



SREE JAYAJOTHI CEMENTS PRIVATE LIMITED ***MYHOME GROUP***



CII National Award for Excellence in Energy Management 2023

Presenting Team:

Mr.Narsi Reddy - Head Process

Mr. Raja Narsi Reddy - Head Elec



1.0 Group Profile



My Home Group was established in the year 1998 with an installed capacity of 0.2 MTPA, which has now risen to 15 MTPA

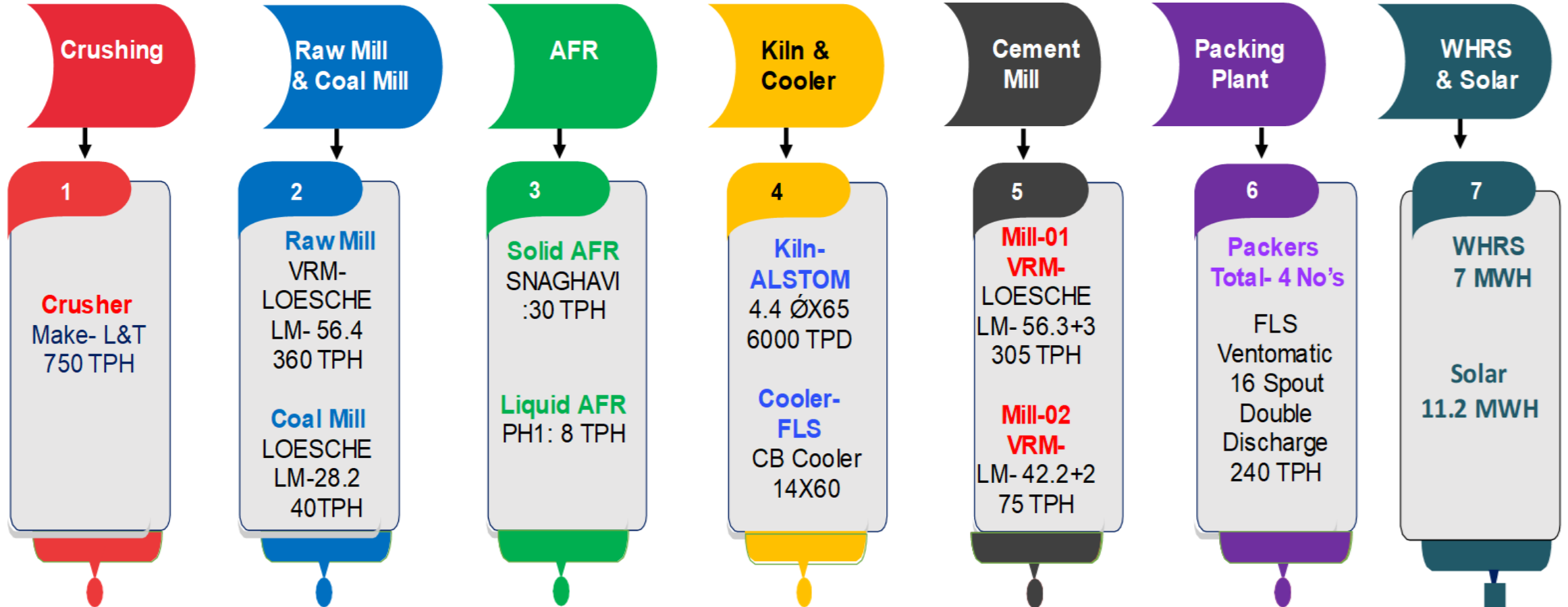


Location Wise	Capacity
SJCPL-Yanakandla Cement Works- Nandyal	3.2 MTPA
Mellacheruvu Cement Works- Kodad	3.3 MTPA
Vizag Grinding Unit- Yalamanchili	2.0 MTPA
Tuticorin Grinding Unit- Tamilnadu	1.5 MTPA
MCW unit-4 (under progress)	3.5 MTPA
Orissa Grinding unit(Under Progress)	1.5 MTPA
Total	15.0 MTPA

