UCWL UDAIPUR CEMENT WORKS LIMITED

PLATINUM HEAVY DUTY CEMENT

CII National Award for Excellence in Energy Management 2023

Confederation of Indian Industry

Presented by:

Vikas Garg, Manager (E&I)

Ronit Singh, Sr. Engineer (Process)

UCWL UDAIPUR CEMENT WORKS LIMITED

UCWL Infographic

Confederation of Indian Industry

UCWL is a subsidiary of JK Lakshmi Cement Ltd.

Located in Dabok near Udaipur, Rajasthan

Installed Production Capacity of 2.2 mMTPA

Brand Name: Platinum Supremo Cement, Platinum Heavy Duty Cement

ISO 9001:2015,ISO 14001:2015,ISO 45001:2018 ,ISO 5001: 2011, ISO 14046: 2018


Bureau Veritas Certification

UDAIPUR CEMENT WORKS LTD.

UCWL

SHRIPATINAGAR, P.O.C.F.A, DABOK, UDAIPUR – 313 022, RAJASTHAN, INDIA.

ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018

MANUFACTURE & DISPATCH OF CLINKER, ORDINARY PORTLAND CEMENT (OPC) OF GRADES 43 & 53, AND PORTLAND POZZOLANA CEMENT (PPC)

IMS


Bureau Veritas Certification

UDAIPUR CEMENT WORKS LIMITED

UCWL

SHRIPATINAGAR, P.O. C.F.A, DABOK, UDAIPUR – 313 022, RAJASTHAN, INDIA.

ISO 50001:2018

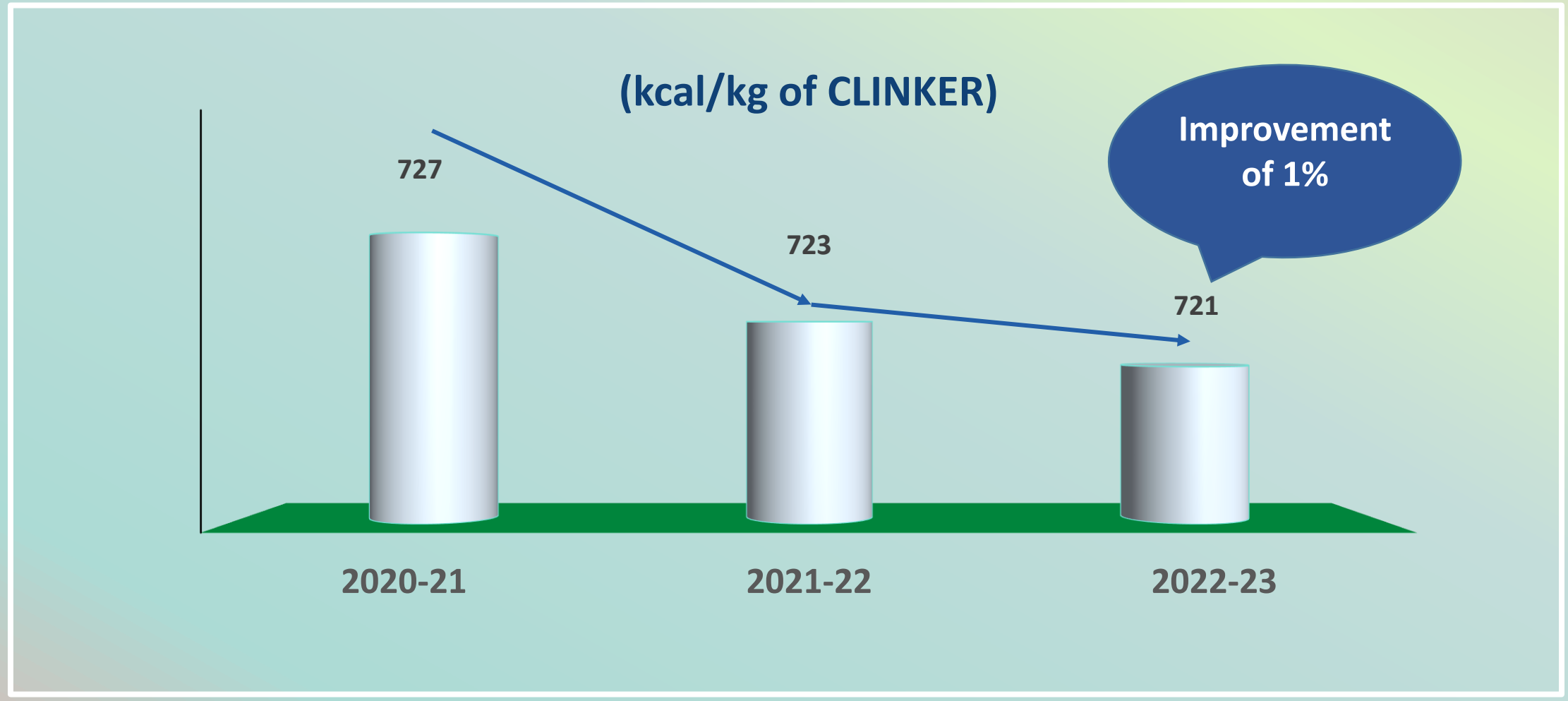
MANUFACTURE AND DISPATCH OF CLINKER, ORDINARY PORTLAND CEMENT (OPC) AND PORTLAND POZZOLANA CEMENT (PPC)

