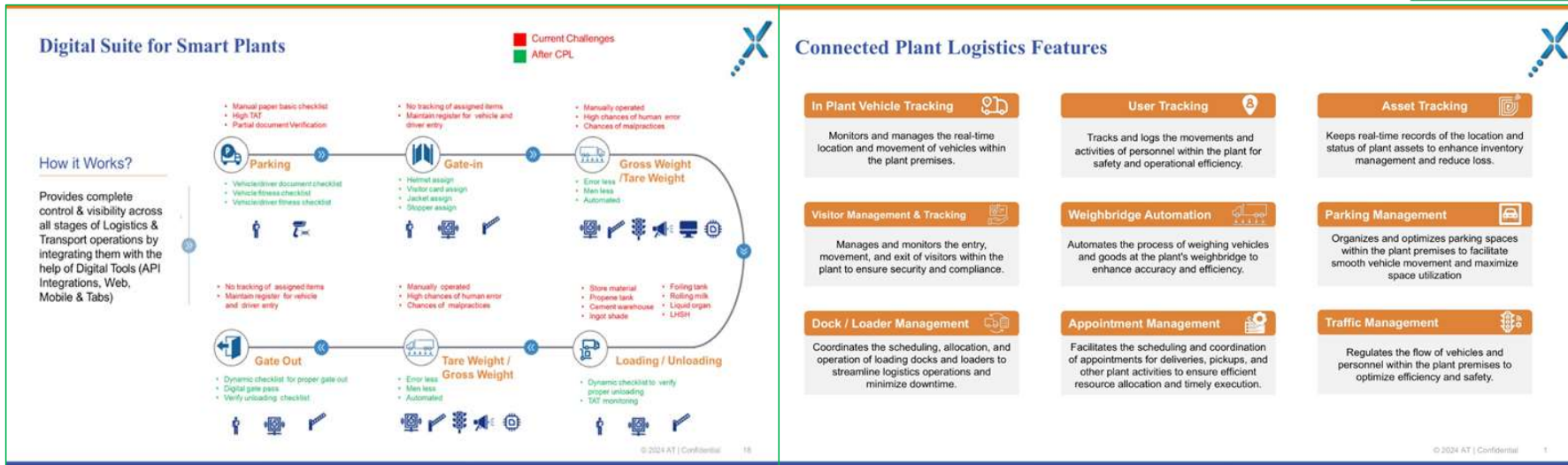
System Detail:- in house made rotor to push the lumps/stones out of the belt





## 5.2 Innovative Projects implemented

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CPL System (CPL – Connected Plant Logistics) is an application tool which facilitate the user through digitalization where every entry of truck route through online safety check where every safety KPIs recorded online.

### Salient features

- It has all the live sync with ULIP/Govt. portal about vehicle where active status of vehicle, RC, PUC, FITNESS etc. can be easily fetched.
- It gives privilege about past data tracking over the vehicle safety compliance/noncompliance
- It provides a list of scope for improvement where non-compliance happens i.e. PUC, vehicle safety check gap etc.
- Control the vehicle safety turnaround time about actual vs targeted etc.
- Live the driver ID where control over the action on driver blacklist on the part of safety non-compliance.

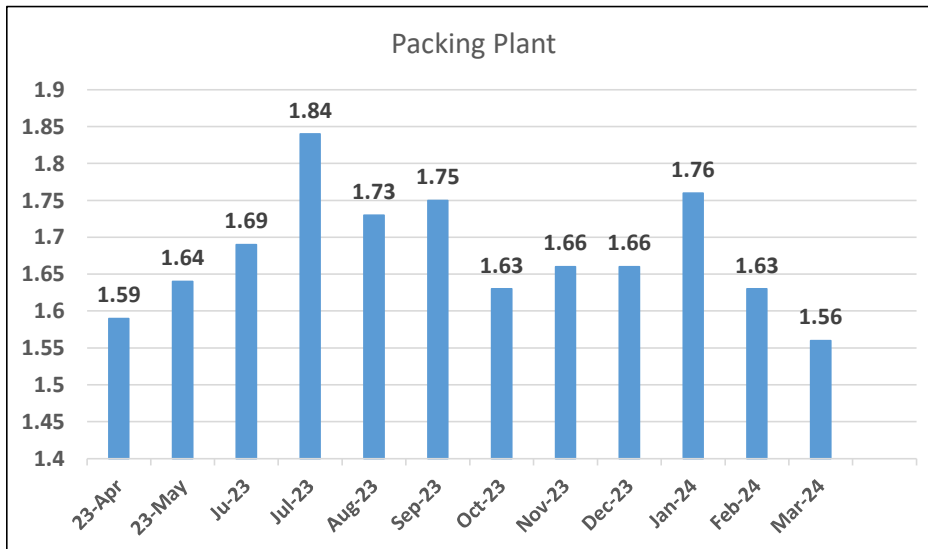
### Achievement

>250 trucks per day (100% compliance) where all data recorded online

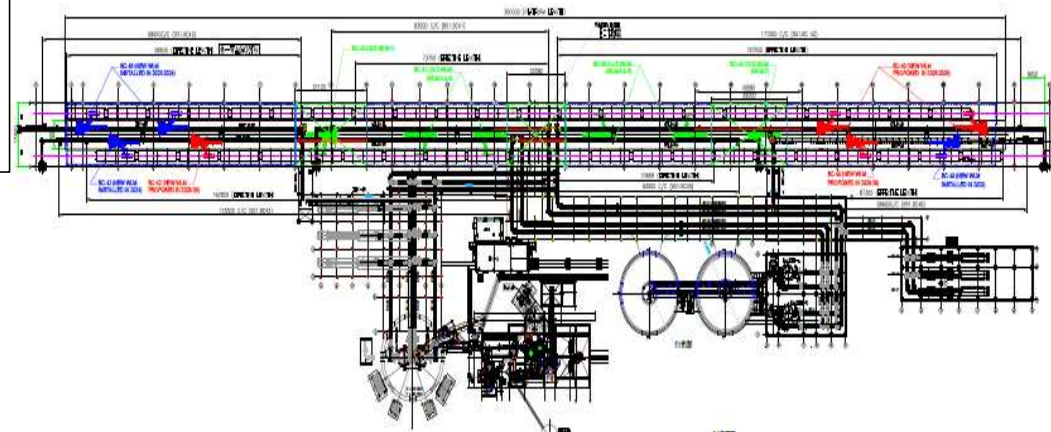
## Modification in rake loading circuit

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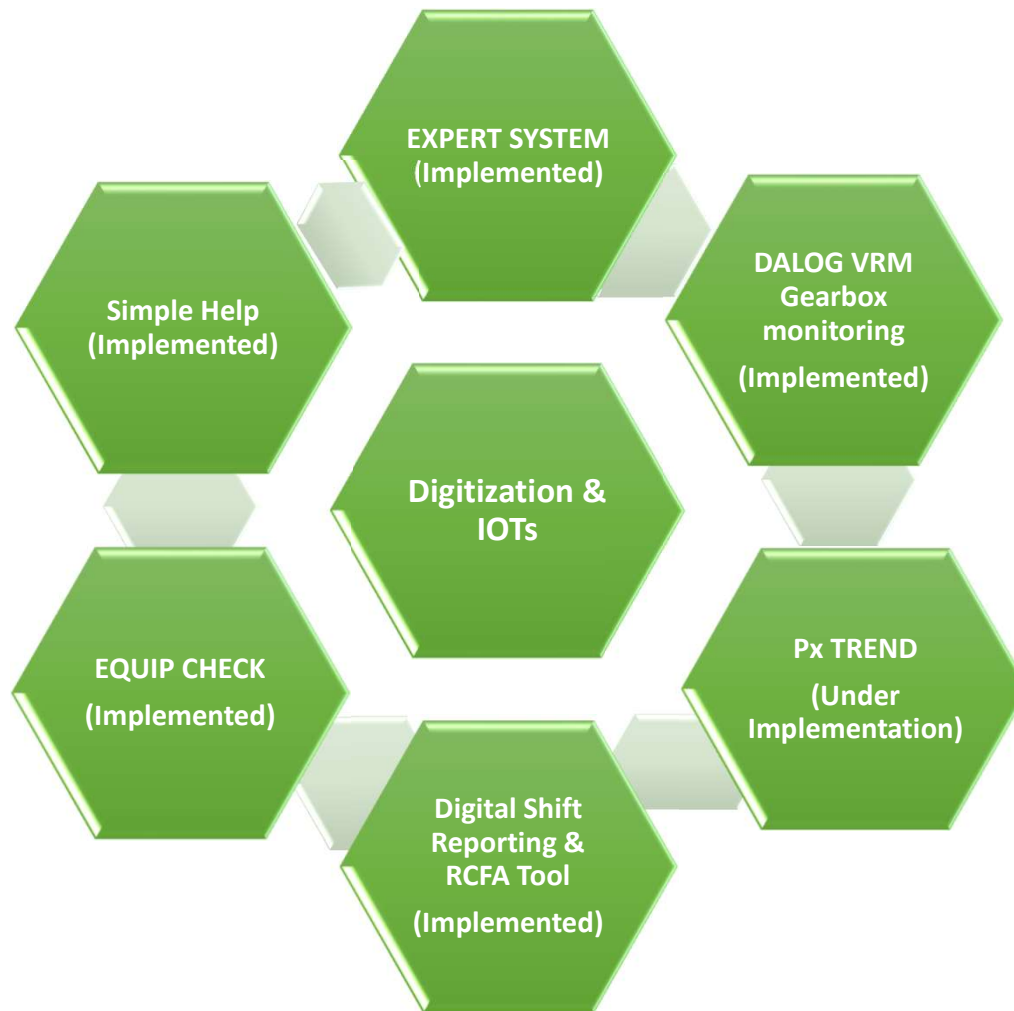
Modification done in rake loading circuit by adding 2 more nos additional wagon loaders and 6 nos belt conveyors. Resultant effective utilization of packers and SEC reduction of packing section after implementation of project since sep-2022-23-2WLM, 2023-24-2WLM



Total Investment Made – 55 MINR  
Electrical Energy saved in FY 23-24 – 0.56 Million Units  
Saving in FY 23 – 4.23 MINR



# Initiatives for Digitization & IOTs



# Installation of Expert System for Ball Mill & VRM



HC Group developed Expert Control System (ECS) for Mills optimization is installed for Cement Mills (VRM, BALL MILL). The basis for evaluation of savings at Jhansi is based on the results achieved through ECS by operating for Cement Mills. Once mill starts and after preconditions healthy and by selection ECS ON, expert control system will take over control of Mills in auto mode and execute the necessary corrective changes in system by observing real field signals.