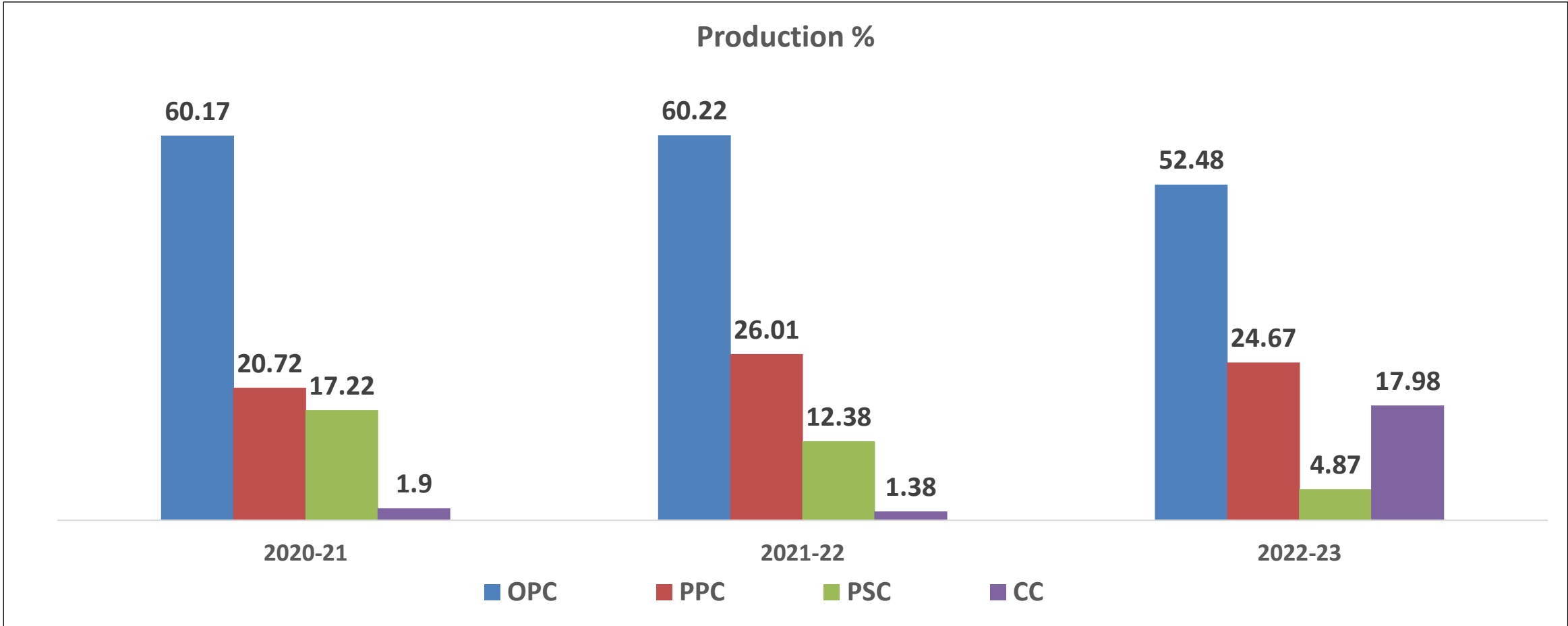


SJCPL Plant
Clinker Capacity : 2.2 MTPA
Cement Capacity : 3.2 MTPA

1.1 Technology & Major Equipment Specification

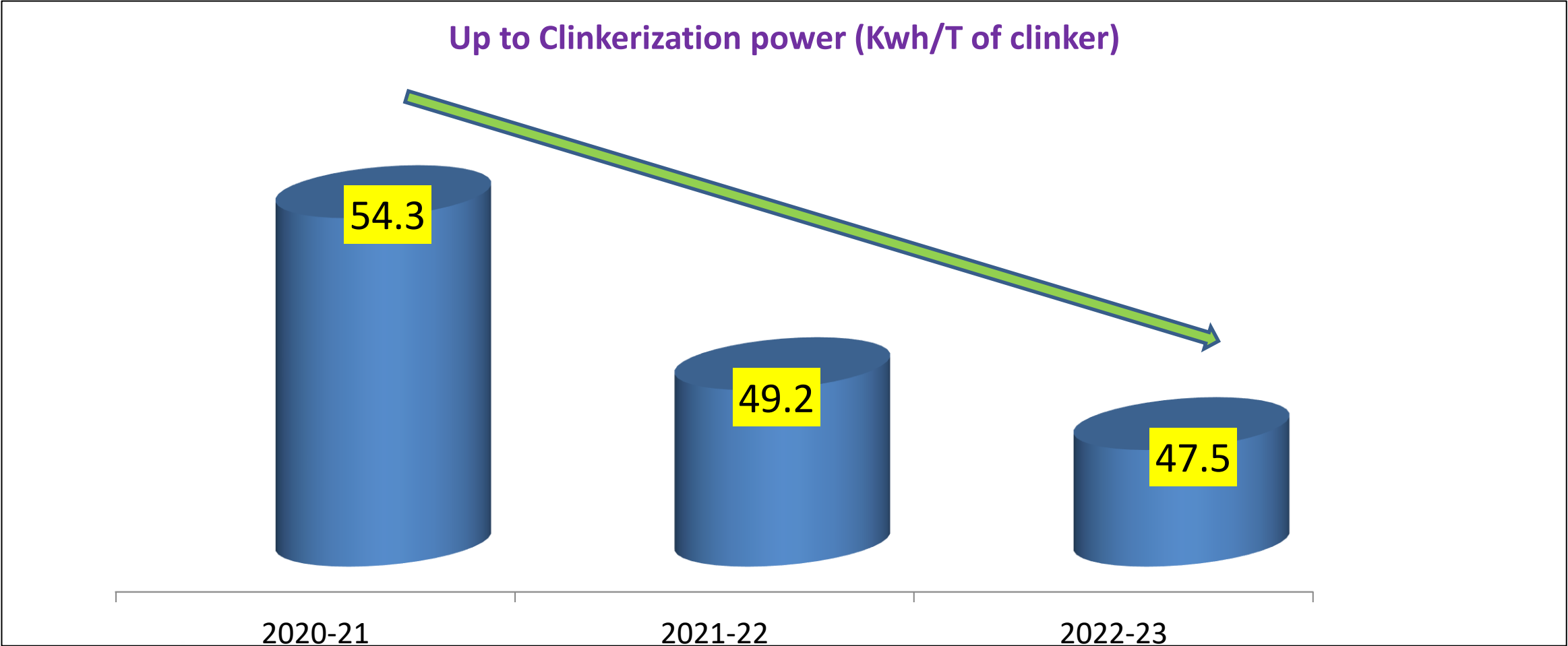


1.2 Products



Blended Cement percentage increased by 7.7% in Past three years

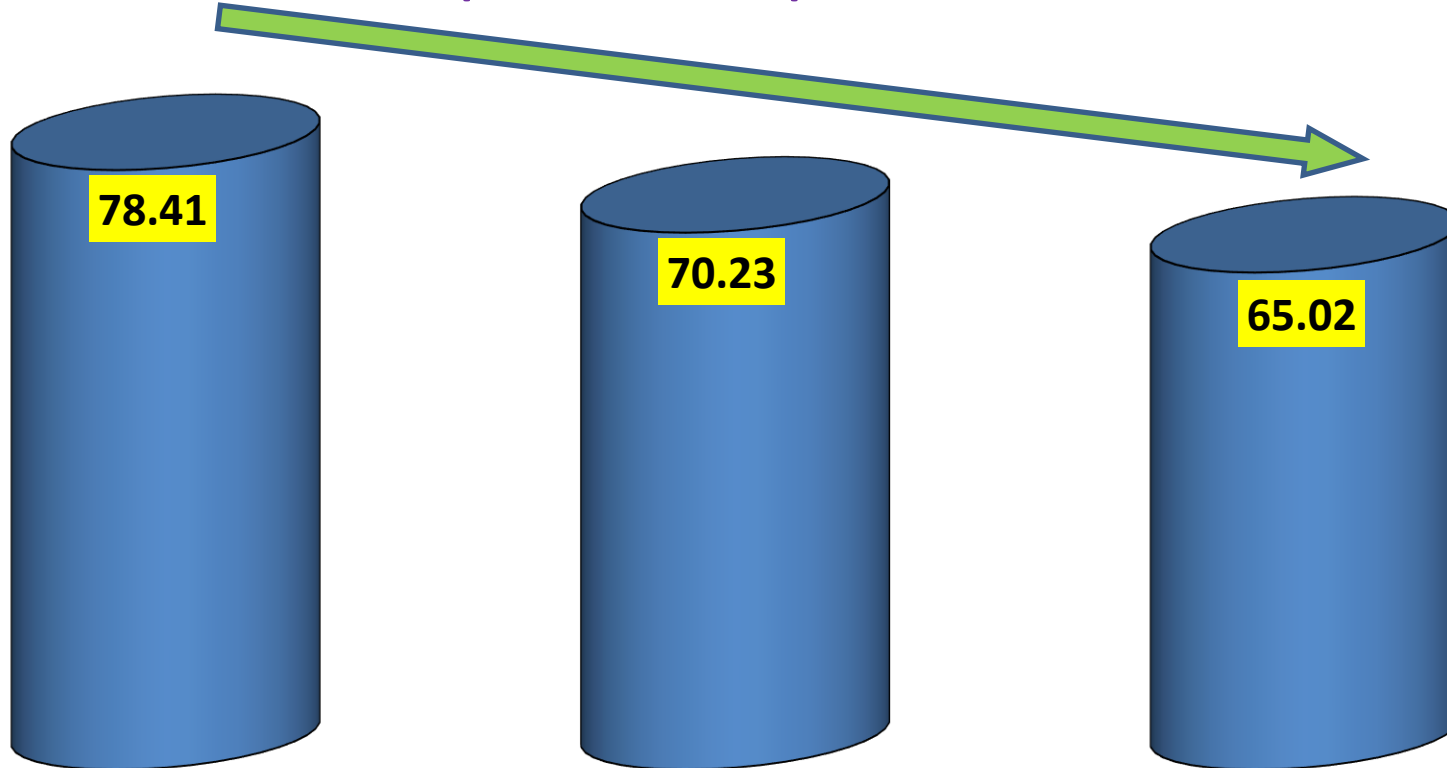
2. Up to Clinkerization power for last 3 years



