

ULTRATECH CEMENT LIMITED, GINIGERA CEMENT WORKS..



Project Title: **1. Zero Fuel usage in OPC and PPC Production**
2. 100% RE Power usage.



Time line:

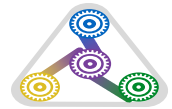
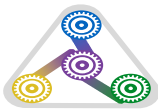
Project-1: Started from 2021-22 & sustaining till date.

Time line:

Project-2: From 2019-20 & 100% Completed from Sep-2023.

Milestones achieved:

- ❖ Unit Achieved Zero fuel consumption in OPC and PPC production.
- ❖ From September 2023 unit is running with 100% RE power
- ❖ Developed 41% greenbelt with different species of plants
- ❖ Unit also installed 1.8 MWac capacity of solar unit in plant area



1

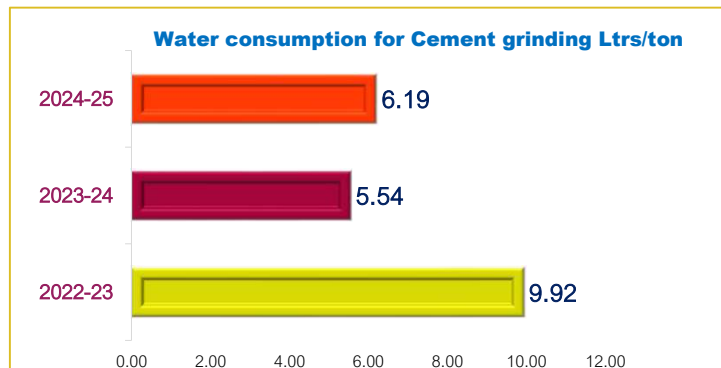
CO2 Reduction & Environmental benefits:



- ❖ In 2024-25 Our unit reduced 30081 MT CO2 by using 100% renewable energy instead of Conventional Energy.

Calculation of CO2 of Grid power in scope 2

Unit	Kwh	MWh
Total Power consumption FY 2024-25	41377307	41377.307
MW Grid emission factor	727	
CO2 emission in MT	30081.3	



Environmental benefits

Coal usage reduction in OPC & PPC	100%
Waste Reduction	Utilization of Gypsum, Wet, Dry Fly ash & Slag of 1484587 MT in 4 years from 2021-22 to 2024-25.
Water Consumption Reduction (in kilolitres)	While comparing with Fy 2022-23 Cement mill water consumption reduces from 9.92 to 6.19 L/T in Fy 2024-25.

2



Result / Tangible Benefits

Parameter	Result
Finance (report both in Cr INR and Mn USD)	
CAPEX/ OPEX deployed*	0.19 Cr, 0.022 Mn USD for SFF
Overall Rupee/Dollar Value Saved*	0.95 Cr, 0.11 Mn USD (Fuel cost-Coal & Oil)
Operational Efficiency	
Increase in Production	378494 MT. Increase in Production by 36.86% compared to 2020-21.
OTIF	107%
Reduction in unplanned downtime	MTBF of GICW has been increased from 485hrs to 1374hrs in FY-24.

2024-2025 Power landed cost comparison	
Source of power	Unit price
Solar Power	3.02
Onsite Solar	4.03
O2	4.64
Hybrid	5.01
Wind 1	5.65
Average Rate	4.67
SEB	8.12
Saving per unit	3.45
2024-25 power consumption(kwh)	41377307
Savings as per 2024-25 consumption basis in Lacs	1427.52

3



Actions implemented for Cement Mill Capacity Enhancement:



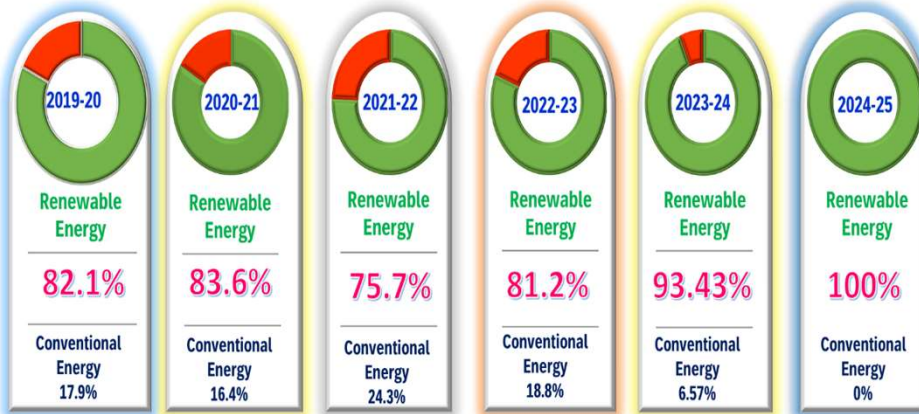
4

Plant Running with 100% RE Power



Plant running consistently with 100% Renewable Energy Power

- GICW has achieved Ever Lowest Overall Plant Power in FY-24 **29.77 U/T** compared to FY-22 **31.57 U/T**.
- Percentage of Green energy consumption increased from 81.2% in FY-23 to 93.43% in FY-24.
- Percentage of Green energy consumption increased from 93.43% in FY-24 to 100% in FY-25.



5

Zero Fuel in OPC and PPC Challenges / Problems



Challenge-01:

- ✳ Without using the Fuel enhancement of the Cement Mill productivity, Reduction of Power consumption & utilization of RE power.

Challenge-03:

- ✳ Mill outlet temperature issues with usage of low temperature Clinker material. Outside group receipt of hydrated Clinker.

Challenge-02:

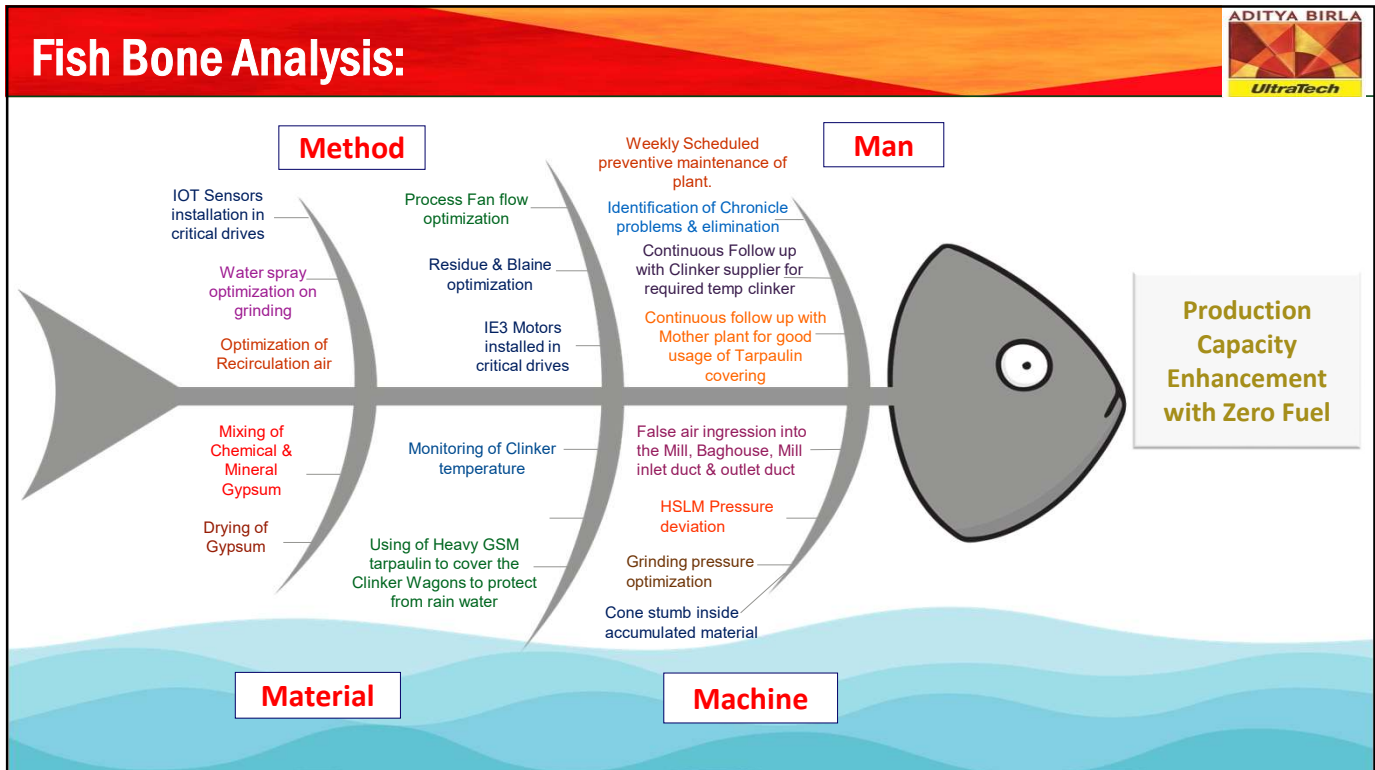
- ✳ To maintain the consistent Fly ash addition in PPC & PPCS.