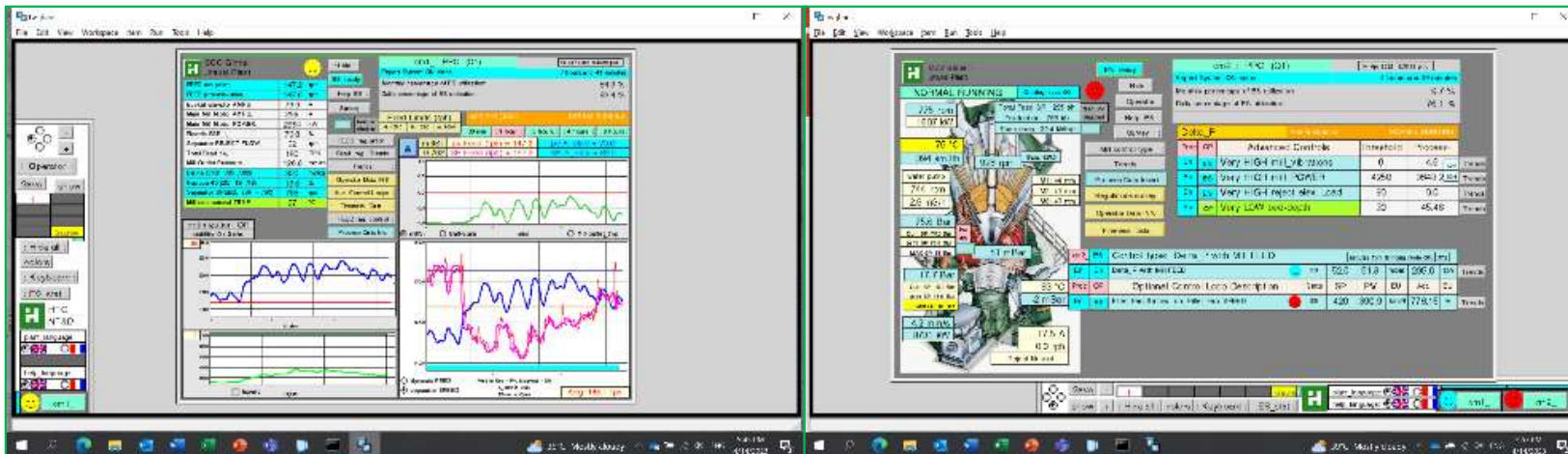
i.e., during operation of VRM if vibration increases **ECS takes corrective action by applies changes in mill feed, grinding pressure, Mill Differential pressure etc.**

**Earlier operation and control of mills (VRM, Ball Mill) was on operator discretion by the operator in control room..**

Expert control system implemented at HCIL Jhansi.

**Saving in Ball Mill – 0.329 Kwh/T**

**Saving in VRM – 0.25 Kwh/T**





## 6a. Utilisation of Renewable Energy sources

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- ❑ Solar PV Cell at various load centres, Solar Geyser in colony , Solar streetlights, Turbo Ventilators and Transparent sheets installed in the workshop, store, badminton court and other sheds in plant and colony.

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## 6a. Utilisation of Renewable Energy sources (Onsite)

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Sr No.	On site	FY	UOM	Renewable Energy Consumption	
				MWH	%
<b>On Site</b>					
1	Solar	2021-22	MWH	20	0.25
2	Solar	2022-23	MWH	18	0.23
3	Solar	2023-24	MWH	22	0.28

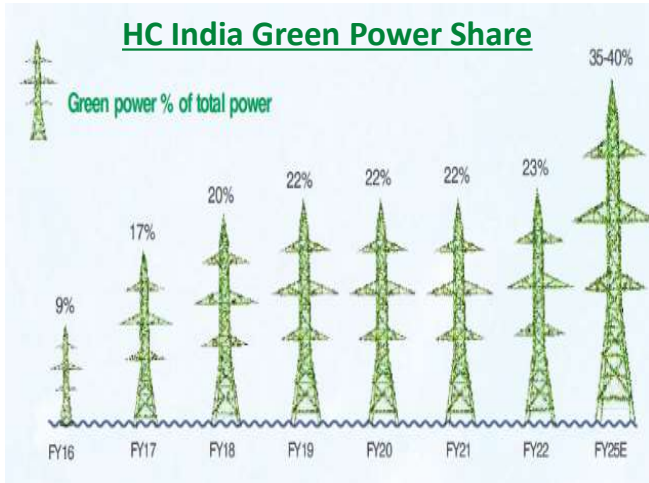


Sr. No.	Project Description	Status	Saving in Kwh per year	Saving in Kg of CO2 eq.
1	Installed 7.5 Kw Solar system at 5 locations	Completed	14600	11.97 Ton
2	Installed transparent sheets in plant building to use day light	Completed	11242	9.21 Ton
3	Installation of Turbo Ventilators ( 36 Nos.)	Completed	18000	14.76 Ton
4	Installation of 2 MW solar system	Under study	4500000	3690 Ton

## 6b. Utilisation of Renewable Energy sources (offsite)

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Sr No.	Technology	FY	UOM	Renewable Energy Consumption Million Units	%
<b>OFF Site</b>					
1	Solar (PPA 10.6 MW)	2022-23	Million kWh	23.29	33.21
2	Non-Solar RE (IEX)	2022-23	Million kWh	0.82	1.17
3	Solar (PPA 10.6 MW)	2023-24	Million kWh	22.08	27.65
4	Non-Solar RE (IEX)	2023-24	Million kWh	2.35	2.94



Green Power Share of Jhansi Unit –  
Approx 30-34% of Total HC India Green Power.

### New Renewable Energy Projects More power to Green

- Jhansi Plant - Solar Power**  
supply started under long term Power Purchase agreement for c.22 Gigawatt hours per annum
- Narsingarh plant through its Waste Heat Recovery Power Generation**  
Plant has been consistently operating with c.40% green power
- Ammasandra Plant - consistently operating > 90% Green power**

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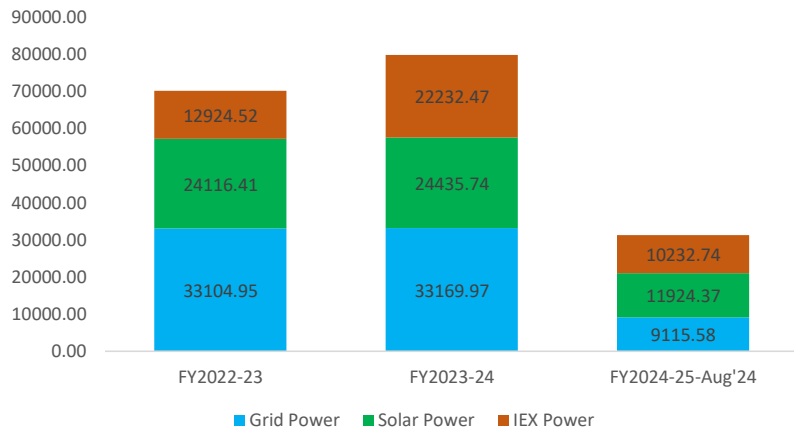
# Power Share of Grid Power, Solar Power & IEX Power

## Present use of Green Energy/Clean Energy -38% of Total Power

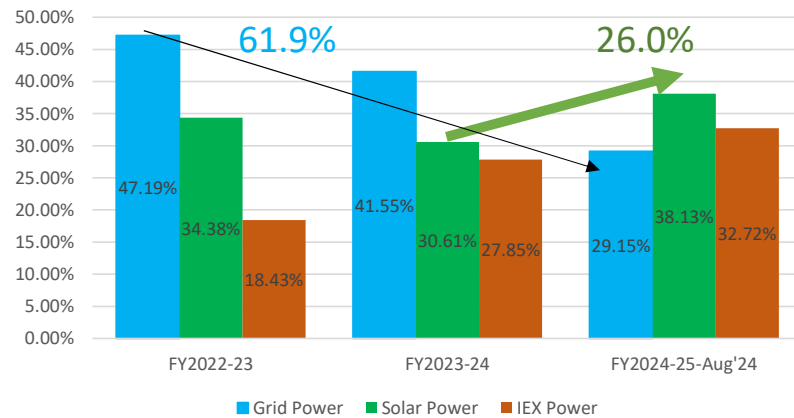
	Unit	FY2022-23	FY2023-24	FY2024-25-Aug'24	FY2022-23	FY2023-24	FY2024-25-Aug'24
<b>Total Power</b>	<b>MWh</b>	70145.88	79838.177	31272.69	100.00%	100.00%	100.00%
<b>Grid Power</b>	<b>MWh</b>	33104.95	33169.97	9115.58	47.19%	41.55%	29.15%
<b>Green power</b>	<b>MWh</b>	24116.41	24435.74	11924.37	34.38%	30.61%	38.13%
<b>IEX power</b>	<b>MWh</b>	12924.52	22232.47	10232.74	18.43%	27.85%	32.72%