Sp power consumption reduced by 12.5% in Past three years

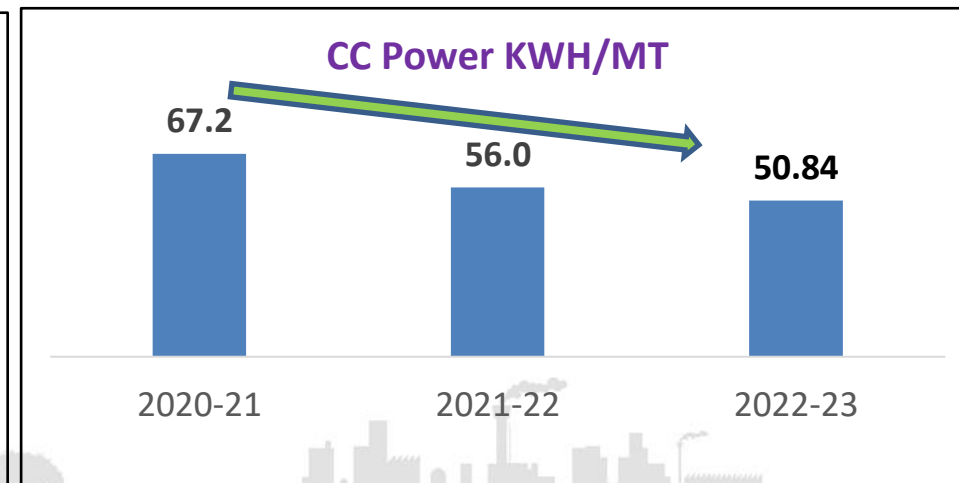
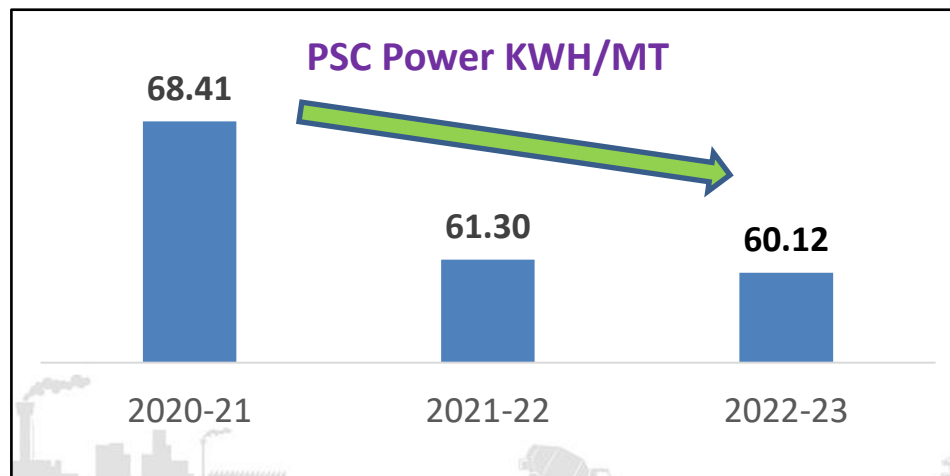
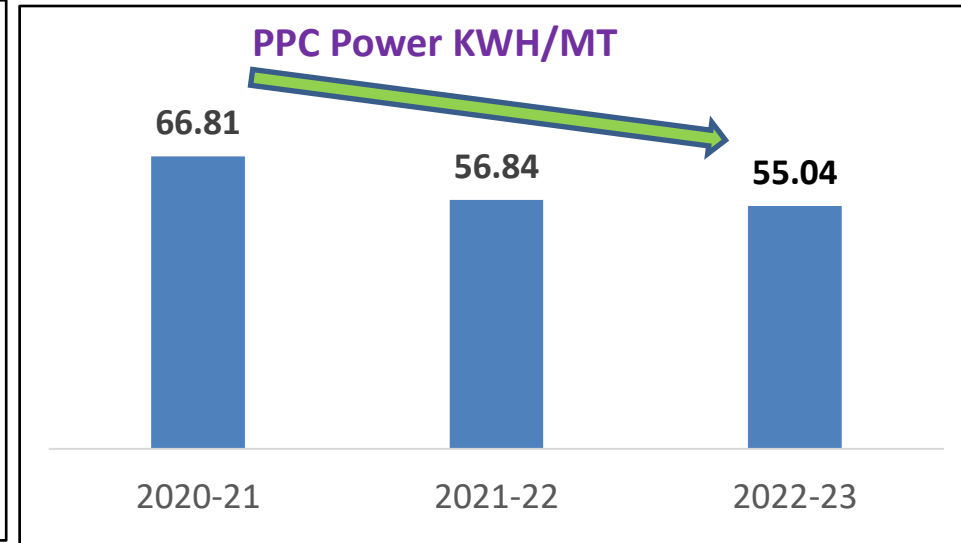
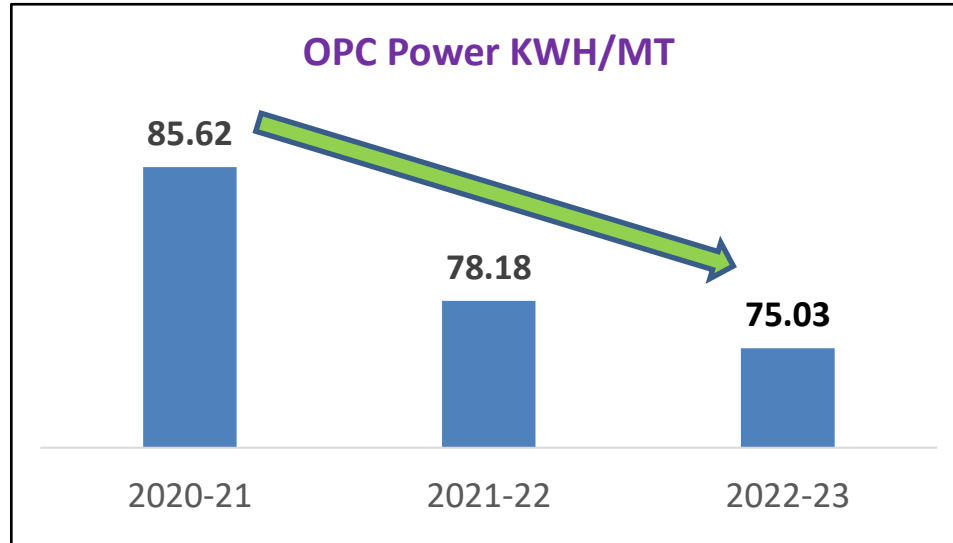
2. Total Cement Power Consumption for last 3 years