EnMS

UCWL UDAIPUR CEMENT WORKS LIMITED

THERMAL SEC

Confederation of Indian Industry

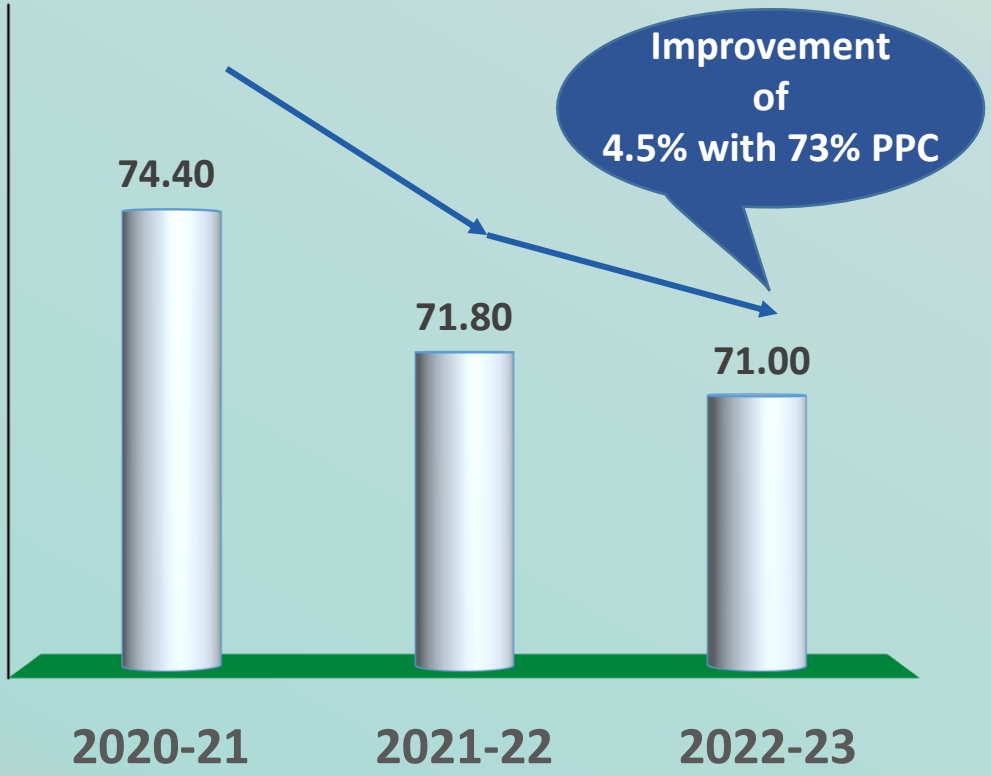


UCWL UDAIPUR CEMENT WORKS LIMITED

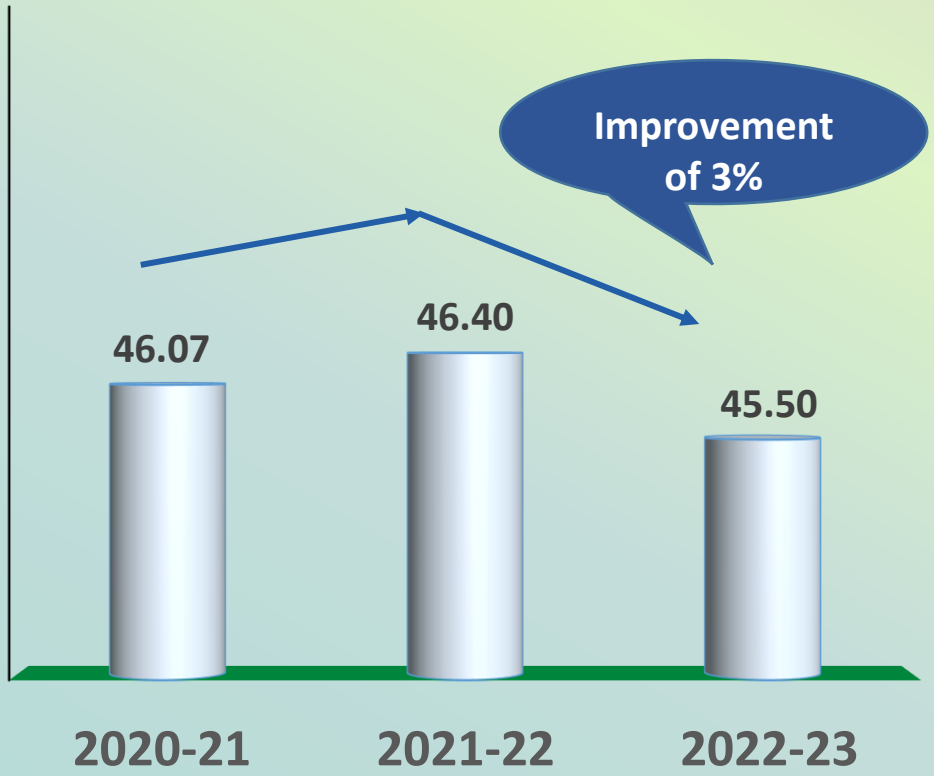
ELECTRICAL SEC

Confederation of Indian Industry

(kWh/T of CEMENT)



(kWh/T of CLINKER)

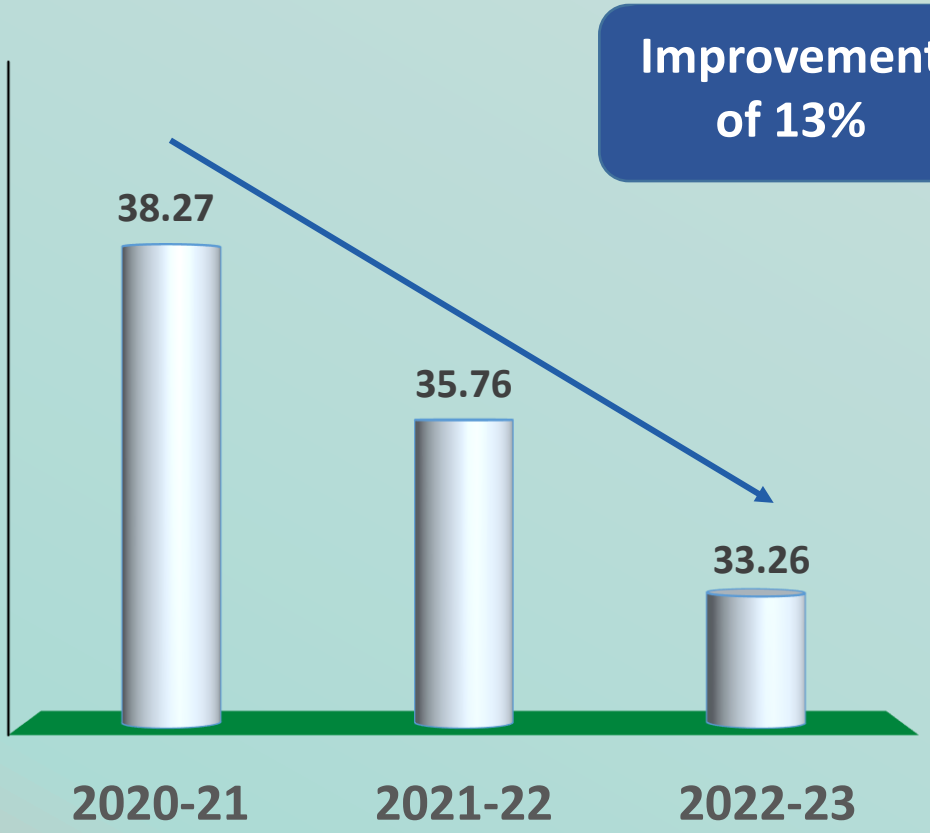


UCWL UDAIPUR CEMENT WORKS LIMITED

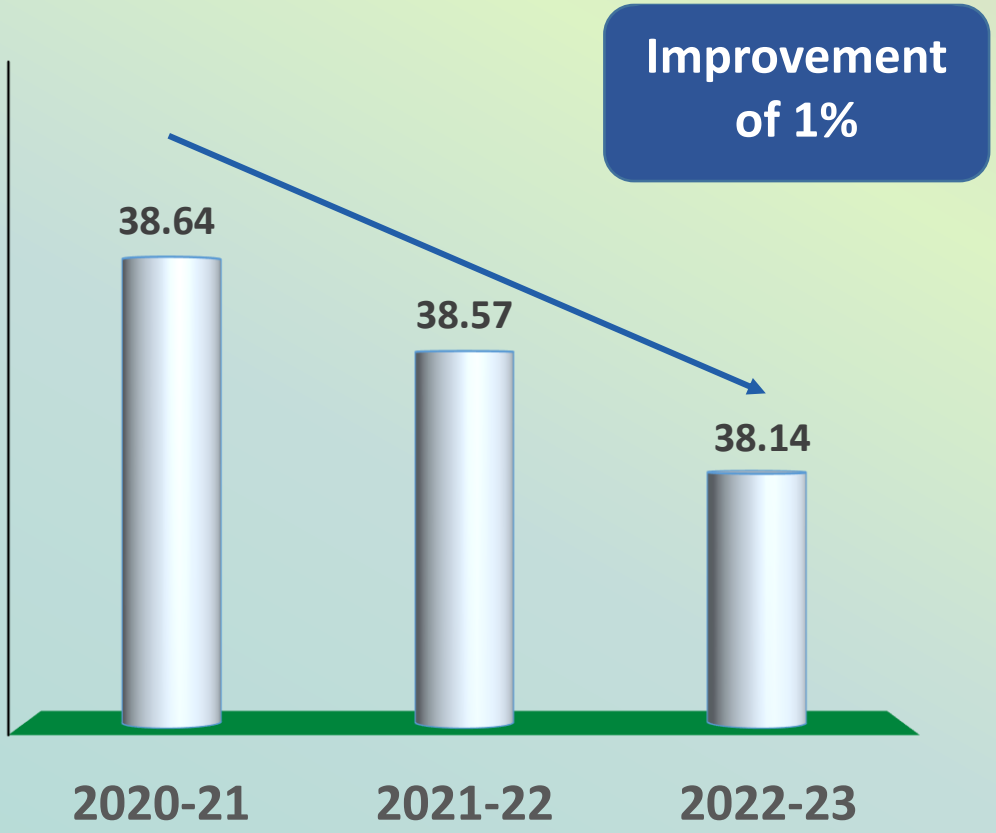
(kWh/T of CEMENT)