Challenge-04:

- ✳ Increase in Vibration, Hydraulic pressure deviation problems. Mill main motor drawing high power consumption.



6



7

National Benchmark/ Standard:

Project-1: The project aligns with several national and industry benchmarks:

- Bureau of Energy Efficiency (**BEE**) guidelines for energy conservation.
- CPCB norms for emission reduction and sustainable industrial practices.
- National Action Plan on Climate Change (**NAPCC**) goals for reducing fossil fuel dependency.
- Cement Sustainability Initiative (**CSI**) targets for low-carbon cement production.

Project-2: The project aligns with several national and industry benchmarks:

- ✦ **Energy Conservation Act (2001)** – Promotes efficient energy use in industries.
- ✦ **Central Pollution Control Board (CPCB)** – Guidelines for reducing industrial emissions.
- ✦ **National Action Plan on Climate Change (NAPCC)** – Supports renewable energy adoption.
- ✦ **ISO 50001** – Energy Management Systems.
- ✦ **UN Sustainable Development Goals (SDGs)** – Especially SDG 7 (Affordable and Clean Energy) and SDG 13 (Climate Action).

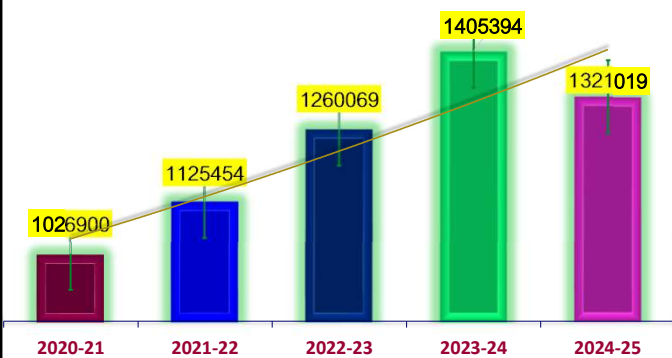
8

Impact / Result Achieved:

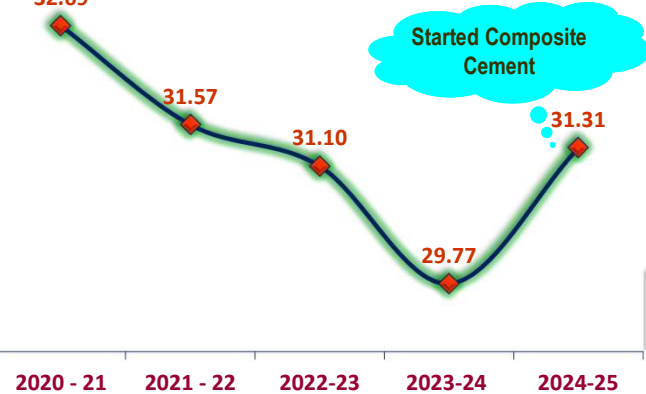


- Without Fuel usage for Grinding, GICW has achieved Ever Highest Cement Production & Ever lowest Plant power consumption in FY-24.
- GICW has achieved Ever Lowest Overall Plant Power in FY-24 **29.77 U/T** compared to FY-22 **31.57 U/T**.
- Percentage of Green energy consumption increased from 82.1% in FY-20 to 100% in FY-25.

Increase in Production by 36.86% compared to 2020-21.



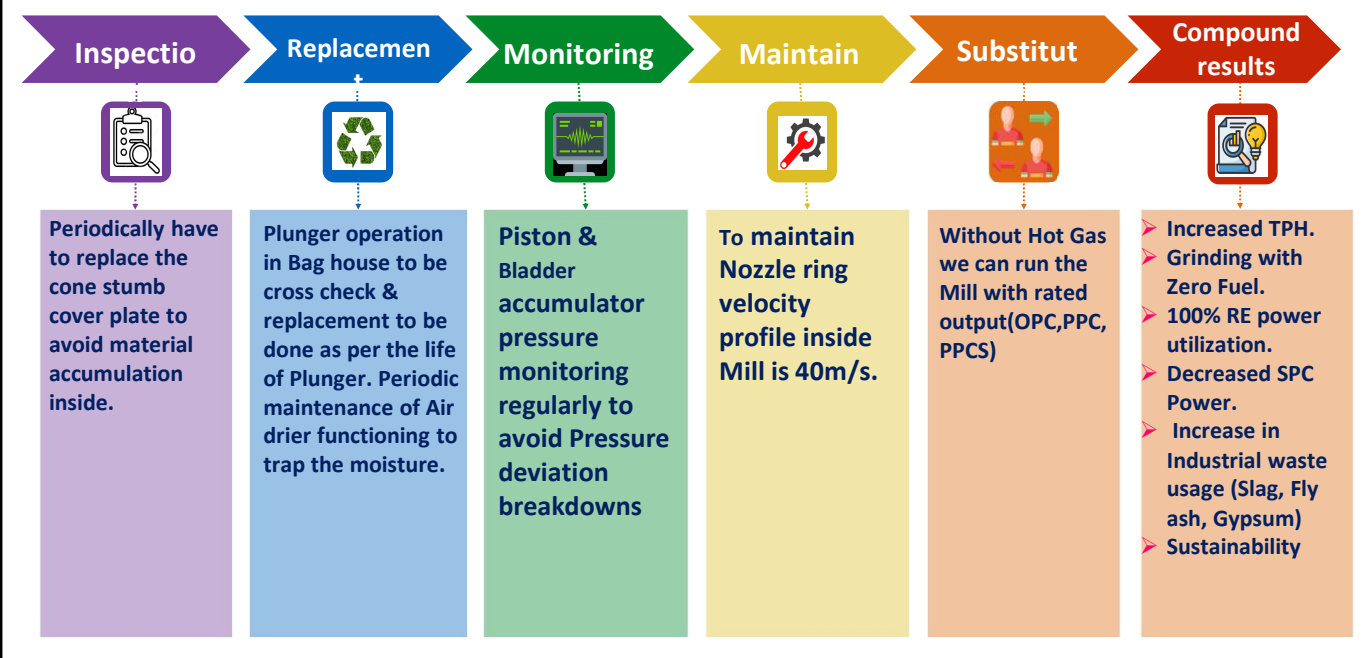
Power reduction by 2.9 U/T compared to 2020-21.



We are using 100% Green energy continuously from September 2023 onwards to till date.

9

Key learnings during the journey:



10