Total Cement power consumption: Kwh/T of Cement

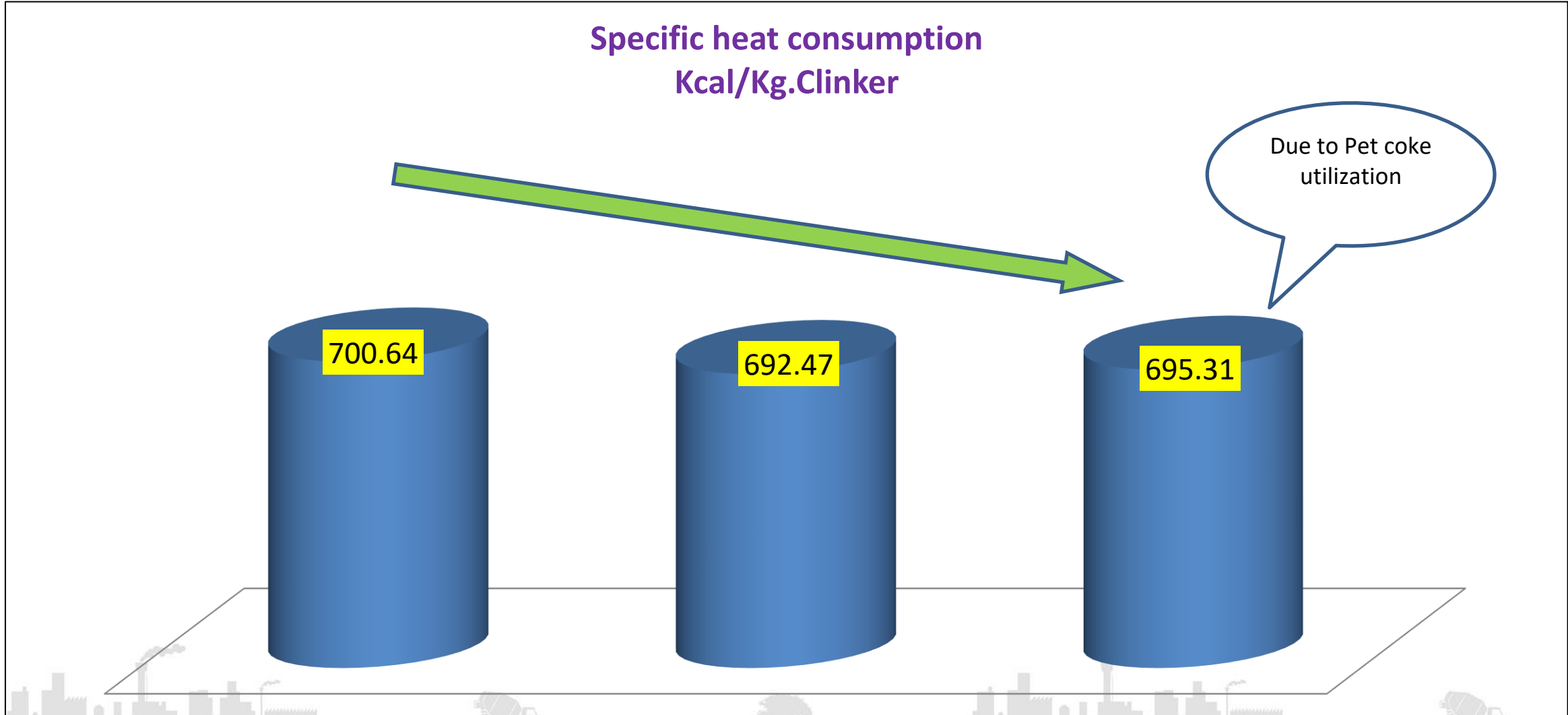


Overall Sp power consumption reduced by 17.0% in Past three years