Confederation of Indian Industry

PPC



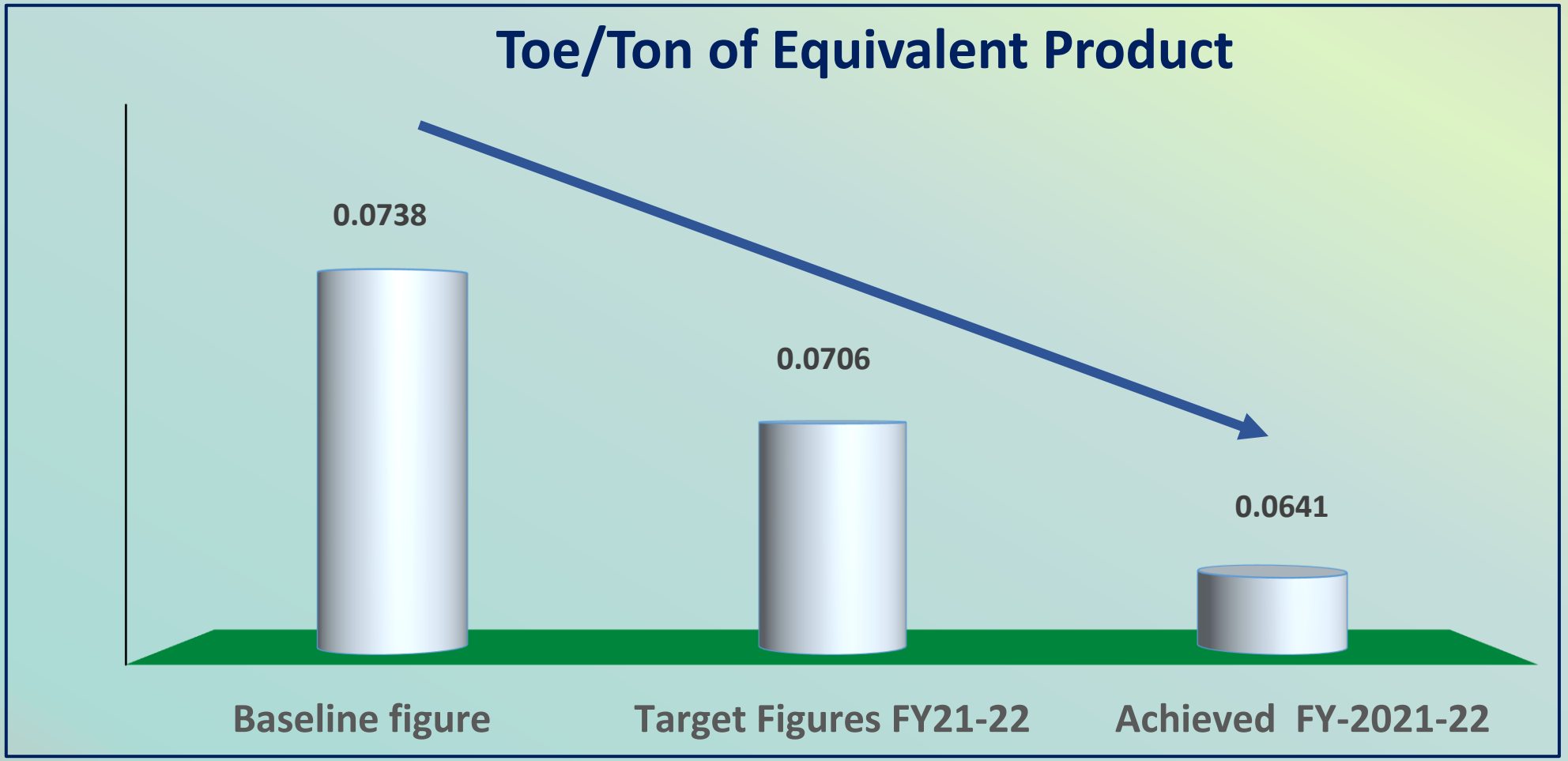
OPC



UCWL UDAIPUR CEMENT WORKS LIMITED

UCWL PAT Target

Confederation of Indian Industry



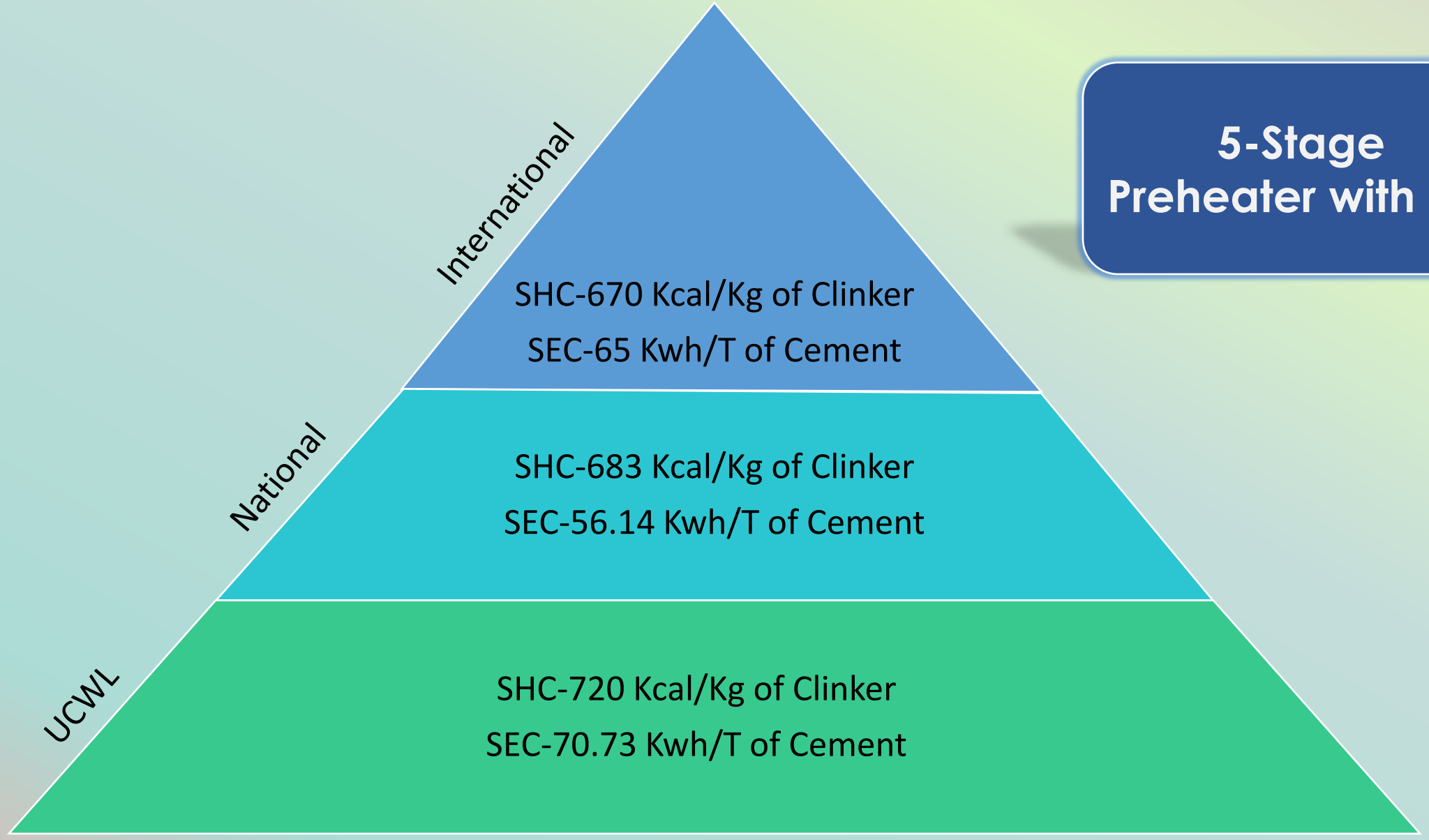
Udaipur Cement Works Limited is registered (Registration No.CMT0135RJ) under the PAT Cycle-V (FY 2019-FY 2022) as per the Notification of The Gazette of India dated 29.03.2019.