Net Units



% Share of different source of Power





## 6b. RPO Compliance

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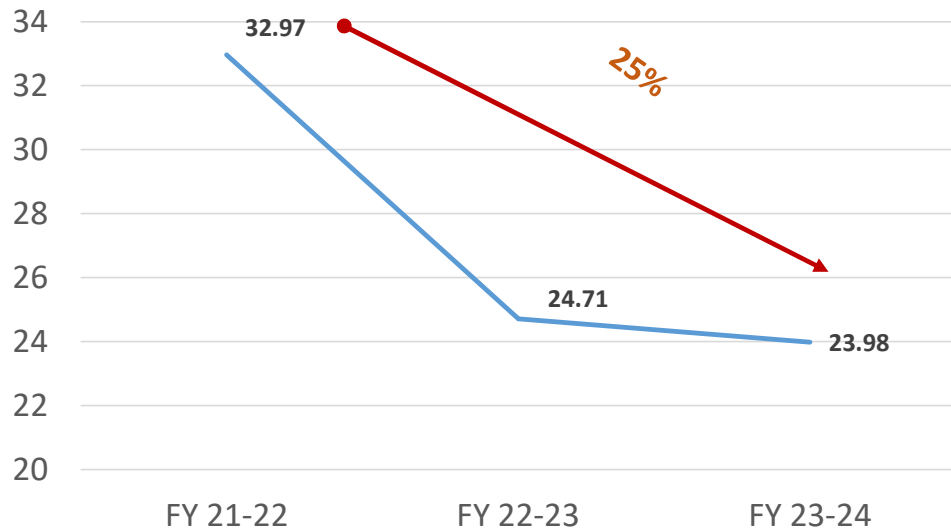
Compliance of Renewable Purchase Obligation				
RPO Details	Unit Of Measurement (UOM)	FY 2021-22	FY 2022-23	FY 2023-24
<b>Total Renewable Purchase Obligation</b>	%	<b>13</b>	<b>14</b>	<b>15</b>
Solar RPO Obligation	%	<b>4</b>	<b>5</b>	<b>5</b>
Non-Solar RPO Obligation	%	<b>6</b>	<b>6</b>	<b>7</b>
HPO Obligation	%	<b>3</b>	<b>3</b>	<b>3</b>
<b>Total Energy Requirement</b>	MU	<b>41.381</b>	<b>12.933</b>	<b>22.23</b>
<b>Total Renewable Purchase Obligation</b>	MU	5.380	1.811	3.3345
Solar RPO Obligation	MU	1.655	0.647	1.1115
Non-Solar RPO Obligation	MU	2.483	0.776	1.5561
HPO Obligation	MU	1.241	0.388	0.6669
Solar RPO met	MU	3.020	23.683	22.080
Non-Solar RPO met	MU	5.480	0.745	2.204
HPOMet	MU	0.000	0.000	0.173
<b>Solar-REC purchase for the Year</b>		<b>-3.120</b>	<b>-22.617</b>	<b>-21.122</b>

- 100 % RPO (Renewable Purchase Obligation) Complied as per UPERC Promotion of Green Energy through Renewable Purchase Obligation Regulations, 2010 by Purchase of Renewable Energy Certificates (RECs) and purchase of Solar/ Non-solar RE Power through STOA(Short term open access)/LTOA(Long term open access).



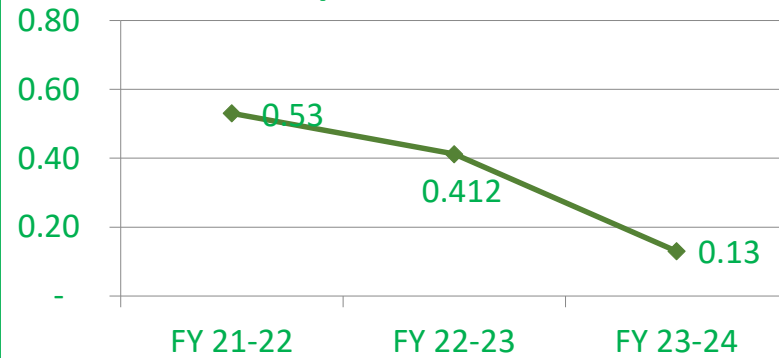
## 7. GHG Emission Intensity Reduction Scope 1, 2 & 3

GHG Emission Reduction (Kg CO<sub>2</sub>/T of Cement)  
Scope 1,2&3

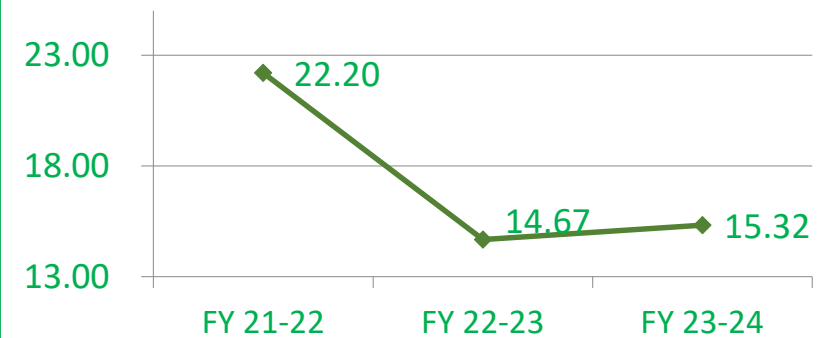


**34% Reduction for scope 2 emission by maximizing green power share**

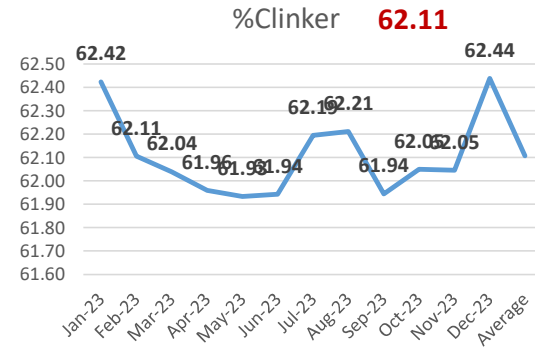
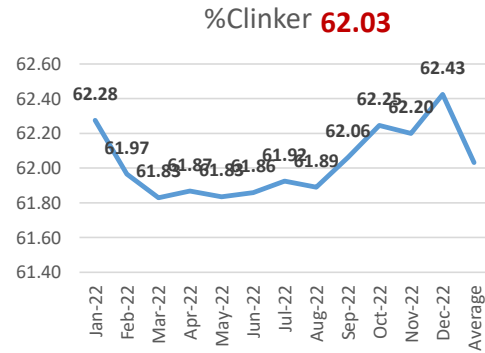
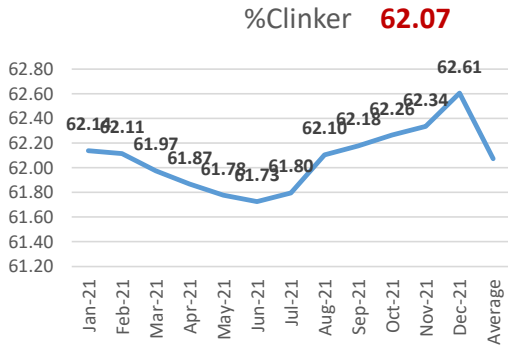
Scope 1 Emission



Scope 2 Emission



# 7. Clinker factor & GHG emission reduction and action plan



HeidelbergCement India limited currently stands at a CO2 emission of **513Kg/tonne** of cement as against Indian Cement Industry averaging around 580kg/tonne of cement. **Our target is to reduce the same to below 494kg/tonne of cement by 2030.** The target set forth would be achieved by increasing our focus on energy efficiency, reduction in specific energy consumption, increasing our share of renewable energy, etc

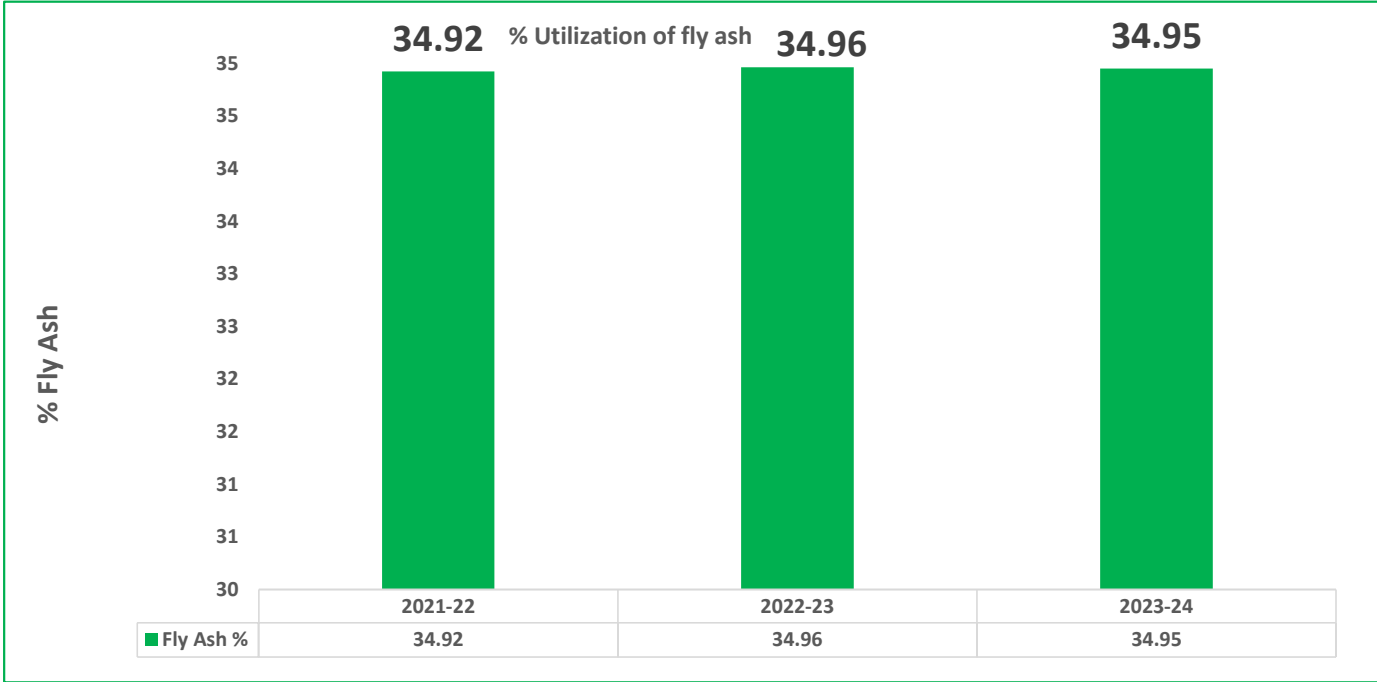
### Reducing our Environmental Footprint



We are committed to fulfilling our share of the global responsibility to keep temperature rise below 2°C, and we will continue to reduce our impacts on air, land and water." Replicating the same at our plants, we have set a target "To achieve 2°C lower ambient temperature in our plants compared to that prevailing a Km away". Against the same we have already achieved a difference of 1.2°C.