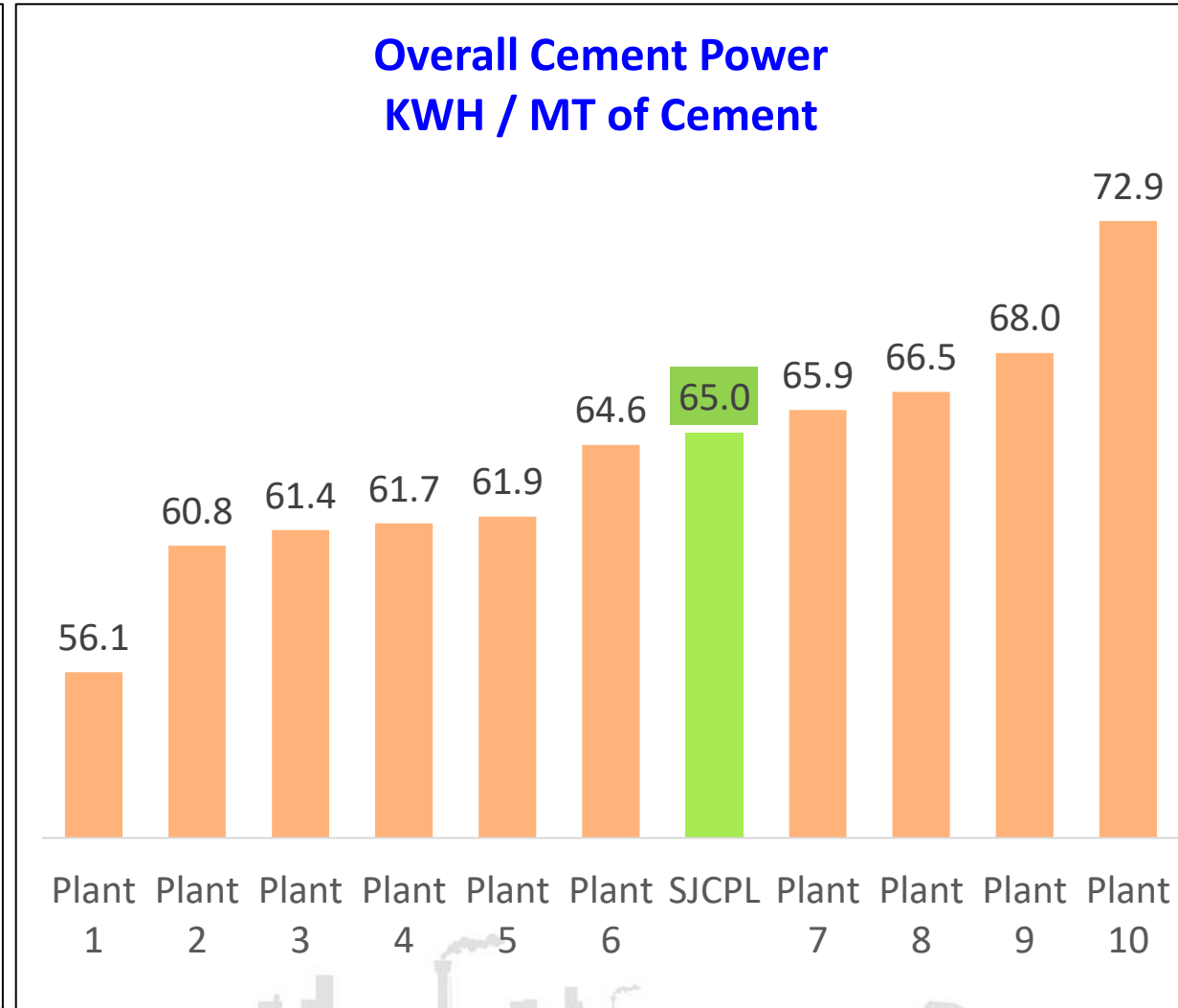
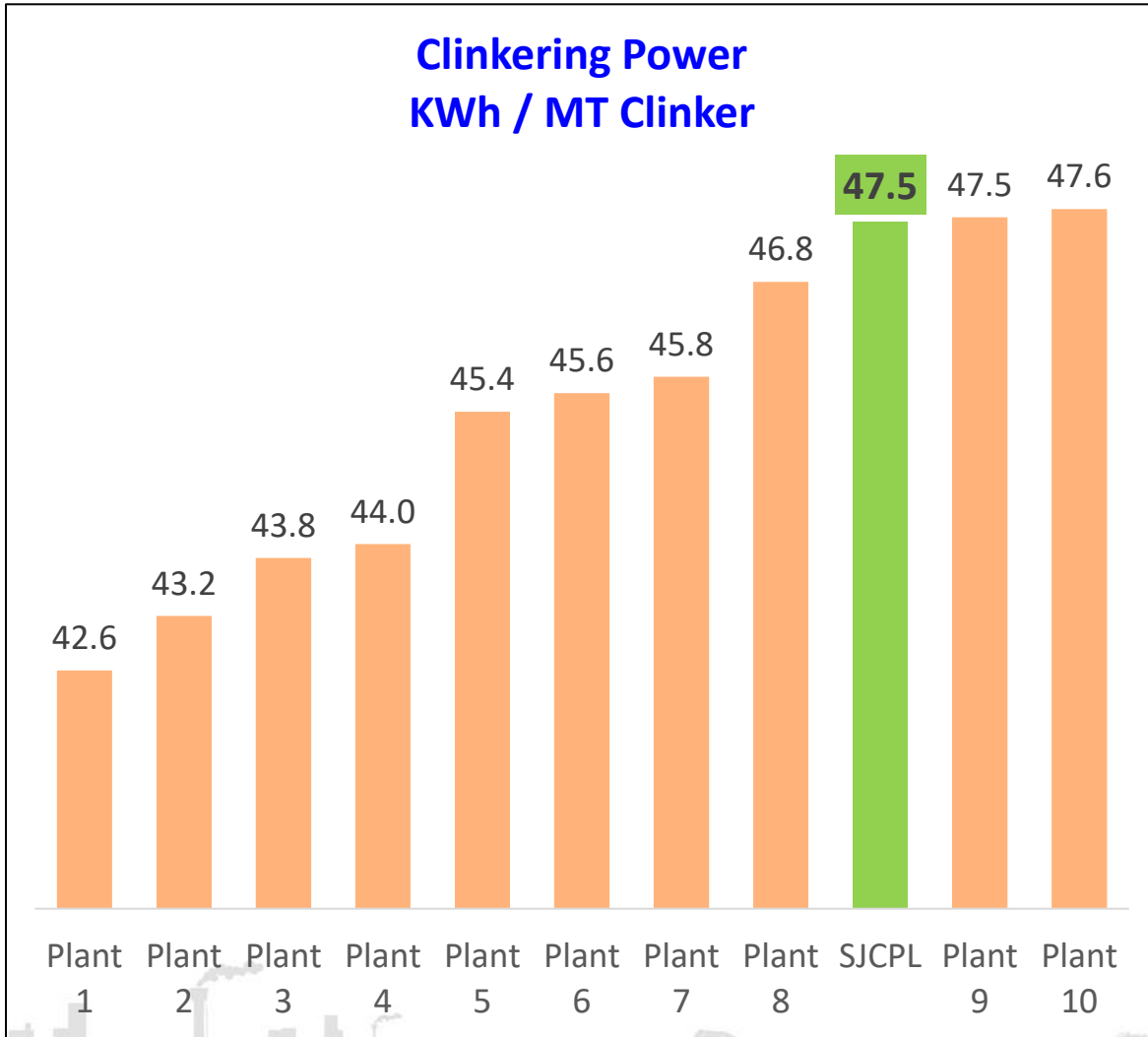
2 . Specific Energy Consumption for last 3 years