UCWL UDAIPUR CEMENT WORKS LIMITED

BENCHMARKING

Confederation of Indian Industry

5-Stage Preheater with ILC

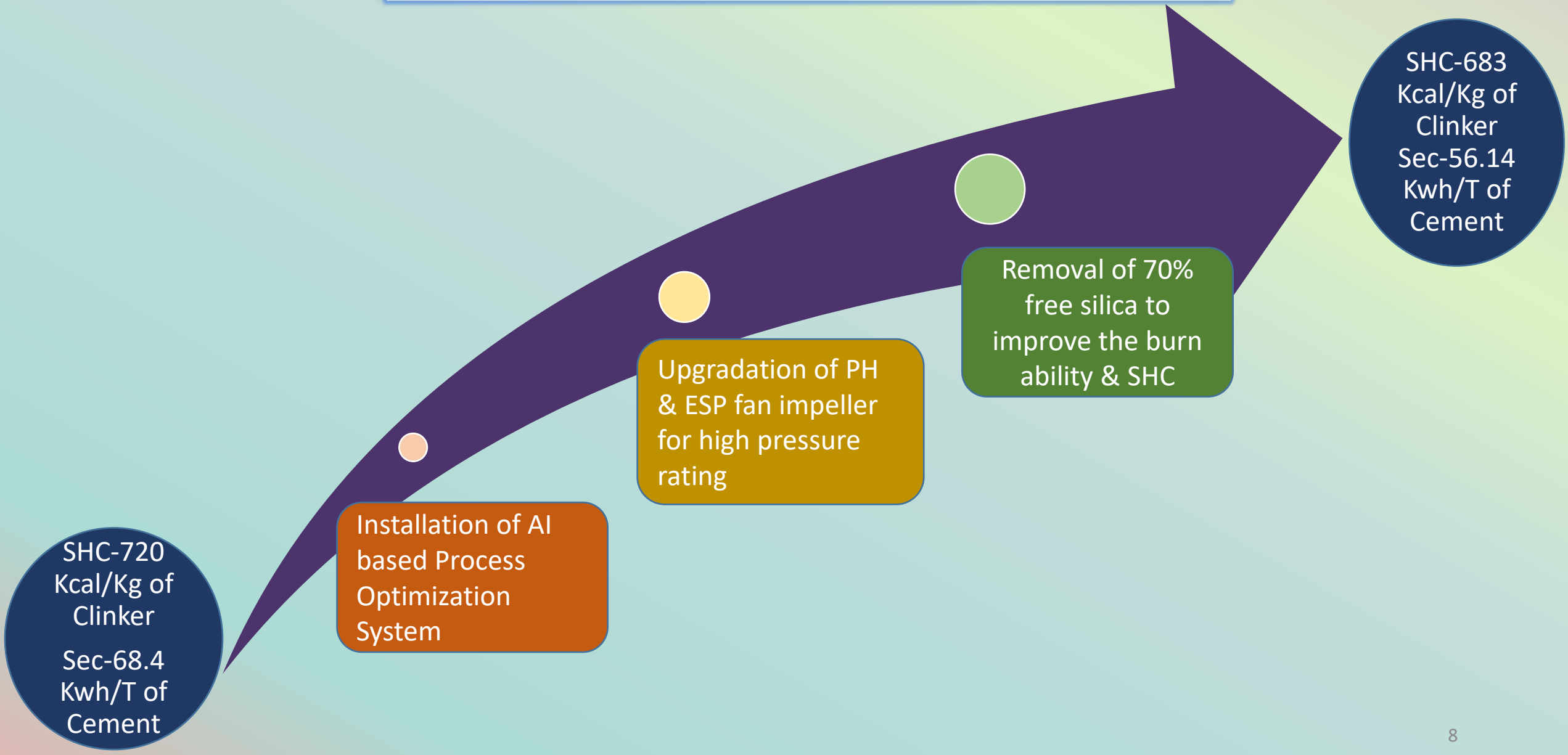


Reference : CII Energy benchmarking for Cement Industry May 2023 Version 6.0

UCWL UDAIPUR CEMENT WORKS LIMITED

ROAD MAP TO ACHIEVE TARGET

Confederation of Indian Industry



ENCON Project Planned In FY 2023-24

Sr. No.	Title of Project	Annual Electrical Saving (Million kWh)	Annual Thermal Saving (Million Kcal)	Investment (₹ in Million)
1	Upgradation of PH & ESP Fan for higher pressure rating (Present PH : 700 mmWG & Cooler ESP : 100 mmWG)	0.396	0.15	15
2	Modification in Cement Mill-1 & 2 : Installation of Highly efficient Classifier and Cyclone	8.75	0	100
3	Installation of additional AQC boiler (60K NM^3/hr.)	3.96	3.3	170

UCWL UDAIPUR CEMENT WORKS LIMITED

PROJECT SUMMARY

Confederation of Indian Industry

Year	No of energy Saving Projects	Investment	Electrical Saving (Million kWh)	Thermal Saving (Million kcal)	Total Savings in (₹ Million)
FY 2020-21	11	48.112	3.844	0	28.06
FY 2021-22	5	6.475	0.834	90	80.21
FY 2022-23	9	7.16	1.244	2847.6	17.71
Total	25	61.74	5.922	2937.6	125.98

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ENCON PROJECT FY 2020-21

Confederation of Indian Industry

Sr. No.	Title of Project	Annual Electrical Saving (kWh)	Total Annual Savings (₹ million)	Investment Made (₹million)
1	Waste Heat Recovery SP-Boiler LP Module Modification	2376000	17.35	22.30
2	AI based process optimization system (Adaptive predictive Controller) in VRM.	173125	1.26	1.54
3	Optimization of power consumption in Air compressor by Optimization air pressure and re- routing of lines	198000	1.45	0.00
4	Reduction in False air ingress in Raw mill Fan	530640	3.87	0.00
5	Installation of 2 Nos. of VFD panels on Bag Filter Fan	79200	0.58	0.27
6	Installation of Coal metering and dosing system (FLS Pfister)	205920	1.50	24.00
7	Reduction of Diameter in Coal conveying pipeline	198000	1.45	0.00
8	Reduction of Compressed Air Pressure at Raw Mill & Coal Mill	19117	0.14	0.00
9	Fine tuning the VFD operation of BFP and CEP pump in WHR	31680	0.23	0.00
10	Fine Tuning of VFD in Crusher Bag House fan	10801	0.08	0.00
11	Energy Saving by Shutdown Charged Transformer (DIST TRF1 WHR)	21900	0.16	0.00

UCWL UDAIPUR CEMENT WORKS LIMITED

ENCON PROJECT FY 2021-22

Confederation of Indian Industry

Sr No	Title of Project	Annual Electrical Saving (kWh)	Annual Thermal Saving	Total Annual Savings (₹ millions)	Investment Made (₹ millions)
1	Installation of VFD in CM-3 Bag Filters.	400752	0	32.06	0.58
2	Replaced reciprocating compressor with Screw Compressor	71280	0	5.70	3.50
3	VFD Installation in Air Slide Blowers of Packing Plant.	56000	0	4.48	0.27
4	VFD in CM-2 CA Fan	237600	0	19.01	1.16
5	Increased Ventury to improve material flow from 4th Cyclone to Kiln I/L to improve Kiln Stability and Production.	68362	90	18.96	0.96

UCWL UDAIPUR CEMENT WORKS LIMITED

ENCON PROJECT IN 2022-23

Confederation of Indian Industry

Sr No	Title of Project	Annual Electrical Saving (kWh)	Annual Thermal Saving (Kcal)	Total Annual Savings (₹ million)	Investment Made (₹ million)
1	In-house modification of RABH purging sequence logic by implementation in DCS	144360	0	1.15	0.10
2	In raw mill replaces rotor blades with modify angles resulting reduction in raw mill residue.	216586.6	0	1.73	1.00
3	CM1 & CM2 Intermediate Diaphragm Scoop Opening . Reduced Over Grinding and Increased Out by Increasing return to mill	293700	0	2.35	0.00
4	In-house Designed & installed Standby Girth Gear Lubrication System	16800	312768000	0.98	0.50
5	In clinker cooler inhouse development of stand by cooler fan system for recuperation zone .	25200	469152000	1.47	0.00
6	Cement Mill 1 & 2 Reject material belt replaced by closed air slide.	146850	0	1.17	1.46
7	In-House Development of bulk cement loading in container	40633.2	0	0.33	0.10
8	ESP Inlet duct & Burner trolley modification for Kiln Burner replacement in short duration of time.	0	622080000	1.68	1.00
9	Twin Cyclone Modification	360299.52	1443600000	6.85	3.00

INNOVATIVE PROJECT-1

Project: Pre-heater Top Cyclones Modification

Category D: Known concept with Unique Application

Trigger: Process Audit Results

Outcomes Achieved:

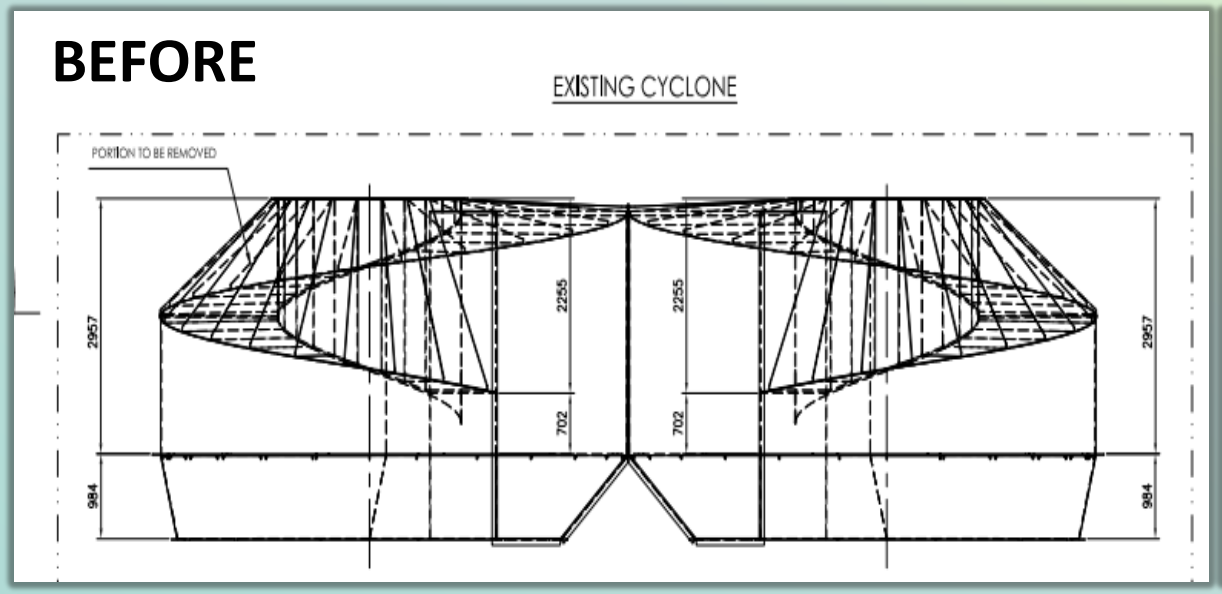
- ✓ Reduced Pressure Drop across PH Top Twin Cyclone
- ✓ Enhanced Cyclone Efficiency
- ✓ Reduction in Return Dust
- ✓ Optimized Power Consumption