# 7. Maximum Percentage Utilization of Fly-Ash

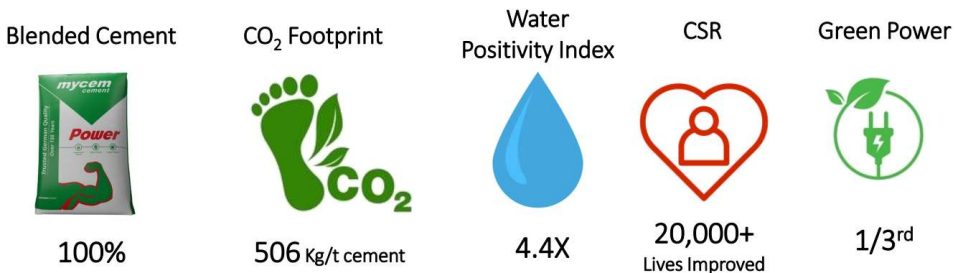


# Major Achievement by HC India & Jhansi Unit for Sustainability



ENVIRONMENTAL, SOCIAL AND GOVERNANCE

## ESG Overview

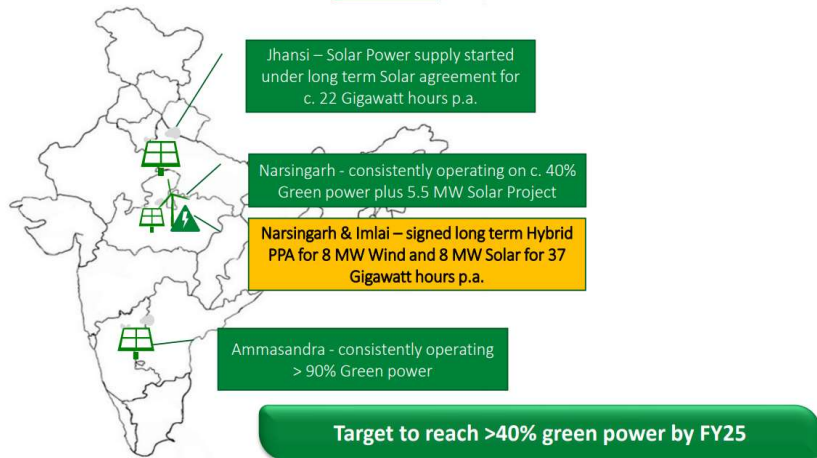


- ❑ HC India has share of 100% Blended Cement.
- ❑ Current CO<sub>2</sub> Footprint of HC India – 506 Kg/t Cement.
- ❑ HC India 4.4 X Water Positive.
- ❑ More than 1/3<sup>rd</sup> of Green Power Share.
- ❑ HC India Plants have a target to achieve 2°C lower temp within our plant as compared to 1 KM away, Jhansi unit achieved 2.2°C temp difference.
- ❑ HC India has proudly achieved the milestone of planting more than 100,000 Trees and registered on HC India’s website [hcfriendsofearth.com](http://hcfriendsofearth.com)



ENVIRONMENTAL, SOCIAL AND GOVERNANCE

## New Hybrid renewable energy projects will further increase green power share



www.hcfriendsofearth.com

Let's Grow Together

HeidelbergCement India has proudly achieved the milestone of planting **100,000+** Trees\* and growing...

Thanks to everyone in the **friends of Earth** community who contributed to achieve this milestone!

mycem GROUP

HeidelbergCement India Limited | Mar'2020 | Presentation | 28 May 2022

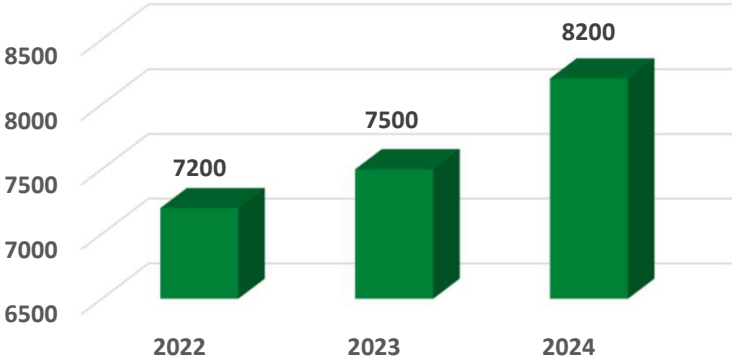
HEIDELBERGCEMENT INDIA



# Carbon Neutral Approach



Number of Trees planted in Plant premises



■ Number of Trees planted in Plant premises

- ❑ Many Trees planted in nearby Village to reduce carbon footprint.
- ❑ Mass Tree Plantation Near Technical Office and other locations of plant.
- ❑ Miyawaki Forest development in Plant on Van Mahotsav.
- ❑ Survival rate > 90%



## Carbon Neutral Approach

HEIDELBERGCEMENT



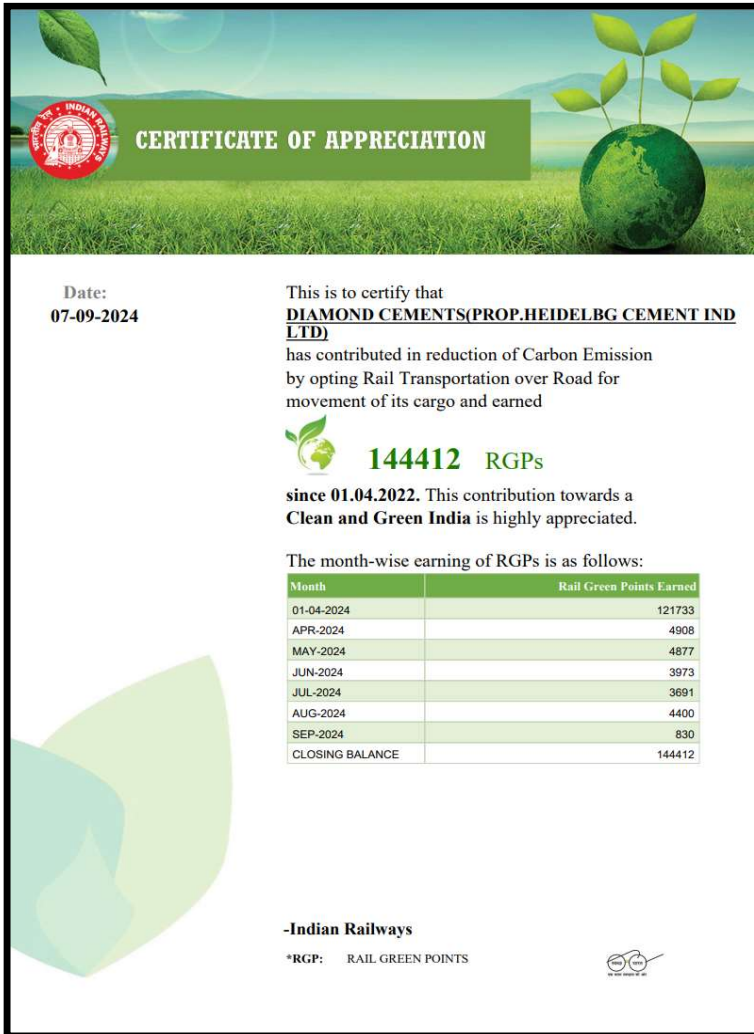
- ❑ Plantation of trees near technical office and various locations in plant & Colony
- ❑ Total number of trees Planted in 2022: **7200**
- ❑ Total number of trees Planted in 2023: **7500**
- ❑ Total number of trees Planted in 2023: **8200**
- ❑ Green area: > **35%**
- ❑ Our Unit is 2.2° C cooler than 1 km away from plant and the target is 2.0° C.

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INDIA



## Rail Green Points(RGPs)

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Indian Railway has started to provide Rail Green Points (RGPs) to encourage rail transportation over road since April - 2022.

1 RGP – 1 Ton of CO<sub>2</sub> saving.

HC Jhansi Unit has earned **144412 RGPs** since **April-2022** and has received Certificate of Appreciation for contribution towards reduction of Carbon Emission.

Emission Factor (kgCO<sub>2</sub>/ton-km) :-

Rail – 0.009

Road – 0.040



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## Awareness for Reducing Energy Consumption & Sustainability Targets

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- Awareness by Senior Management (MD & DT) for sustainability Targets & Achievement of the company.
- Plant Head addresses team to increase awareness towards reduction in energy consumption.
- Monthly prizes for Best Energy Saving Ideas/ Best Practices.
- Daily, Weekly, Monthly Review to track Energy KPIs chaired by Plant Head.

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## Awareness for Reducing Energy Consumption

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No vehicle week celebrated during National Energy Conservation Week for colony resident.