2. Specific Heat Consumption for last 3 years

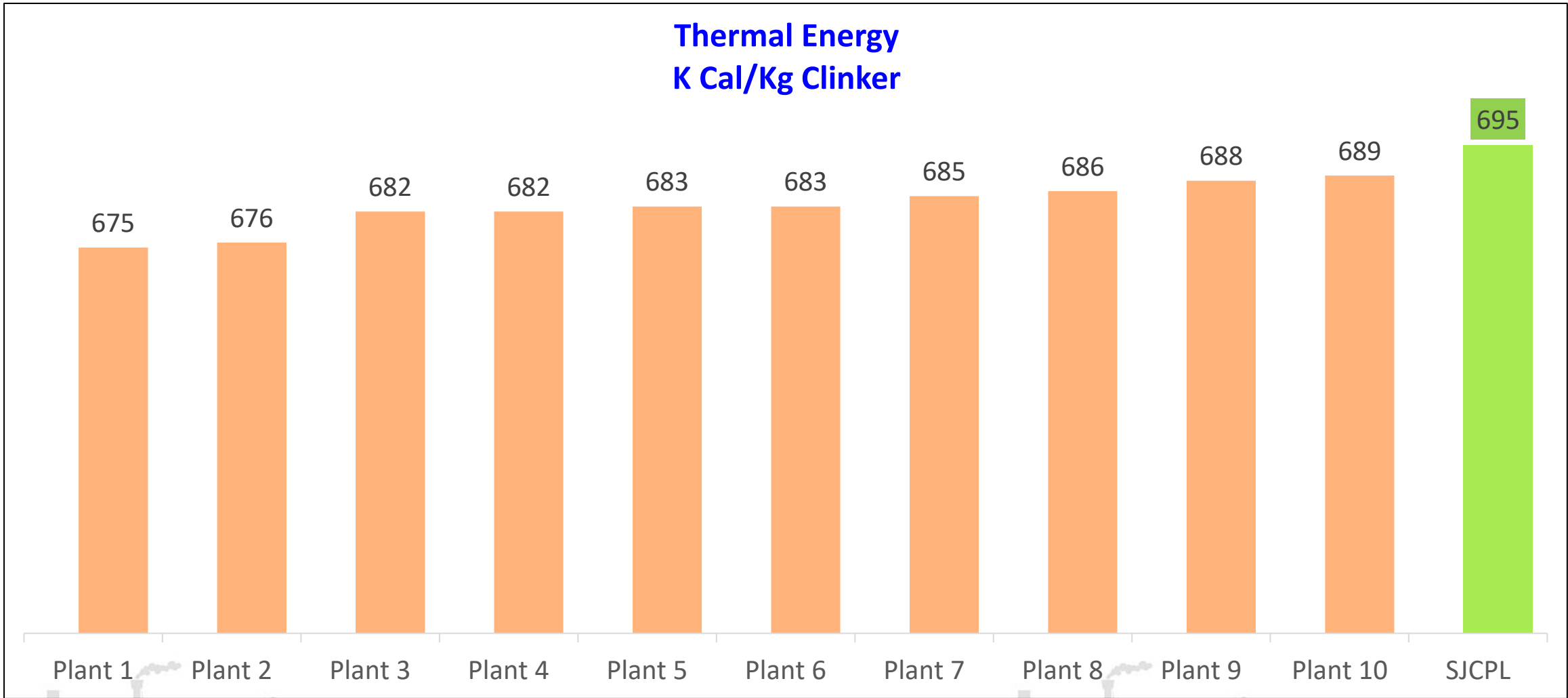


3.1 National Benchmarking



Source: CII Bench marking

3.1 National Benchmarking



3.2 Long term Target setting

Section	Particular	Units	Achieved (2022-23)	Target (2023-24)	Target (2024-25)	Target (2025-26)
Clinkerisation	Specific Energy Consumption	kWh/MT Clinker	47.5	47.0	46.0	45.0
Cement Grinding	Specific Energy Consumption	kWh/MT Cement	27.4	26.5	26.0	25.0
Overall Power	Specific Energy Consumption	kWh/MT Cement	65.0	63.0	62.0	60.0
Kiln Sp Heat	Specific heat Consumption	Kcal/Kg Clinker	695	694	692	690
AFR	TSR	%	1.5	13	20	25

3.3 Major Encon Projects planned during 2023-24

S.No	Proposed Major Energy Efficiency projects	Investment Rs. Lakhs	Estimated Savings (Rs. Lakhs)
1	Installation of SAFR	2500	309
2	Slag mill fan outlet duct replacement with higher size to reduce the positive pressure	10	5.47
3	VFD for cement mill booster fan	47	23.66
4	Magnetic drum separator with vibro feeder arrangement for cement mill reject circuit	50	64
5	Cooler fan 471 FN2 - Bell mouth modification to reduce pressure drop	0.5	6.78
6	Slag Mill Bag house Dust settling hopper arrangement	5	10
7	VFD for ACW pump at WHRS	8	4.1
Total		2620	423

4. Summary of Energy Saving projects implemented in last 3 years

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Year	No of Energy Saving projects	Investment (INR Million)	Electrical savings (Million KWh)	Thermal savings (Million Kcal)	Total savings (INR Million)	Impact on SEC (kWh /MT cement)
2020-21	10	5.5	2.2	0	13.3	1.2
2021-22	7	11.3	1.8	0	11.1	1.5
2022-23	8	95.0	3.1	49153	55.7	0.9
Total	25	111.8	7.1	49153	80.1	3.6

4.1 List of Energy Saving projects implemented in 2020-21

S.No	Name of Energy Saving projects	Investment (INR Million)	Electrical savings (Million KWh)	Thermal savings (Million Kcal)	Total savings (INR Million)
1	Raw mill fan inlet duct modification for reducing pressure drop	0.4	0.40	0	2.38
2	Modification of RMBH fan inlet suction box	0.2	0.17	0	1.03
3	Cement mill booster fan Optimization	0.2	0.52	0	3.12
4	Installation of 2 Nos of VFD for Main cooling water pump at WHRS	0.0	0.26	0	1.58
5	Installation of high efficiency fan impeller for cooler ESP fan	2.9	0.59	0	3.52
6	406 Nos of LED Lights installed in place of conventional lights	1.4	0.14	0	0.85

4.1 List of Energy Saving projects implemented in 2020-21

S.No	Name of Energy Saving projects	Investment (INR Million)	Electrical savings (Million KWh)	Thermal savings (Million Kcal)	Total savings (INR Million)
7	Implemented interlock for WHRS bypass damper auto operation with raw mill ON/OFF	0.0	0.01	0	0.07
8	PH False air leakages arresting by changing expansion Bellows	0.2	0.07	0	0.44
9	Coal Mill False air entry arrested in Bag house	0.1	0.02	0	0.13
10	Raw Mill circuit False air entry arrested in Roller seal area	0.1	0.03	0	0.15
	Total	5.5	2.2	0	13.3

4.2 List of Energy Saving projects implemented in 2021-22

S.No	Name of Energy Saving projects	Investment (INR Million)	Electrical savings (Million KWh)	Thermal savings (Million Kcal)	Total savings (INR Million)
1	Cement mill Bag house fan inlet duct modification for reducing pressure drop	0.5	0.51	0	3.04
2	Slag mill Bag house fan inlet duct modification for reducing pressure drop	0.3	0.14	0	0.84
3	Coal mill booster fan VFD installation	1.5	0.28	0	1.71
4	Cement mill Booster fan VFD installation	8	0.39	0	2.37
5	Removal of Pre-heater fan inlet damper	0.2	0.21	0	1.27
6	Coal mill booster fan inlet cyclone bypass duct made in operation/Installation of VFD	0.1	0.23	0	1.38
7	Replacement of conventional fittings with LED	0.7	0.06	0	0.45
	Total	11.3	1.82	0	11.06

4.3 List of Energy Saving projects implemented in 2022-23

S No	Name of Energy Saving projects	Investment (INR Million)	Electrical savings (Million KWh)	Thermal savings (Million Kcal)	Total savings (INR Million)
1	Installation of Liquid AFR system	90.0	0.0	45102	33.3
2	Replacement of LED fittings	0.6	0.1	0	0.4
3	HAG coal burner modification	0.1	0.0	4051	3.8
4	Installation dust settling hopper for Raw Mill Bag house inlet	1.9	0.3	0	1.5
5	Installation of guillotine damper after AQC bypass damper	2.3	1.2	0	7.2
6	Modification of raw mill center feed chute	0.1	0.5	0	3.2
7	Cement mill (VRM) table stump cone modification	0.0	1.0	0	6.2
8	Coal mill booster fan inlet damper removal	0.0	0.0	0	0.2
	Total	95.0	3.1	49153	55.7

5. Innovative Projects



➤ Problem in Raw mill

- High Rejects with fines
- Mill KW variations (3100-4000 Kwh)
- Mill DP variation / Vibrations

➤ Possible Reason

- cloud burst, where fine material which is in suspension surging from grit cone and increase Rejects/vibrations/Load variations