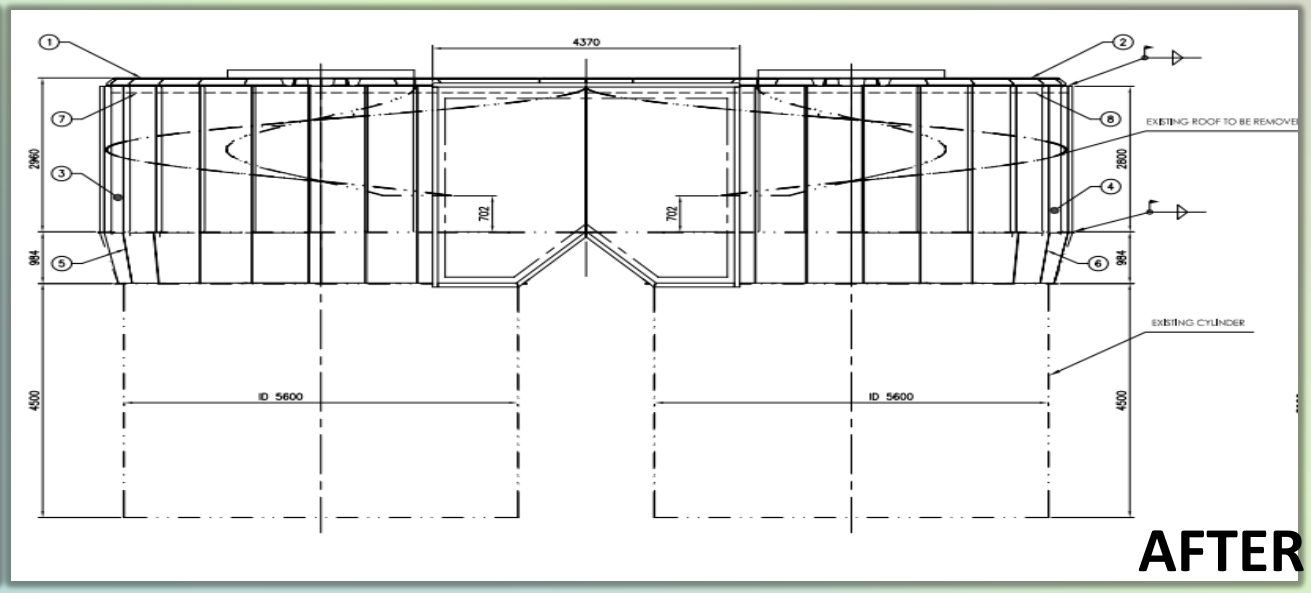
UCWL UDAIPUR CEMENT WORKS LIMITED

INNOVATIVE PROJECT-1

Confederation of Indian Industry

BEFORE





AFTER

UCWL UDAIPUR CEMENT WORKS LIMITED

INNOVATIVE PROJECT-2

Confederation of Indian Industry

Project: First DGMS Approved Floating Solar (1MW) in Mines Pit

Category B: First Implementation on National Level

Trigger: Increase in Renewable Contribution at Mines

Outcomes Achieved:

- ✓ 1.4 Million Units Generation Annually
- ✓ 1000 Ton CO_2 Offset/Year
- ✓ 4 % More Efficient than Land Solar
- ✓ 8000 m^3/year Water Evaporation Saving

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INNOVATIVE PROJECT-2

Confederation of Indian Industry

Scope		Advantages
	Environmental savings in terms of water evaporation (Approx)	8000 m^3/Yr
	Environmental savings in terms of carbon savings (Approx)	1000 Ton/Yr
	Land area savings (Approx)	7200 m^2
	Equivalent Trees savings (Approx)	1.5 Lakhs/Yr
	Financial savings (Approx)	Rs 25 Cr (25 Yrs)

INNOVATIVE PROJECT -3

Project : In-house Arrangement For Bulk Cement Transportation

Category C : New Concept (Self Driven / Risk Taken)

Trigger : Transporting Bulk Cement in Containers through Railway

Outcomes Achieved:

- ✓ In-house Development of Bulk Loading Infrastructure
- ✓ Achieved Logistical Efficiency & Greener mode of Transportation
- ✓ Environmental Conservation by saving 20000kg CO_2 per Rack Movement

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INNOVATIVE PROJECT -3

Confederation of Indian Industry

Purpose:

- For the purpose of developing bulk Cement loading infrastructure.

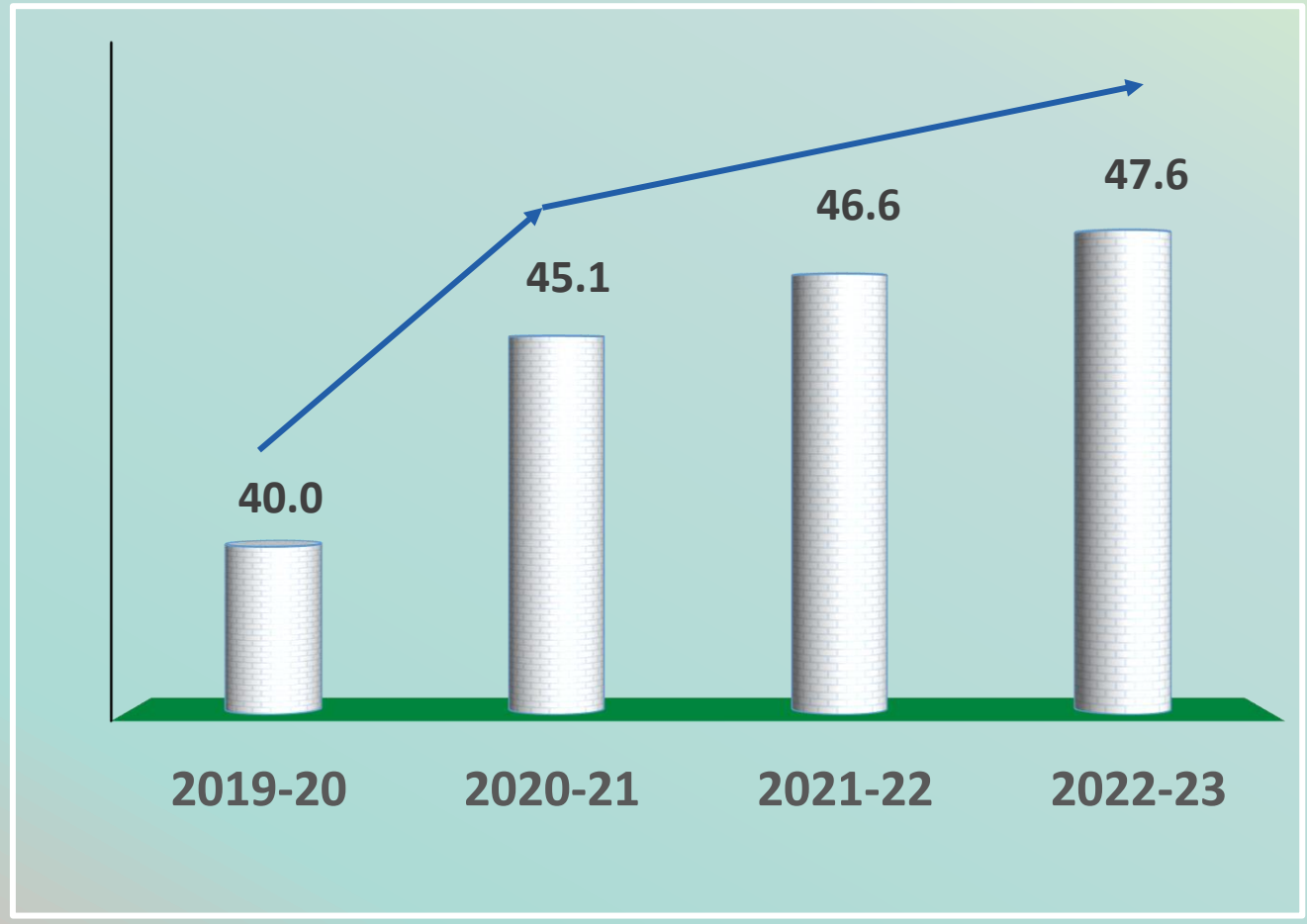
Execution Status:

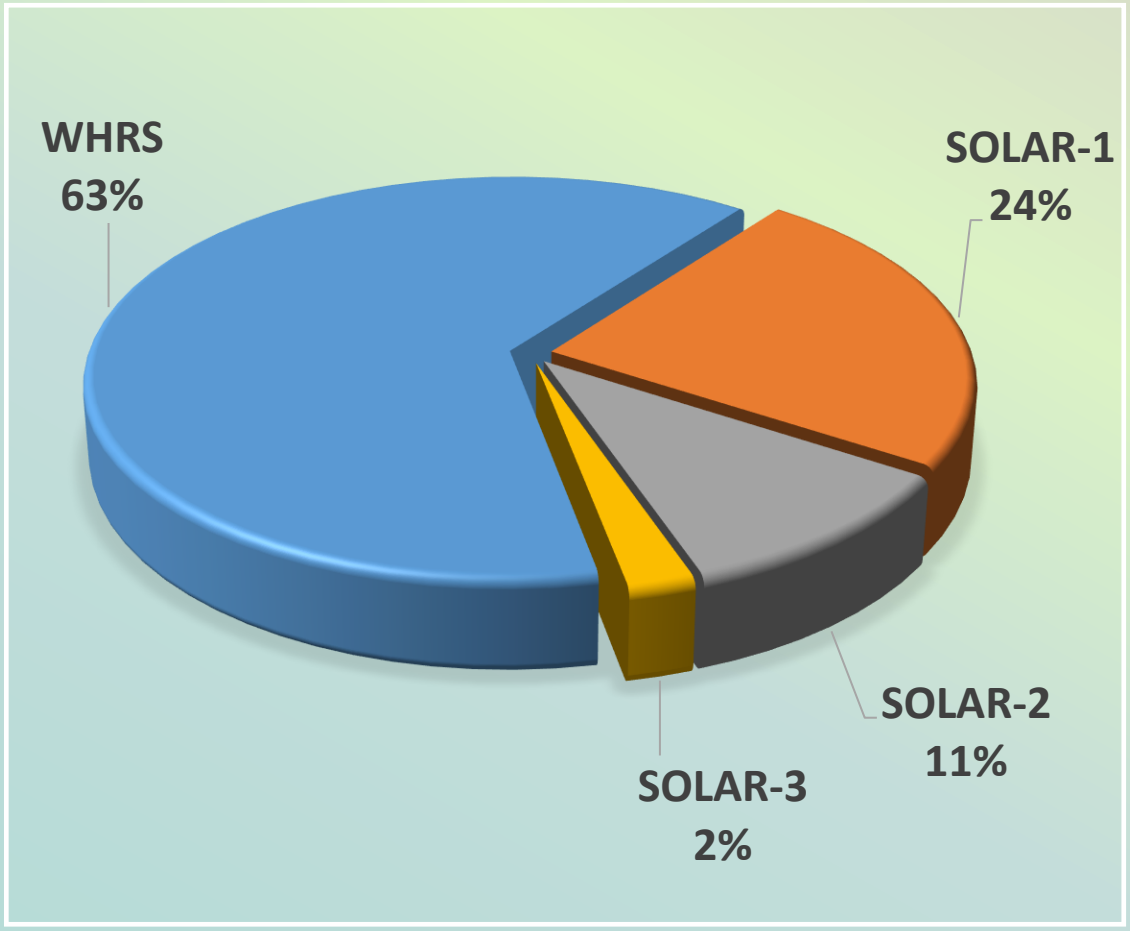
- UCWL has developed inhouse bulk Cement loading infrastructure.