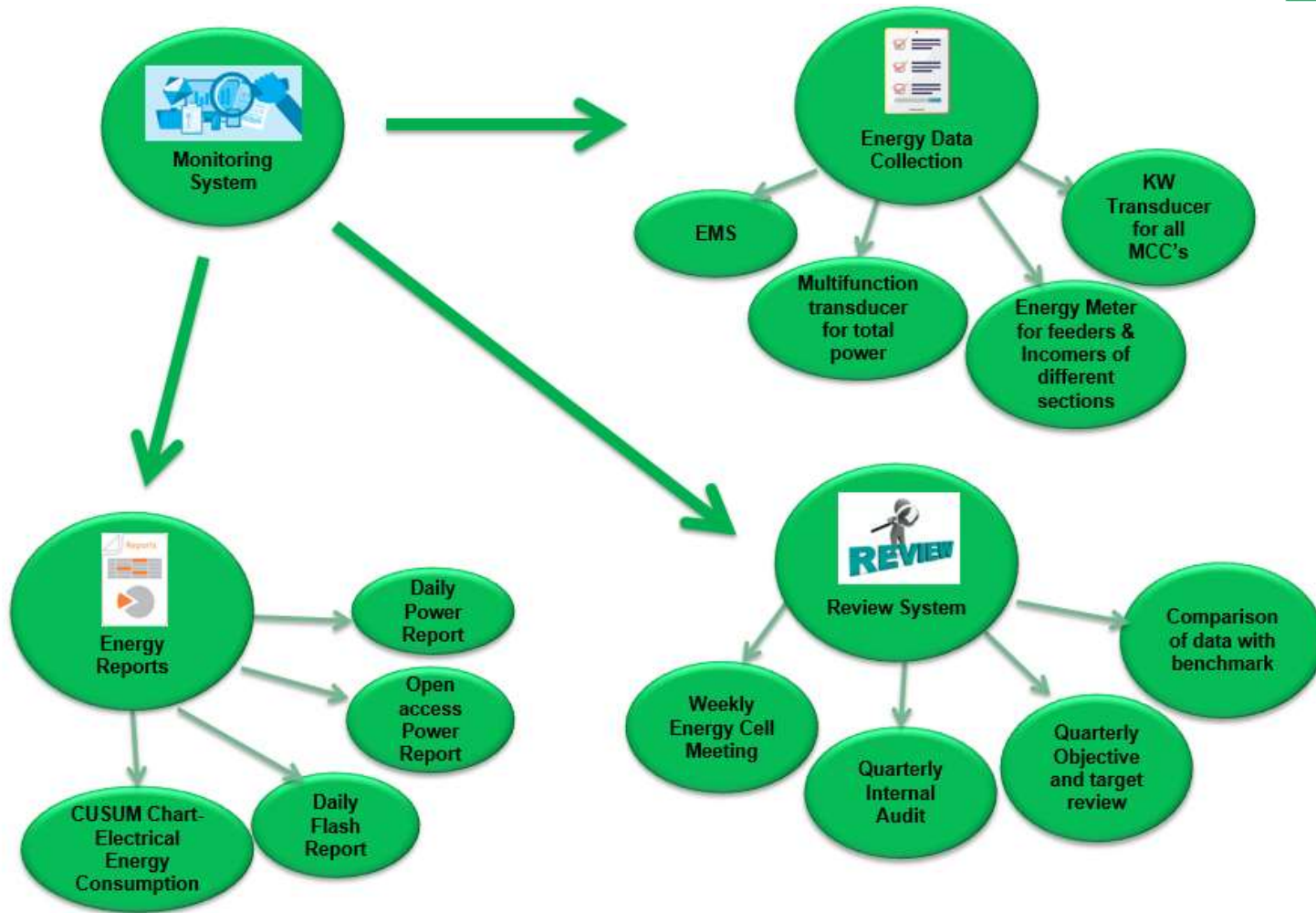
Training on Energy Efficiency in cement grinding unit and latest technology absorption

HCIL Jhansi Unit has joined the Biggest Hour for Earth by participating in this global "lights out event" by switching off the non-essential lighting fixtures and electrical appliances





# 8. Energy Monitoring System



## 8. Energy Target setting & Energy Monitoring System & Review



- ❑ Short term & long - term goals which are Specific, measurable, assignable and realistic
- ❑ Annual specific energy targets (best power achieved and energy Project considered) for the specific year.
- ❑ Long term ( 3 to 5 year ) targets are being set based on Capital expenses plan for the coming years, statutory guidelines for environment , availability of raw material, process related change etc.

Description	Frequency	Mar-24																		
		1-Mar	2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mar	9-Mar	10-Mar									
Review of Energy Consumption/Flash Report to All Senior Management	Daily	GRINDING UNITS - PPC	Meas Points	Mesuring Points name																
		HT (Ball Mill)	103143	HT CM-1	- Kwh	62910	63120	63040	62710	36710	21840	61770	63100	62430	62470					
		HT (R Press)	103144	HT- RP	- Kwh	5150	5450	5600	5640	3330	1760	5480	5410	5780	5730					
		LT ( BM)	103136	LT-CM1	- Kwh	20230	17820	19160	19980	11810	7190	19270	20380	18110	17360					
		HT ( VRM)	103145	HT-CM-2(VRM)	- Kwh	30090	27550	97130	96640	34240	0	51380	97490	98220	99590					
		HT ( BH)	103147	HT-BAG HOUSE FAN \	- Kwh	14140	13890	43280	42820	14460	0	24490	42770	43300	44050					
		LT ( VRM)	103137	LT-CM2(VRM)	- Kwh	11110	14180	22780	27370	14350	8410	16640	26520	24610	23570					
		Total Ball Mill			- Kwh	88290	88390	87800	88330	51850	30790	86520	88890	86320	85560					
		Total VRM			- Kwh	55340	55620	163190	166830	63050	8410	92510	166780	166130	167210					
		Raw material ( Ball Mill)	103142	RMATERIAL CM-1	- Kwh	940	950	1030	1020	770	560	1020	980	1010	1020					
Raw material ( VRM)	103148	RMATERIAL-CM-2(VRM)	- Kwh	5770	4240	4050	4650	4220	3500	1480	5620	4810	5950							
Section wise review of energy consumption with team & Reason for deviations	Weekly	Total Grinding Units BM		- Kwh	91180	89300	90790	91310	53750	32050	89460	91830	89290	88540						
		Total Grinding Units VRM		- Kwh	62040	60920	170380	174640	68300	12650	95730	174600	173090	175320						
		Production BM-PPC		M.T.	3562	3751	3757	3820	2213	1371	3747	3829	3845	3841						
		Production VRM		M.T.	1981	2378	7039	7079	2330	0	3923	7117	7114	7118						
		Unit Per Ton Ball Mill-PPC		Kwh/t	25.60	23.81	24.17	23.90	24.29	23.38	23.88	23.98	23.22	23.05						
Units per Ton VRM		Kwh/t	31.32	25.62	24.21	24.67	29.31	0.00	24.40	24.53	24.33	24.63								
Plant Head Review meeting for On track & Off-Track Energy KPIs	Weekly	HEIDELBERG CEMENT INDIA LIMITED JHANSI UNIT Operating Plan 2023 (month wise)																		
		PARTICULARS		Jan-23	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec-23	OP-2023 YTD	2024 12 Months	2025 12 Months		
		Power																		
		Power-Cement Grinding																		
		PPC-Ball Mill	Kwh/t	25.40	25.40	25.40	25.40	25.40	25.40	25.60	25.60	25.40	25.40	25.40	25.40	25.45	25.45	25.45		
		PPC-VRM	"	25.65	25.65	25.65	25.60	25.60	25.60	25.70	25.70	25.60	25.60	25.65	25.65	25.65	25.65	25.65		
		Avg	"	25.56	25.56	25.55	25.51	25.53	25.53	25.67	25.66	25.66	25.53	25.56	25.56	25.57	25.58	25.58		
		Power-Cement Packing																		
		-Packing-ball Mill	Kwh/t	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78		
		-Packing-VRM	"	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78	1.78		
Auxiliary																				
-Auxiliary-Ball Mill	Kwh/t	0.90	0.73	0.69	0.69	0.78	0.68	0.83	0.84	0.75	0.81	0.80	0.68	0.76	0.76	0.76				
-Auxiliary-VRM	"	0.52	0.42	0.45	0.52	0.44	0.38	0.44	0.49	0.42	0.46	0.45	0.39	0.44	0.44	0.44				
-Auxiliary-avg.	"	0.66	0.53	0.54	0.59	0.56	0.49	0.58	0.62	0.53	0.59	0.57	0.50	0.56	0.56	0.56				
Total Power		28.00	27.87	27.87	27.88	27.87	27.80	28.03	28.06	27.97	27.90	27.91	27.91	27.91	27.92	27.92				
VRM Fuel -Consumption	Ltr	5,117	5,791	5,909	4,954	6,045	16,797	15,056	13,739	15,522	4,340	4,331	5,089	102,688	108,849	115,380				
-Per ton of Cement	Ltr/t	0.04	0.04	0.04	0.04	0.04	0.10	0.10	0.10	0.10	0.03	0.03	0.03	0.06	0.06	0.06				