➤ Project Description:

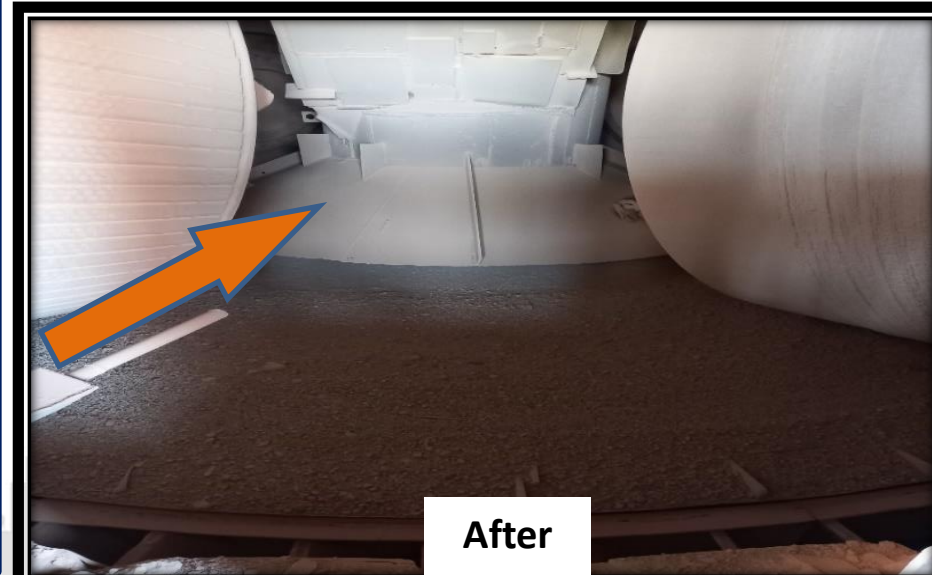
- **Installation of Umbrella chute in center cone discharge area**
- **Gap between Table and Center chute reduced from 700 to 250 mm**

➤ Results:

- Mill KW fluctuation reduced.
- Reduced mill fan rpm from 850 to 845
- Fan power consumption reduced by 105 kWh

➤ Cost benefit analysis:

- Annual Power saving : 5,25,000 Kwh
- Annual Cost saving : 31.5 lakhs
- Investment : Nil
- Pay back period : Immediate



5.2. Installation of Dust settling hopper in Raw Mill Bag house inlet

➤ Problem :

- Raw mill Pulse jet Bag house DP on higher side (180-200 mmwg)

➤ Possible Reason

- Higher material dust load on Bag house
- Lower Air to Cloth ratio

➤ Project Description:

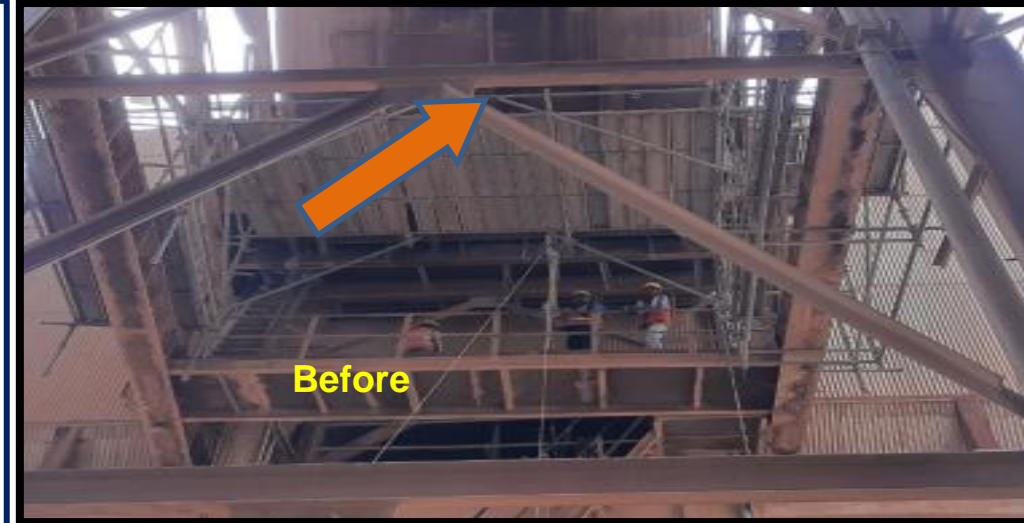
- Installation of Settling chamber in Bag house inlet with GD screen and RAL

➤ Results:

- Raw mill Bag house DP reduced by 60 mm wg
- Raw mill bag house fan power consumption reduced by 38 Kwh

➤ Cost benefit analysis:

- Annual power savings : 2,50,008 Kwh
- Annual cost saving : 15 lakhs
- Investment : 19 Lakhs
- Pay back period : 1.26 years



5.3. Cement mill (Loesche VRM) table stump cone modification

➤ AIM:

- Improving the Cement mill (VRM) output and reduce Sp power Consumption

➤ Project Description:

- **Modification of stump cone (Centre cone) to improve the feed distribution towards rollers and stable operation**
 - ❖ Stump cone Dia Reduced from 2800 mm to 1150 mm
 - ❖ Stump cone Height Reduced from 320 mm to 280 mm

➤ Results:

- Cement mill output increased by 10 TPH
- Mill stability improved
- Mill vibration levels minimized
- Mill availability increased

➤ Cost benefit:

- Annual Power saving : 10,36,826 Kwh
- Annual Cost saving : 62 lakhs
- Investment : Nil
- Pay back period : Immediate