Key Advantage:-

- Innovative method to transport loose cement by a **Greener Mode** of Transportation by shifting from **Diesel-based Bulkers to Electric-Based Rakes**.
- In association with Container Corporation of India Ltd. UCWL has become the **First cement** company in the **North-West Region** to implement this inventive step towards achieving logistical efficiency and environmental conservation by saving around **20,000 KG CO_2** per rake movement.

RENEWAL ENERGY UTILIZATION %





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On-site Solar Generation

Confederation of Indian Industry

Year	Technology	Installed capacity (in MW)		Generation (in Million kWh)	Consumption (in Million kWh)	Share %
		Capacity	Total Capacity			
2020-21	SOLAR-1	10.1	10.1	11.03	11.03	11
2021-22	SOLAR-1	10.1	14.45	17.12	17.12	14.25
	SOLAR-2	4.35				
2022-23	SOLAR-1	10.1	15.45	20.98	20.98	15.96
	SOLAR-2	4.35				
	SOLAR-3	1				

RPO :

Reference : *RRECL RPO Order 528 ,*

Table-3: Final RPO targets approved for the state Discoms

S.NO.	FY	Obligation expressed as percentage of energy consumption (%) excluding consumption met from hydro source of power.			
		Non- solar		Solar	Total
		Wind	Biomass		
1	2018-19 (revised)	8.00%	0.60%	4.75%	13.35%
2	2019-20	8.30%	0.70%	6.00%	15.00%
3	2020-21	8.60%	0.80%	7.25%	16.65%
4	2021-22	8.90%	0.90%	8.50%	18.30%
5	2022-23	9.10%	1.00%	9.50%	19.60%
6	2023-24	9.40%	1.10%	10.50%	21.00%

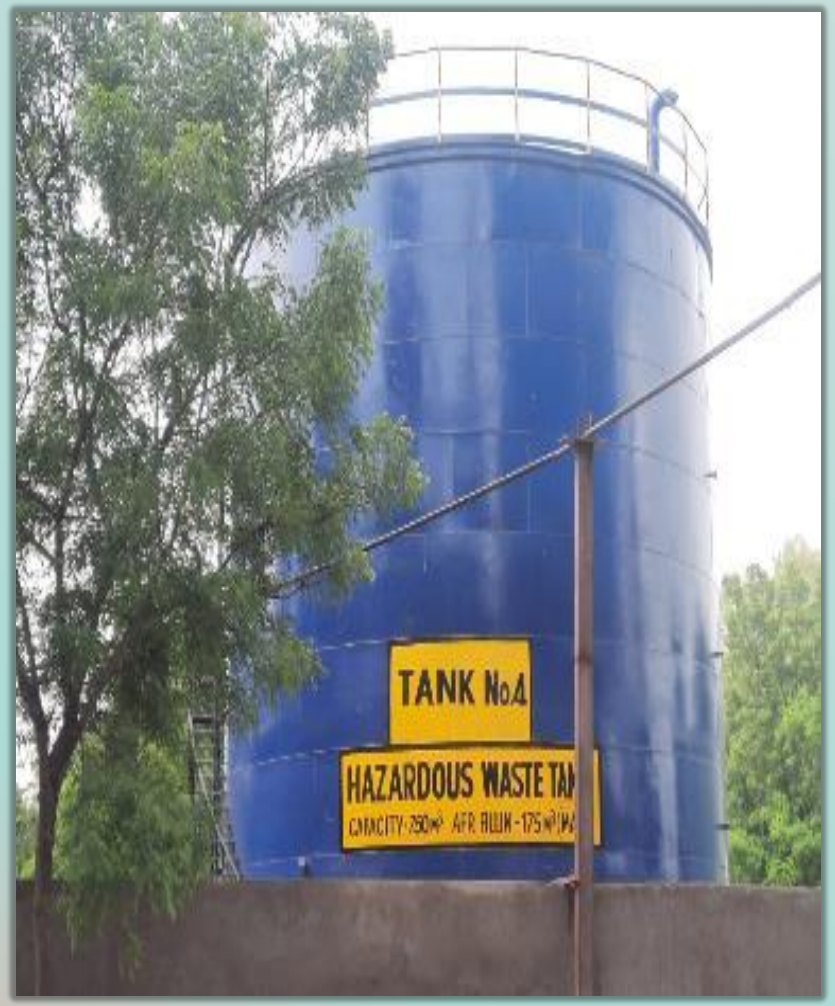
Alternate Raw Material Utilization

Year (2021-23)	Waste as Raw Material	Quantity	Replaced Material	Waste as Percentage of Raw Material %
FY 2020-21	Wet Fly ash	14665	Alumina Clay	10.08
	FF Slag	34314	Red Ochre	100
	Jarosite	7498	Gypsum	10.51
FY 2021-22	Wet Fly ash	6828	Alumina Clay	3.82
	FF Slag	37789	Red Ochre	100
	Jarosite	8713	Gypsum	1.34
FY 2022-23	FF Slag	59021	Red Ochre	100
	Jarosite	9163	Gypsum	8.59

UCWL UDAIPUR CEMENT WORKS LIMITED

AFR Storage Facility

Confederation of Indian Industry



Purpose:

- Inconsistency in Quality of Liquid AFR.

Benefit:

- Increase efficiency as the fuel quality is consistent through out the tank.
- Improved Fuel Quality through Efficient Homogenization.
- Reduced Maintenance cost by preventing the sedimentation.
- Process Optimized as Unexpected CO generation during AFR firing is eliminated .
- Enhanced Safety Management .

AFR Consumption Increased from 5 % to 10 %

UCWL UDAIPUR CEMENT WORKS LIMITED

(AFR) Co-processing (YoY)