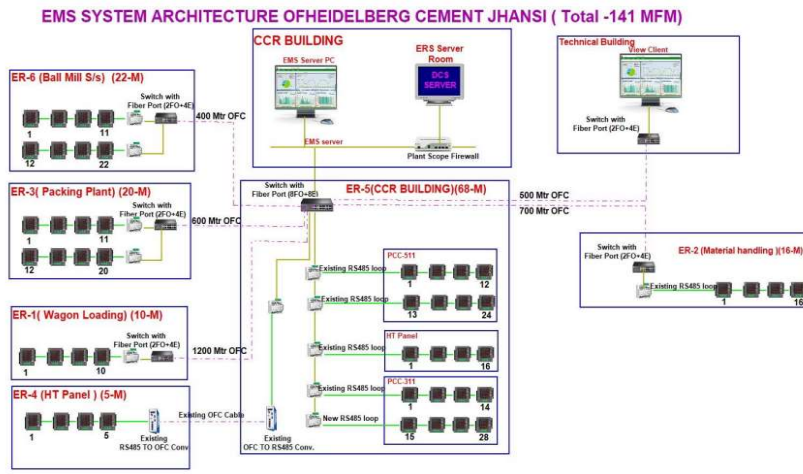




## 8. Energy Target setting & Energy Monitoring System & Review



### SYSTEM ARCHITECTURE



### METER COMMUNICATION STATUS

ER-1 WAGON TIPPULAR	ER-2 MATERIAL HANDLING	ER-3 PACKING PLANT	ER-4 SWITCHYARD I.C. MESS	ER-5 HT PANELS	ER-6 BALLMILL SUBSTATION
MEM1, ER2, MEM2, ER3, MEM3, ER4, MEM4, ER5, MEM5, ER6, MEM6, ER7, MEM7, ER8, MEM8, ER9, MEM9, ER10, MEM10, ER11, MEM11, ER12, MEM12, ER13, MEM13, ER14, MEM14, ER15, MEM15, ER16, MEM16, ER17, MEM17, ER18, MEM18, ER19, MEM19, ER20, MEM20, ER21, MEM21, ER22, MEM22, ER23, MEM23, ER24, MEM24, ER25, MEM25, ER26, MEM26, ER27, MEM27, ER28, MEM28, ER29, MEM29, ER30, MEM30, ER31, MEM31, ER32, MEM32, ER33, MEM33, ER34, MEM34, ER35, MEM35, ER36, MEM36, ER37, MEM37, ER38, MEM38, ER39, MEM39, ER40, MEM40, ER41, MEM41, ER42, MEM42, ER43, MEM43, ER44, MEM44, ER45, MEM45, ER46, MEM46, ER47, MEM47, ER48, MEM48, ER49, MEM49, ER50, MEM50, ER51, MEM51, ER52, MEM52, ER53, MEM53, ER54, MEM54, ER55, MEM55, ER56, MEM56, ER57, MEM57, ER58, MEM58, ER59, MEM59, ER60, MEM60, ER61, MEM61, ER62, MEM62, ER63, MEM63, ER64, MEM64, ER65, MEM65, ER66, MEM66, ER67, MEM67, ER68, MEM68, ER69, MEM69, ER70, MEM70, ER71, MEM71, ER72, MEM72, ER73, MEM73, ER74, MEM74, ER75, MEM75, ER76, MEM76, ER77, MEM77, ER78, MEM78, ER79, MEM79, ER80, MEM80, ER81, MEM81, ER82, MEM82, ER83, MEM83, ER84, MEM84, ER85, MEM85, ER86, MEM86, ER87, MEM87, ER88, MEM88, ER89, MEM89, ER90, MEM90, ER91, MEM91, ER92, MEM92, ER93, MEM93, ER94, MEM94, ER95, MEM95, ER96, MEM96, ER97, MEM97, ER98, MEM98, ER99, MEM99, ER100, MEM100	CM1, CM2, CM3, CM4, CM5, CM6, CM7, CM8, CM9, CM10, CM11, CM12, CM13, CM14, CM15, CM16, CM17, CM18, CM19, CM20, CM21, CM22, CM23, CM24, CM25, CM26, CM27, CM28, CM29, CM30, CM31, CM32, CM33, CM34, CM35, CM36, CM37, CM38, CM39, CM40, CM41, CM42, CM43, CM44, CM45, CM46, CM47, CM48, CM49, CM50, CM51, CM52, CM53, CM54, CM55, CM56, CM57, CM58, CM59, CM60, CM61, CM62, CM63, CM64, CM65, CM66, CM67, CM68, CM69, CM70, CM71, CM72, CM73, CM74, CM75, CM76, CM77, CM78, CM79, CM80, CM81, CM82, CM83, CM84, CM85, CM86, CM87, CM88, CM89, CM90, CM91, CM92, CM93, CM94, CM95, CM96, CM97, CM98, CM99, CM100	PP1, PP2, PP3, PP4, PP5, PP6, PP7, PP8, PP9, PP10, PP11, PP12, PP13, PP14, PP15, PP16, PP17, PP18, PP19, PP20, PP21, PP22, PP23, PP24, PP25, PP26, PP27, PP28, PP29, PP30, PP31, PP32, PP33, PP34, PP35, PP36, PP37, PP38, PP39, PP40, PP41, PP42, PP43, PP44, PP45, PP46, PP47, PP48, PP49, PP50, PP51, PP52, PP53, PP54, PP55, PP56, PP57, PP58, PP59, PP60, PP61, PP62, PP63, PP64, PP65, PP66, PP67, PP68, PP69, PP70, PP71, PP72, PP73, PP74, PP75, PP76, PP77, PP78, PP79, PP80, PP81, PP82, PP83, PP84, PP85, PP86, PP87, PP88, PP89, PP90, PP91, PP92, PP93, PP94, PP95, PP96, PP97, PP98, PP99, PP100	MEM1, MEM2, MEM3, MEM4, MEM5, MEM6, MEM7, MEM8, MEM9, MEM10, MEM11, MEM12, MEM13, MEM14, MEM15, MEM16, MEM17, MEM18, MEM19, MEM20, MEM21, MEM22, MEM23, MEM24, MEM25, MEM26, MEM27, MEM28, MEM29, MEM30, MEM31, MEM32, MEM33, MEM34, MEM35, MEM36, MEM37, MEM38, MEM39, MEM40, MEM41, MEM42, MEM43, MEM44, MEM45, MEM46, MEM47, MEM48, MEM49, MEM50, MEM51, MEM52, MEM53, MEM54, MEM55, MEM56, MEM57, MEM58, MEM59, MEM60, MEM61, MEM62, MEM63, MEM64, MEM65, MEM66, MEM67, MEM68, MEM69, MEM70, MEM71, MEM72, MEM73, MEM74, MEM75, MEM76, MEM77, MEM78, MEM79, MEM80, MEM81, MEM82, MEM83, MEM84, MEM85, MEM86, MEM87, MEM88, MEM89, MEM90, MEM91, MEM92, MEM93, MEM94, MEM95, MEM96, MEM97, MEM98, MEM99, MEM100	MEM1, MEM2, MEM3, MEM4, MEM5, MEM6, MEM7, MEM8, MEM9, MEM10, MEM11, MEM12, MEM13, MEM14, MEM15, MEM16, MEM17, MEM18, MEM19, MEM20, MEM21, MEM22, MEM23, MEM24, MEM25, MEM26, MEM27, MEM28, MEM29, MEM30, MEM31, MEM32, MEM33, MEM34, MEM35, MEM36, MEM37, MEM38, MEM39, MEM40, MEM41, MEM42, MEM43, MEM44, MEM45, MEM46, MEM47, MEM48, MEM49, MEM50, MEM51, MEM52, MEM53, MEM54, MEM55, MEM56, MEM57, MEM58, MEM59, MEM60, MEM61, MEM62, MEM63, MEM64, MEM65, MEM66, MEM67, MEM68, MEM69, MEM70, MEM71, MEM72, MEM73, MEM74, MEM75, MEM76, MEM77, MEM78, MEM79, MEM80, MEM81, MEM82, MEM83, MEM84, MEM85, MEM86, MEM87, MEM88, MEM89, MEM90, MEM91, MEM92, MEM93, MEM94, MEM95, MEM96, MEM97, MEM98, MEM99, MEM100	MEM1, MEM2, MEM3, MEM4, MEM5, MEM6, MEM7, MEM8, MEM9, MEM10, MEM11, MEM12, MEM13, MEM14, MEM15, MEM16, MEM17, MEM18, MEM19, MEM20, MEM21, MEM22, MEM23, MEM24, MEM25, MEM26, MEM27, MEM28, MEM29, MEM30, MEM31, MEM32, MEM33, MEM34, MEM35, MEM36, MEM37, MEM38, MEM39, MEM40, MEM41, MEM42, MEM43, MEM44, MEM45, MEM46, MEM47, MEM48, MEM49, MEM50, MEM51, MEM52, MEM53, MEM54, MEM55, MEM56, MEM57, MEM58, MEM59, MEM60, MEM61, MEM62, MEM63, MEM64, MEM65, MEM66, MEM67, MEM68, MEM69, MEM70, MEM71, MEM72, MEM73, MEM74, MEM75, MEM76, MEM77, MEM78, MEM79, MEM80, MEM81, MEM82, MEM83, MEM84, MEM85, MEM86, MEM87, MEM88, MEM89, MEM90, MEM91, MEM92, MEM93, MEM94, MEM95, MEM96, MEM97, MEM98, MEM99, MEM100