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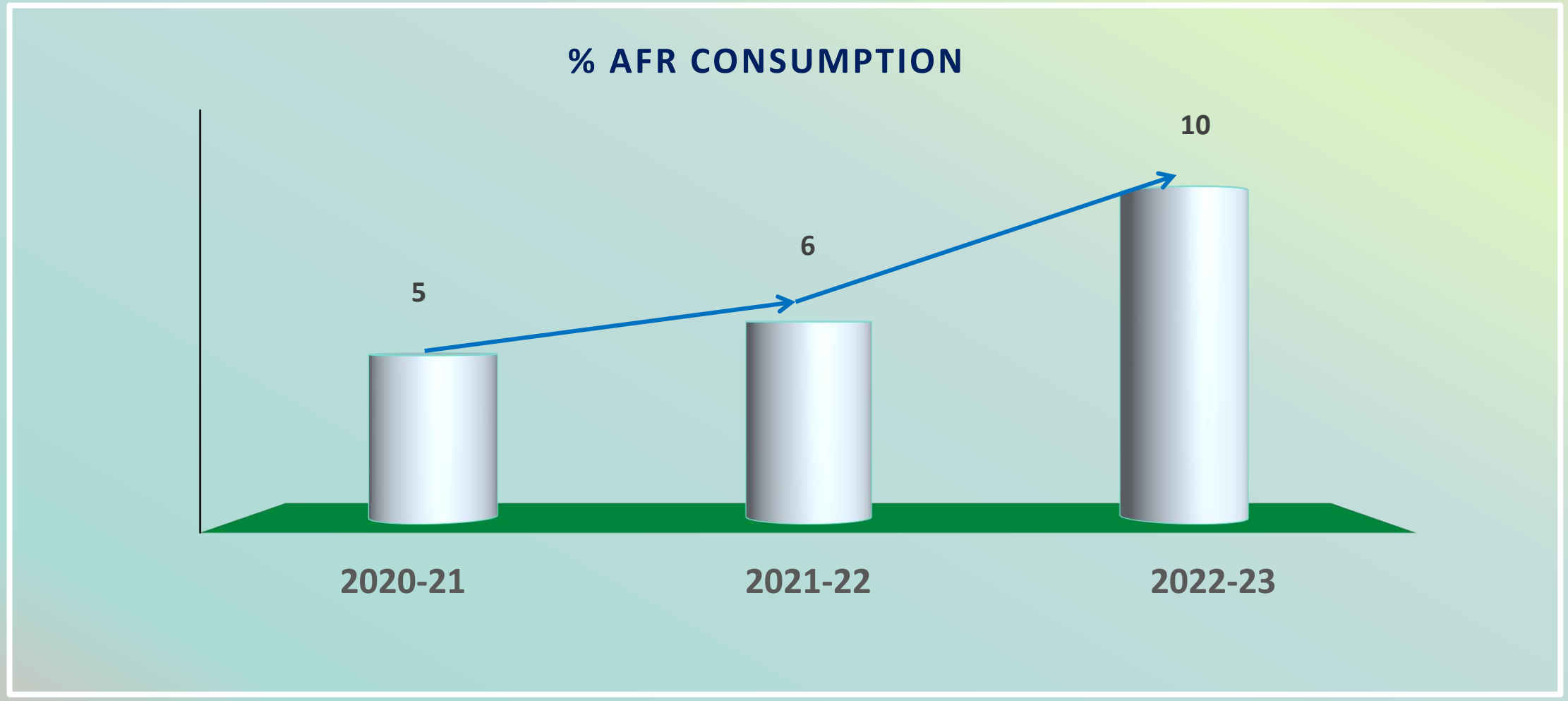

Carbon Policy

UCWL UDAIPUR CEMENT WORKS LIMITED

ENERGY & CARBON POLICY

Title	Energy & Carbon Policy
Version Number	1
Effective Date	1st May 2023
Authorised By	Whole-time Director
Number of Revisions	-
Last Revised Date	-

Udaipur Cement Works Ltd. recognises that the energy consumption and carbon emissions are the two most important issues currently affecting the planet. We comprehend the risk of dependence on fossil fuels and associated carbon emissions related to our operations. The Company is committed to design, manufacture and distribute our products & services in an energy efficient manner to become a green company.

The Company is committed to:

- Complying with all applicable legal and other requirements related to our energy & carbon regulation, consumption and efficiency.
- Raise awareness to encourage efficient use of energy resources, with a focus on reducing its energy intensity and carbon footprint of operations and products.
- Increase the use of renewable energy wherever possible.
- Evaluate technically and financially feasible and cost-effective options to reduce potential carbon emissions during the construction and operation of new projects.
- Continually improve energy and carbon management within and across the supply and value chains by adopting economically viable management systems and best practices.
- Engage with internal and external stakeholders and wider communities to understand and collaborate on actions promoting reduced energy intensity and low carbon approaches to benefit both the Business and Society at large.

Admin. Office: Nehru House, 4, Bahadur Shah Zafar Marg, New Delhi - 110002 | Phone: +91-11-66001142 / 66001112 | Fax: +91-11-66001142 | Email: ucwl.customercare@ucwl.jkmail.com | **Works & Regd. Office:** Shripati Nagar, CFA, P.O. Dabok, Udaipur - 313022, Rajasthan | Phone: +91-294-2655076 | Fax: +91-294-2655077 | Email: ucwl@ucwl.jkmail.com
CIN: L26943RJ1993PLC007267

- Enhancing effectiveness of Energy Management System by ensuring the availability of information and necessary resources to achieve the objectives and targets.
- Integrating energy policy into our business planning, decision making and performance review at appropriate level.
- Increase the use of Alternative Fuel & Raw Materials (AFR) in our manufacturing and other operations, wherever applicable.
- Monitor, measure and report energy usage and carbon emissions in compliance with internationally recognised protocols and communicate approach and achievements to relevant stakeholders.
- Communicate this policy to all our employees, person working for and on our behalf and also to suppliers and stakeholders.

This policy shall be reviewed periodically for its suitability and updated as necessary.

Date: 01/05/2023
Place: Udaipur

Naveen Kumar Sharma
(Whole-time Director)

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CIN: L26943RJ1993PLC007267

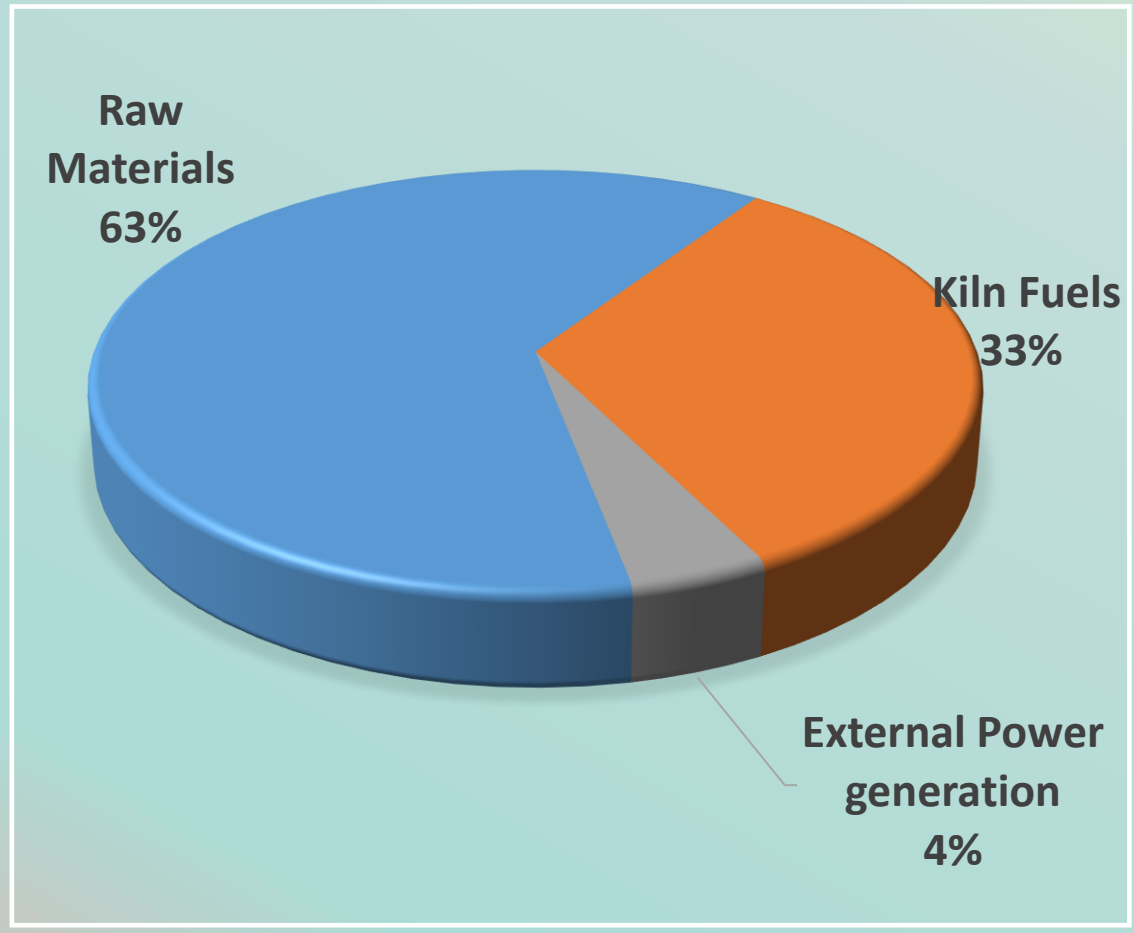
PLATINUM HEAVY DUTY CEMENT
www.udaipurcement.com
PLATINUM SUPREMO CEMENT