### PLANT SUMMARY

**TODAY'S CONSUMPTION: 121452 KWH**

**PLANT LOAD (132KV): 8674 KW**

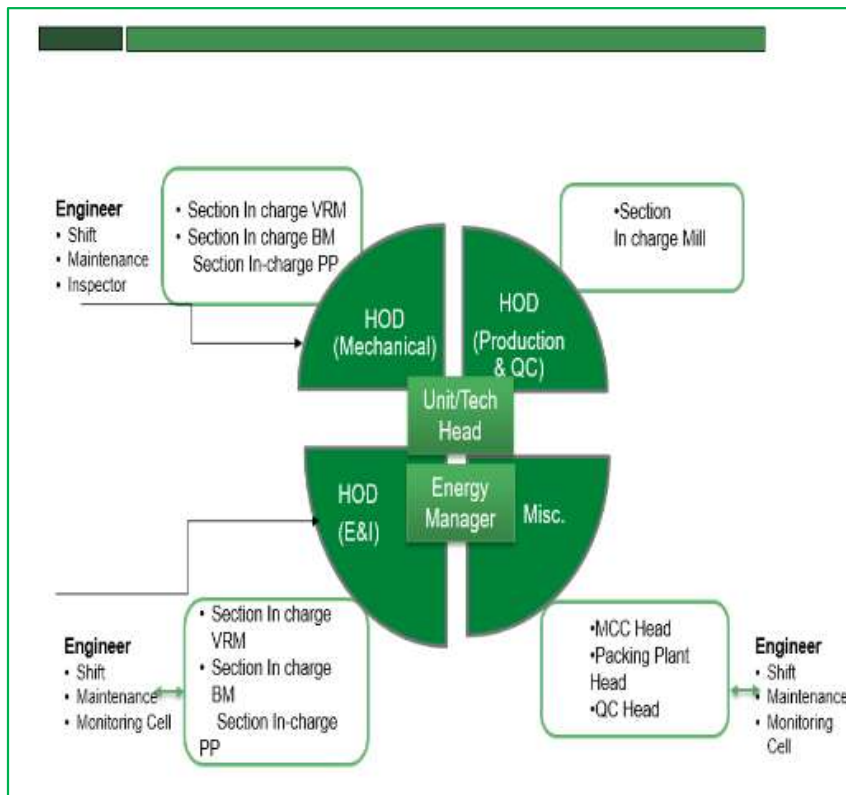
**LOSSES: 340 KW**

BALL MILL				VRM			
FEEDER	KW	PF	CURRENT VOLTAGE	FEEDER	KW	PF	CURRENT VOLTAGE
INCOMER	296.35	0.956	26.98   6660.31	INCOMER	8330	0.985	738.30   6620
CA FAN	2	0.406	0.50   6620	MAIN DRIVE	3785.24	0.830	396.72   6638.19
CM-1	0	0.000	0.00   6650	BAG HOUSE	1892.69	0.901	168.03   6633.33
CM-2	0	0.000	0.00   6660	CLASSIFIER	86	0.949	7.93   6630
RP-1	0	0.000	0.00   6660	2.5MVA TRAF0	1036	0.953	94.60   6640
RP-2	0	0.000	0.00   6650	PCC-51 INCOMER	1019	0.962	1469.77   415
LT INCOMER-1	0	0.000	0.00   433	COMP-10	0.00	-nan(ind)	0.00   0.00
LT INCOMER-2	289	1.979	404.70   421	COMP-20	0.00	0.001	0.00   41.49
				COMP-30	0.00	0.001	0.00   41.48
				COMP-40	0.00	-nan(ind)	0.00   0.00
				OG MAT. HANDLING	698	0.928	65.73   6620
				MCC-511	0.00	0.001	0.00   41.49
				MCC-512	8.98	0.001	19.70   41.46
				MCC-513	100.04	0.700	198.27   414.91
				MCC-514	38	0.515	104.27   414
				MCC-515	30	0.390	109.47   415
				MCC-516	121	0.814	207.40   415

There are 150 meters are connected on the network, Realtime data is monitored and logged and stored for better diagnostic and analytic purpose.

## 8. Plant Energy Committee & Energy Policy

HEIDELBERGCEMENT



safe work healthy life HEIDELBERGCEMENT

### Integrated Management System Policy

We, at Heidelberg Cement are fully committed towards customer satisfaction, environmental protection, providing healthy & safe work environment, energy conservation, and social responsibility to all concerned and therefore put our best efforts to:

- Produce quality cements that exceed statutory standards and customer expectations and promote use of environment friendly construction products & solutions.
- Deploy energy efficient & eco-friendly technologies, products, services and designs for energy efficiency and performance improvement.
- Contain pollution with increased emphasis on repair, recycle and reuse.
- Proactively address water sustainability issues by minimizing its water footprint.
- Maintain desired water quality during processes and discharges, if any.
- Comply with all applicable legal, social, energy efficiency, energy performance and other stake holder's obligations.
- Conform to the requirements related to Corporate Social Responsibility following the Principles and Guidelines.
- Train human capital with a view to upgrade their skills in all areas including safety.
- Regularly set and review objectives and targets for continuous improvement in areas of quality, productivity, work environment, health & safety performance, energy performance and evaluating voluntary initiatives for social responsibility.
- Ensure availability of necessary resources and relevant information to achieve Objectives and Targets.
- Prevent occupational injuries and ill health, by eliminating hazards and reducing OH&S risks.
- Promote consultative management practices by involving workmen.

This policy has been communicated to all the employees and is available to the public and interested parties on demand.

*[Signature]*  
Managing Director

Date: 26.06.2024



- Policies and program to create awareness towards energy conservation
- Collection of Innovative ideas from all level of workforce through idea generation
- Investment in energy conservation projects
- Continuous EnPI monitoring with Benchmark data.



## 8. ISO Certificates



- ❑ Certified to ISO 50001 – ENERGY MANAGEMENT
- ❑ External & Internal Yearly audit from Certified agencies ( TUV ) & trained auditors



<p><b>CERTIFICATE</b></p> <p>The Certification Body of TÜV SÜD South Asia Private Limited certifies that</p> <p><b>HEIDELBERGCEMENT</b> Diamond Cements Village: Madona, P.O. Barabha Kalan, Baragaon, Jhansi-Kanpur Highway, District: Jhansi - 284121, Uttar Pradesh, India</p> <p>has implemented Energy Management System in accordance with ISO 50001:2011 for the scope of</p> <p>Grinding and dispatch of Cement</p> <p>The certificate is valid in conjunction with the main certificate from 2022-03-01 until 2026-02-28</p> <p>Subject to successful completion of annual periodic audits</p> <p>The present status of the certificate can be obtained through TÜV SÜD website by scanning QR code and by entering the certificate number/certification no. on web page. Further certificate regarding the status &amp; scope of the certificate may be obtained by contacting the certification body at <a href="mailto:info@tuev.com">info@tuev.com</a></p> <p>Certificate Registration No. 99 110 9004784 Date of initial certification: 2019-05-02 Issue Date: 2021-05-21 Rev. 03</p>	<p><b>CERTIFICATE</b></p> <p>The Certification Body of TÜV SÜD South Asia Private Limited certifies that</p> <p><b>HEIDELBERGCEMENT</b> Diamond Cements Village: Madona, P.O. Barabha Kalan, Baragaon, Jhansi-Kanpur Highway, District: Jhansi - 284121, Uttar Pradesh, INDIA</p> <p>has implemented a Quality Management System in accordance with ISO 9001:2015 For Scope of</p> <p>Grinding and dispatch of cement</p> <p>The certificate is valid in conjunction with the main certificate from 2018-10-23 until 2021-09-13</p> <p>Subject to successful completion of annual periodic audits</p> <p>The present status of the certificate can be obtained through TÜV SÜD website by scanning QR code and by entering the certificate number/certification no. on web page. Further certificate regarding the status &amp; scope of the certificate may be obtained by contacting the certification body at <a href="mailto:info@tuev.com">info@tuev.com</a></p> <p>Certificate Registration No. 99 111 1811374 Date of initial certification: 2018-10-23</p>	<p><b>CERTIFICATE</b></p> <p>The Certification Body of TÜV SÜD South Asia Private Limited certifies that</p> <p><b>HEIDELBERGCEMENT</b> Diamond Cements Village: Madona, P.O. Barabha Kalan, Baragaon, Jhansi-Kanpur Highway, District: Jhansi - 284121, Uttar Pradesh, INDIA</p> <p>has implemented an Environmental Management System in accordance with ISO 14001:2015 For Scope of</p> <p>Grinding and Dispatch of Cement</p> <p>The certificate is valid in conjunction with the main certificate from 2018-11-15 until 2021-10-14</p> <p>Subject to successful completion of annual periodic audits</p> <p>The present status of the certificate can be obtained through TÜV SÜD website by scanning QR code and by entering the certificate number/certification no. on web page. Further certificate regarding the status &amp; scope of the certificate may be obtained by contacting the certification body at <a href="mailto:info@tuev.com">info@tuev.com</a></p> <p>Certificate Registration No. 98 134 3045564 Date of initial certification: 2013-12-19</p>	<p><b>CERTIFICATE</b></p> <p>The Certification Body of TÜV SÜD South Asia Private Limited certifies that</p> <p><b>Diamond Cements</b> Village: Madona, P.O. Barabha Kalan, Baragaon, Jhansi-Kanpur Highway, District: Jhansi - 284121, Uttar Pradesh, INDIA</p> <p>has implemented Occupational Health and Safety Management System in accordance with ISO 45001:2018 for the scope of</p> <p>Grinding and dispatch of cement</p> <p>The certificate is valid in conjunction with the main certificate from 2021-09-08 until 2024-09-07</p> <p>Subject to successful completion of annual periodic audits</p> <p>The present status of the certificate can be obtained through TÜV SÜD website by scanning QR code and by entering the certificate number/certification no. on web page. Further certificate regarding the status &amp; scope of the certificate may be obtained by contacting the certification body at <a href="mailto:info@tuev.com">info@tuev.com</a></p> <p>Certificate Registration No. 99 117 6005504 Date of initial certification: 2013-12-19 Issue Date: 2021-09-08 Rev. 00</p>	<p><b>VERIFICATION &amp; ASSURANCE STATEMENT</b></p> <p>The assurance statement has been prepared for <b>HEIDELBERGCEMENT</b></p> <p>Registered office: HeidelbergCement India Limited (Company) 2nd Floor, Plot No. 68, Sector-44, Gurgaon, Haryana, 122022</p> <p>In compliance with ISO 14046 and TCV SUD Protocol</p> <p>Confirms that Company has overall 6.96 times Water (+)</p> <p>Confirms that blue water footprint of HeidelbergCement is 0.21 m3/ton for the period 01/01/2020 - 31/12/2020</p> <p>Refer Enclosure for site scope and water status assessment</p> <p>Verification Statement No. CS-IND-GEN05 Visit Report No. 07-005429</p> <p>6 January 2022</p> <p>Gauri Muly Certification Body TUV SUD South Asia Pvt Ltd</p>
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ISO 50001 (Energy Management System)

ISO 9001 (Quality Management System)

ISO 14001 (Environment Management System)

ISO 45001 (Occupational Health & Safety Management System)

ISO 14046 (Water Footprint Verification & Assurance Statement in Compliance with ISO14046)



## 8. Award & Accolades

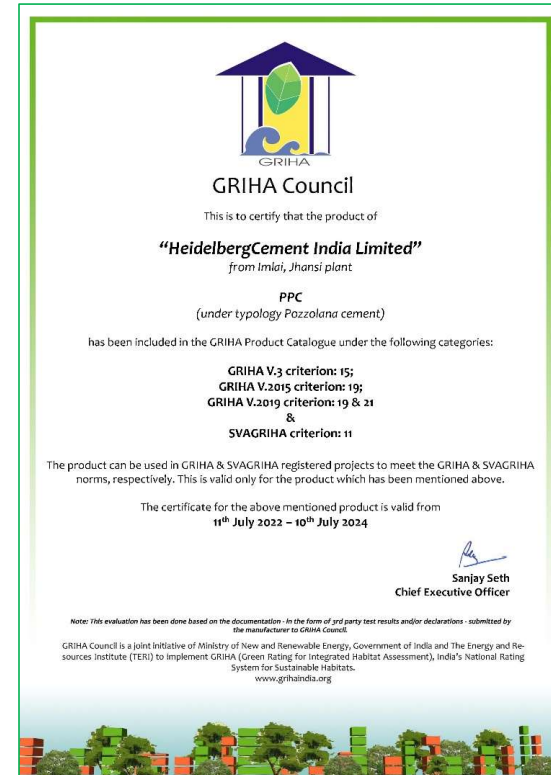
HEIDELBERGCEMENT

### GRIHA Council certified HeidelbergCement PPC as Green Building Product



**Green Rating for  
Integrated Habitat  
Assessment**

Green Rating for Integrated Habitat Assessment (GRIHA) is a Council in association with TERI is a green product certification body. GRIHA compliant products are placed at GRIHA Product Catalogue; an online platform on green building products which gives guidance to green building designers, architects, engineers, builders, consultants, industries and other building professionals to make GRIHA rated buildings & projects.



HEIDELBERGCEMENT  
INDIA

## Award & Accolades

HEIDELBERGCEMENT

### National Energy Management Award by CII



- ❑ Participated & won CII National Energy Management Award for Eight consecutive year since 2016 out of which 2 times won the award of Excellent Energy Efficient Unit.



HEIDELBERGCEMENT  
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INDIA

## 9. Focus and Long-Term Target By Group



### OUR FOCUS AREAS

- ◆ Transitioning to renewable energy
- ◆ Conserving biodiversity
- ◆ Using recycled materials
- ◆ Reducing GHG emissions
- ◆ Tackling climate change by reducing carbon footprint
- ◆ Enhancing energy and resource efficiency
- ◆ Embracing a circular economy
- ◆ Creating a positive water footprint



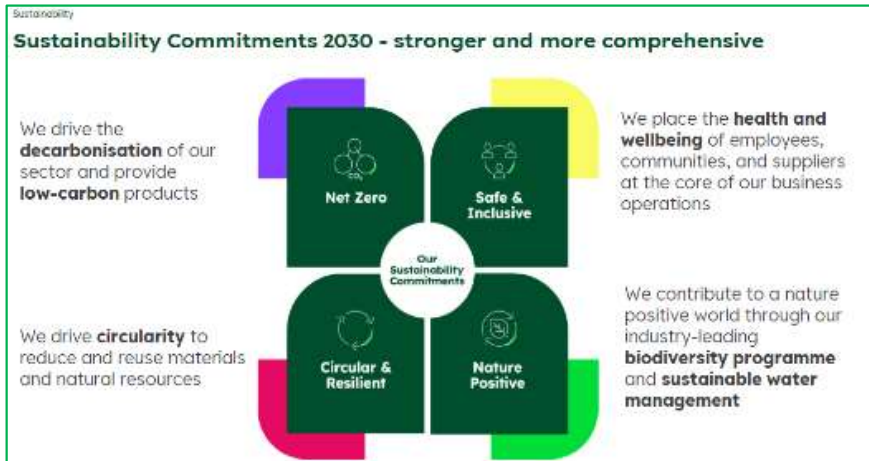
Acknowledging the environmental impact of manufacturing, we adopt a comprehensive strategy of: **Prevention | Mitigation | Compensation**

- Medium and Long-Term Target Set by HC Group to reduce the carbon footprint.
- Further Improvement Towards Energy Efficiency.
- Carbon Capture Storage & Utilization (CCUS).
- Continual R&D Towards Process Optimization.
- Rollout New Technology in Industry Scale.





# 9. Net Zero Commitment by HC Group



**Sustainability**  
Our Sustainability Commitments 2030

Heidelberg Materials 2022 34

<p><b>Building a Net Zero Future</b></p> <p>We drive the decarbonisation of our sector and provide low-carbon products.</p> <p><b>CO<sub>2</sub> &amp; Energy</b> Reduce our Scope 1 CO<sub>2</sub> emissions to 400 kg per tonne of cementitious material. Reduce our total CO<sub>2</sub> footprint according to the SBTi 1.5°C pathway. Capture 10 million tonnes of CO<sub>2</sub> cumulatively through our CCUS projects.</p> <p><b>Additional missions</b> Reduce sulphur and nitrogen oxide emissions (SO<sub>x</sub> and NO<sub>x</sub>) by 40% compared with 2008.</p> <p><b>Sustainable Revenue</b> Achieve 50% of our revenue from sustainable products that are either low-carbon or circular.</p> <p><b>SBTi 1.5°C pathway for a 1.5°C CO<sub>2</sub> reduction compared to pre-2020 level:</b>                  Stage 1: 2025: 50% of total CO<sub>2</sub> emissions                  Stage 2: 2030: 40% of total CO<sub>2</sub> emissions                  Stage 3: 2035: 20% of total CO<sub>2</sub> emissions</p>	<p><b>Building a Safe &amp; Inclusive Future</b></p> <p>We place the health and wellbeing of employees, communities, and suppliers at the core of our business operations.</p> <p><b>Diversity, Equity &amp; Inclusion</b> Ensure that 25% of leadership positions are filled by women.</p> <p><b>Occupational Health &amp; Safety</b> Achieve zero fatalities and reduce lost time injury frequency rate (LTFR) by 50% compared with 2020.</p> <p><b>Community Engagement</b> 100% of our sites have community engagement plans. All employees are offered one day per year of paid leave for voluntary community work.</p> <p><b>Sustainable Suppliers</b> 80% of critical supplier spend confirmed with a green ESO rating.</p>
<p><b>Building a Circular &amp; Resilient Future</b></p> <p>We drive circularity to reduce and reuse materials and natural resources.</p> <p><b>Circularity</b> Offer circular alternatives for 50% of our concrete products – aiming for full coverage.</p> <p><b>Sustainable Revenue</b> Achieve 50% of our revenue from sustainable products that are either low-carbon or circular.</p>	<p><b>Building a Nature Positive Future</b></p> <p>We contribute to a nature positive world through our industry-leading biodiversity programme and sustainable water management.</p> <p><b>Biodiversity</b> 100% of active quarries contribute to the global goal of nature positive, with 15% space for nature.</p> <p><b>Water</b> 100% of sites in water-risk areas implement water management plans and water recycling systems.</p>

**Building a net-zero future**

**Reduction of our specific net Scope 1 emissions**

1990: 750 kg CO<sub>2</sub>/t CEM  
 2022: 551 kg CO<sub>2</sub>/t CEM (-3% vs 2020)  
 2023: 534 kg CO<sub>2</sub>/t CEM  
 2030: 400 kg CO<sub>2</sub>/t CEM (-47% vs 2020)  
 2050: Net Zero

**Alternative fuel mix**

29.9% Alternative fuel rate  
 Successfully increased from 3% since 1990, target: 45%.

**Our Commitment**

50% Group revenue We achieve 50% of our revenue from sustainable products that are either low-carbon or circular.

1.5°C We are reducing our total CO<sub>2</sub> footprint according to the SBTi 1.5°C pathway.

10<sup>MT</sup> CO<sub>2</sub> EMISSIONS captured by 2030 through our already launched CCUS projects.

-40% compared with 2008 reduction of sulphur and nitrogen oxide emissions (SO<sub>x</sub> and NO<sub>x</sub>) by 2030.

- ❑ HC Group set a target of reducing CO<sub>2</sub> emissions to 400 kg per tonne of cementitious material by 2030 and achieve net zero by 2050 at the latest.
- ❑ Medium and Long-Term Target Set by HC Group to reduce the carbon footprint.
  - Further Improvement Towards Energy Efficiency.
  - Carbon Capture Storage & Utilization (CCUS).
  - Continual R&D Towards Process Optimization.
  - Rollout New Technology in Industry Scale.
- ❑ Reducing total CO<sub>2</sub> footprint according to the SBTi 1.5°C pathway



# Corporate Social Responsibility

- Our collaborative CSR approach partners with communities, government bodies, and Local Authorities to drive meaningful change. By harmonizing efforts with stakeholders like Panchayati Raj Institutions, we tailor initiatives to meet community needs and enhance living conditions. Our in-house teams use a structured process to identify these needs and periodically assess the impact of our interventions, ensuring continuous improvement and relevance in our CSR efforts. By promoting local
- participation, we strengthen our bond with the local communities for economic and social development.

**COMMUNITY  
WELL-BEING**

**20,000+**

lives benefitted  
through our CSR  
activities in **FY24**

#### CSR FOCUS AREAS:

Education | Healthcare | Livelihood Enhancement | Infrastructure Development | Social Engagement

#### CSR SPENDING DURING LAST THREE FINANCIAL YEARS:

YEAR	Statutory Obligation	Actual Expenditure
2021-22	75.3	80.5
2022-23	75.0	78.5
2023-24	57.5	62.4

(MINR)

During FY24, we invested INR 62.4 million on various CSR activities / projects, thereby exceeding the obligations pursuant to Section 135 of the Companies Act, 2013.

# Biodiversity





## Learning From CII Energy Awards

HEIDELBERGCEMENT

- Excellent platform for sharing best practices/ideas amongst industries
- Benchmark setting
- Long term potential projects identification
- Provides national recognition for commitment towards Energy conservation

### Projects Replicated

- Replacement of conventional lights with LED lights
- Reduction in nozzle ring velocity of VRM.
- Optimisation of operation for ACs in Electrical Rooms with respect to plant operation.
- Installation of low-pressure screw compressor for Dry Fly ash unloading.
- Monitoring of Idle running and provided interlock through DCS.



Thank you



**mycem**

for better building

#StayHomeStaySafe

Namaste is the new Hello!



**Safety is our  
Foremost priority**