UCWL UDAIPUR CEMENT WORKS LIMITED

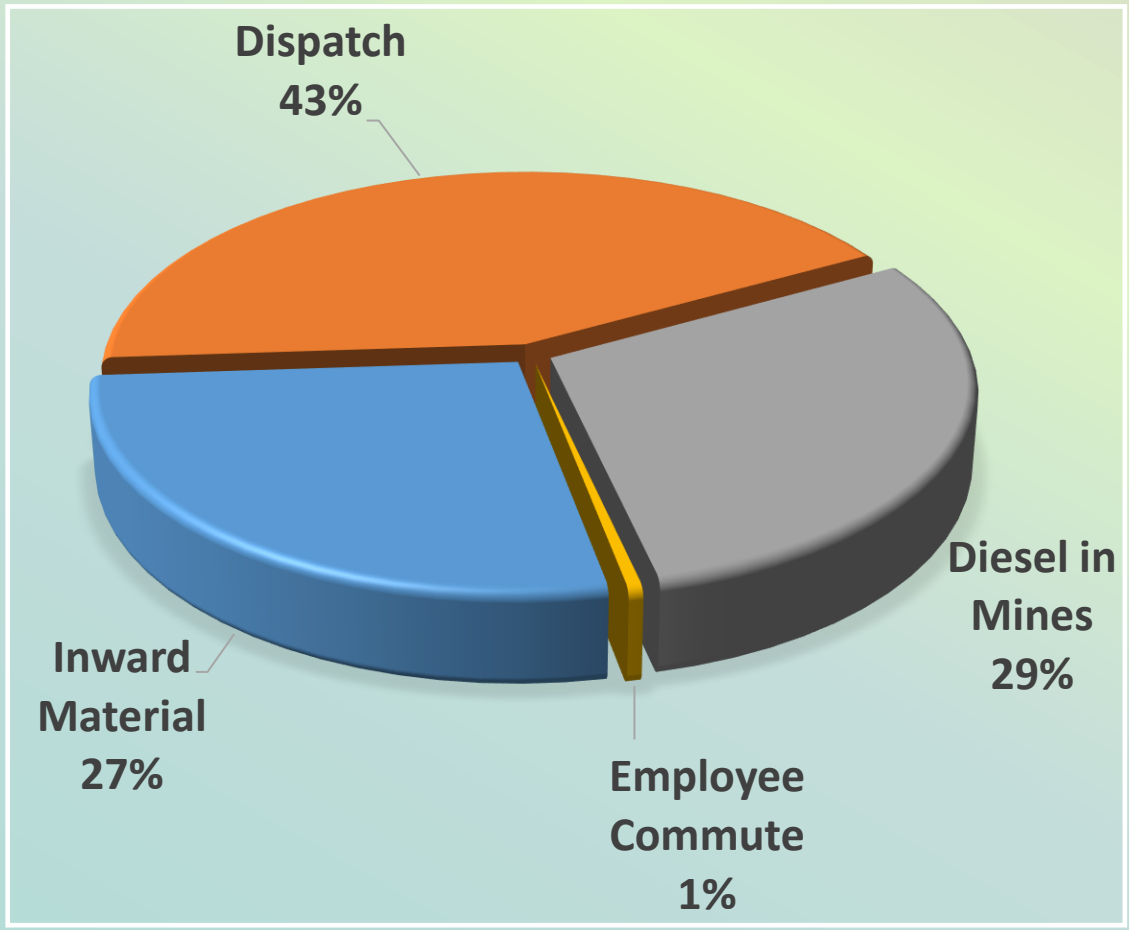
GHG INVENTORIZATION

Confederation of Indian Industry

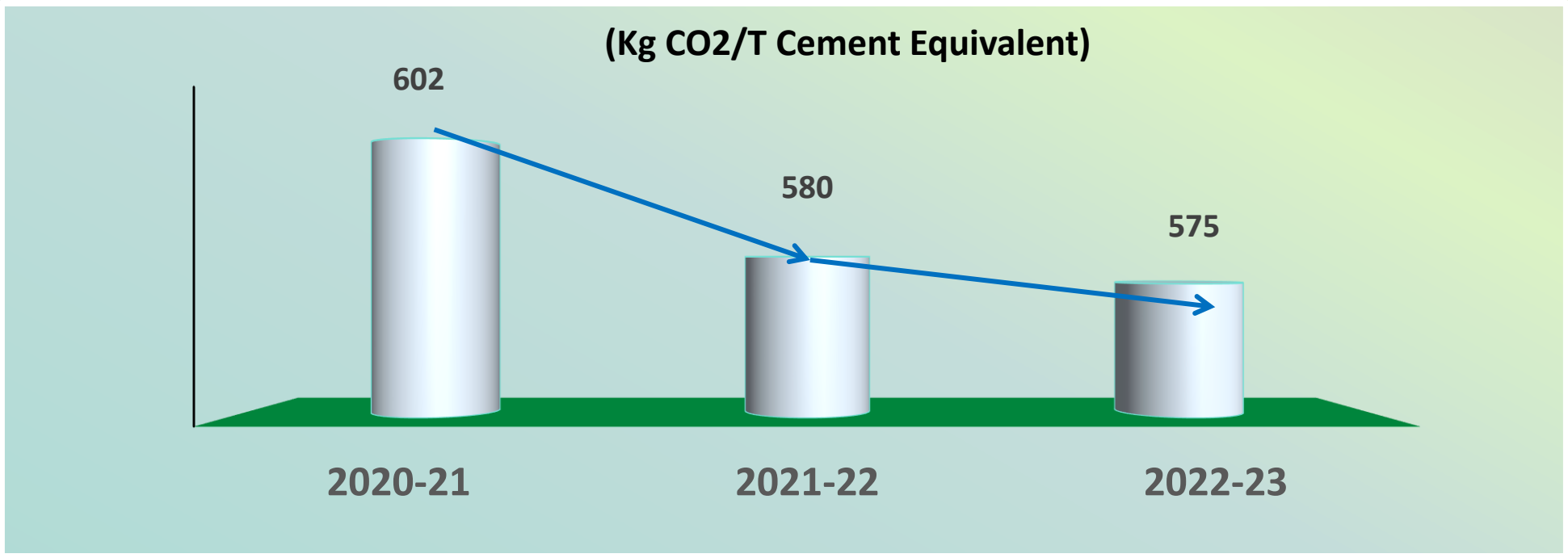
Processes Contributing To Scope-1&2



Scope-3 Contributors



GHG Emission Intensity



Reduction Targets

Short Term

- Installation of Additional Module AQC Boiler
- Installation of Solid AFR System.
- Increase in Liquid AFR Co- Processing from 10 % to 15 %.

Long Term

- Increase in Solar Generation to increase
- Increase in Liquid AFR Co- Processing from 15 % to 20 %.
- Group Target is to Increase TSR from Upto 20 % by 2030.

UCWL UDAIPUR CEMENT WORKS LIMITED

ISO 50001:2018 Certified

Confederation of Indian Industry

Udaipur Cement Works Limited (UCWL)

Integrated Sustainable Development Policy

(Covering ISO 9001:2015, ISO 14001:2015, BS ISO 45001:2018 and ISO 50001:2018)

We at UCWL commit ourselves to work for a better tomorrow by:

- Promoting in-house innovations
- Encouraging purchase of energy-efficient products and services
- Implementing business practices aligned to Sustainable Development Goals
- Complying to all applicable legal, regulatory requirements and mandatory guidelines
- Working for needs of marginalized section of the society through various Corporate Social Responsibility initiatives
- Encouraging interactive participation from all relevant interested parties to identify viable aspects of continual improvement, to improve bottom line
- Ensuring better Workplace & Culture through providing required resources, training, safe & healthy work environment and minimizing hazards & risks
- Improving environmental aspects and tailing off through adoption of resource efficient technology, use of alternative fuels & raw materials, renewable energy and being water conscious to deliver sustainable products.

We shall imbibe the above commitments in our operations by communicating the same to all interested parties.

Date: 15-09-2020
UDAIPUR

(Naveen Kumar Sharma)
Whole Time Director

UCWL UDAIPUR CEMENT WORKS LIMITED

PLATINUM HEAVY DUTY CEMENT

BUREAU VERITAS

Bureau Veritas Certification

UDAIPUR CEMENT WORKS LIMITED

UCWL

SHRIPATINAGAR, P.O. C.F.A, DABOK, UDAIPUR – 313 022, RAJASTHAN, INDIA.

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organization has been audited and found to be in accordance with the requirements of the Management System Standard detailed below.

Standard

ISO 50001:2018

Scope of certification

MANUFACTURE AND DISPATCH OF CLINKER, ORDINARY PORTLAND CEMENT (OPC) AND PORTLAND POZZOLANA CEMENT (PPC)

Original cycle start date: **23 May 2019**

Recertification cycle start date: **23 May 2022**

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: **22 May 2025**

Certificate No. **IND.22.15051/EN/U** Version: **1** Revision date: **23 May 2022**

Signed on behalf of BVCH SAS UK Branch
Jagdheesh N. MANIAN
Director – CERTIFICATION, South Asia
Commodities, Industry & Facilities Division

UKAS MANAGEMENT SYSTEMS 0008

Certification body address: 5th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom.

Local office: Bureau Veritas (India) Private Limited (Certification Business) 72 Business Park, Marol Industrial Area, MIDC Cross Road "C", Andheri (East), Mumbai – 400 093, India.

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization. To check this certificate validity please call **+ 91 22 6274 2000.**

UCWL UDAIPUR CEMENT WORKS LIMITED

Commitment : Net Zero By 2040

Confederation of Indian Industry

- Improving Blended Cement By 20 %

- Increasing RE Share & Energy Efficiency In Total Energy Mix

- Increasing Use Of AFR- Reducing Coal Consumption By 20 %

Members of RE100 & EP100

UCWL UDAIPUR CEMENT WORKS LIMITED

AWARDS AND ACCOLADES

Confederation of Indian Industry

UCWL UDAIPUR CEMENT WORKS LIMITED

Confederation of Indian Industry

Thank You

Do You have any question?

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Ronit Singh

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