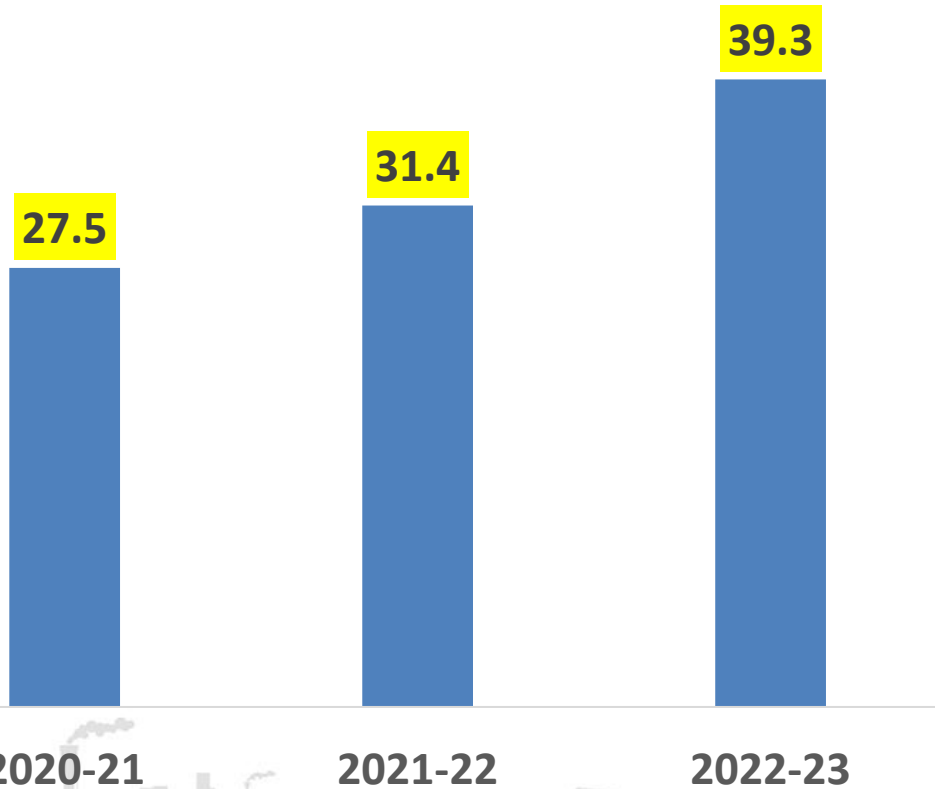


6.1 Solar Power Plant - 11.2MW

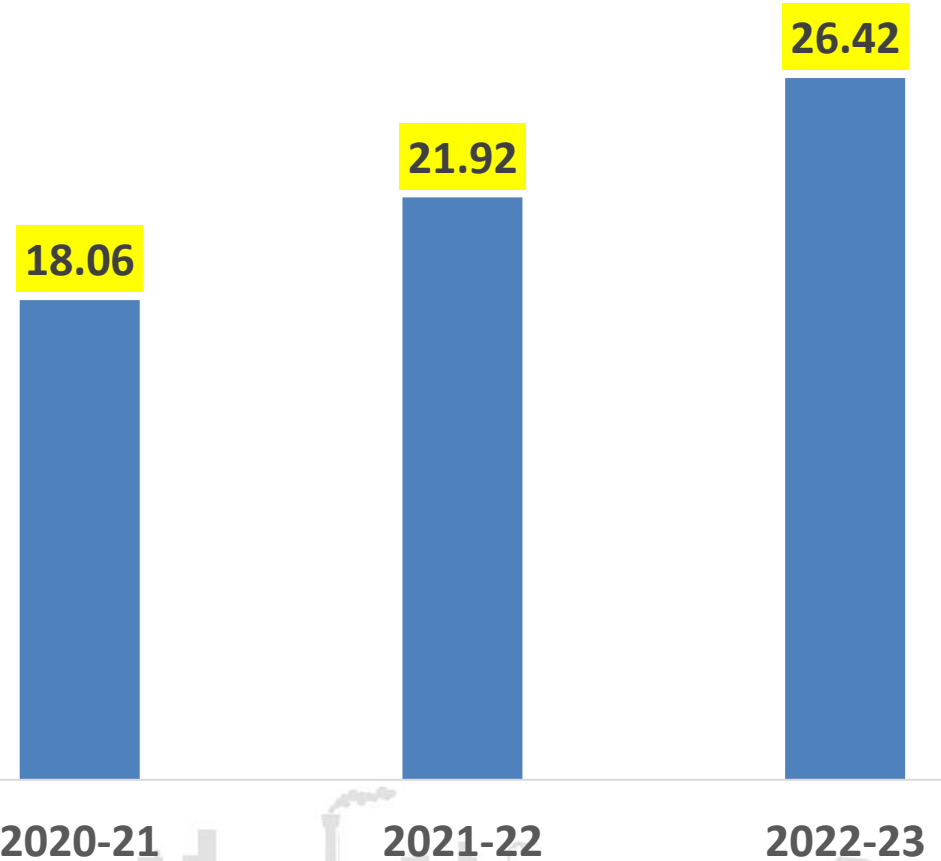


Year	Technology	Installed Capacity(MW)	Generation (Million KWh)	% of overall electrical consumption
2020-21	Solar PV	11.2	17.2	11.5
2021-22	Solar PV	11.2	16.4	12.3
2022-23	Solar PV	11.2	18.2	12.3

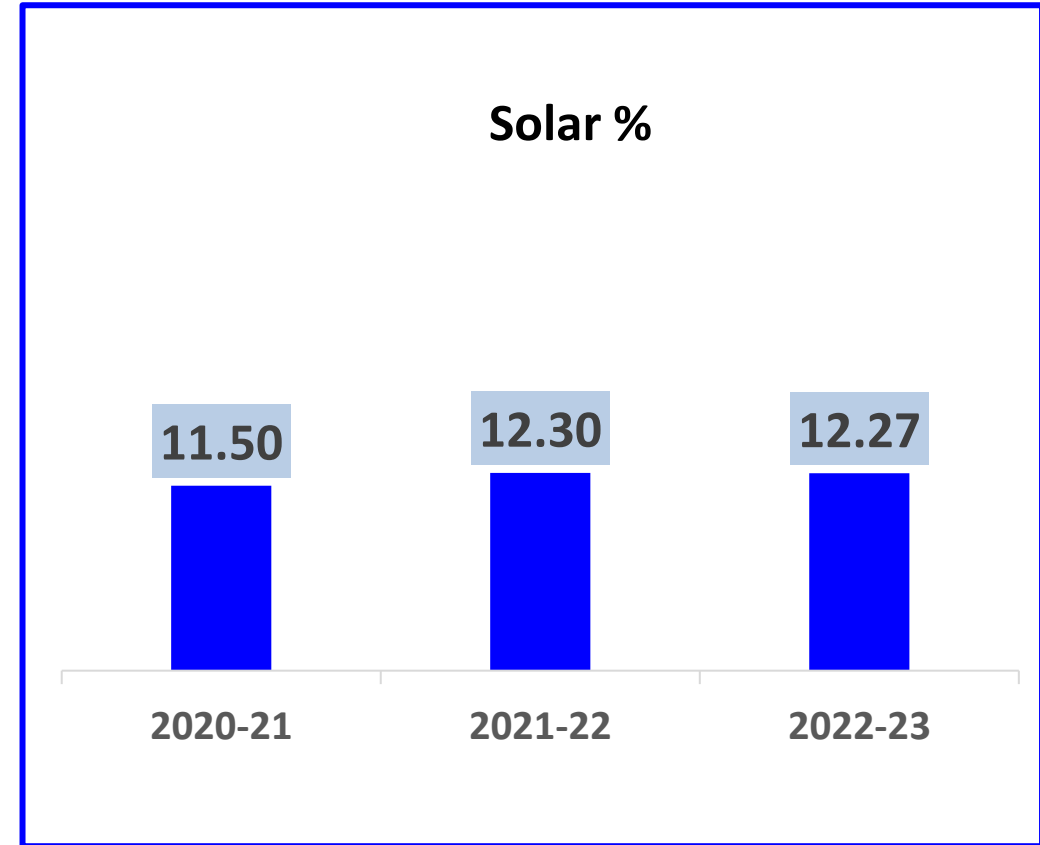
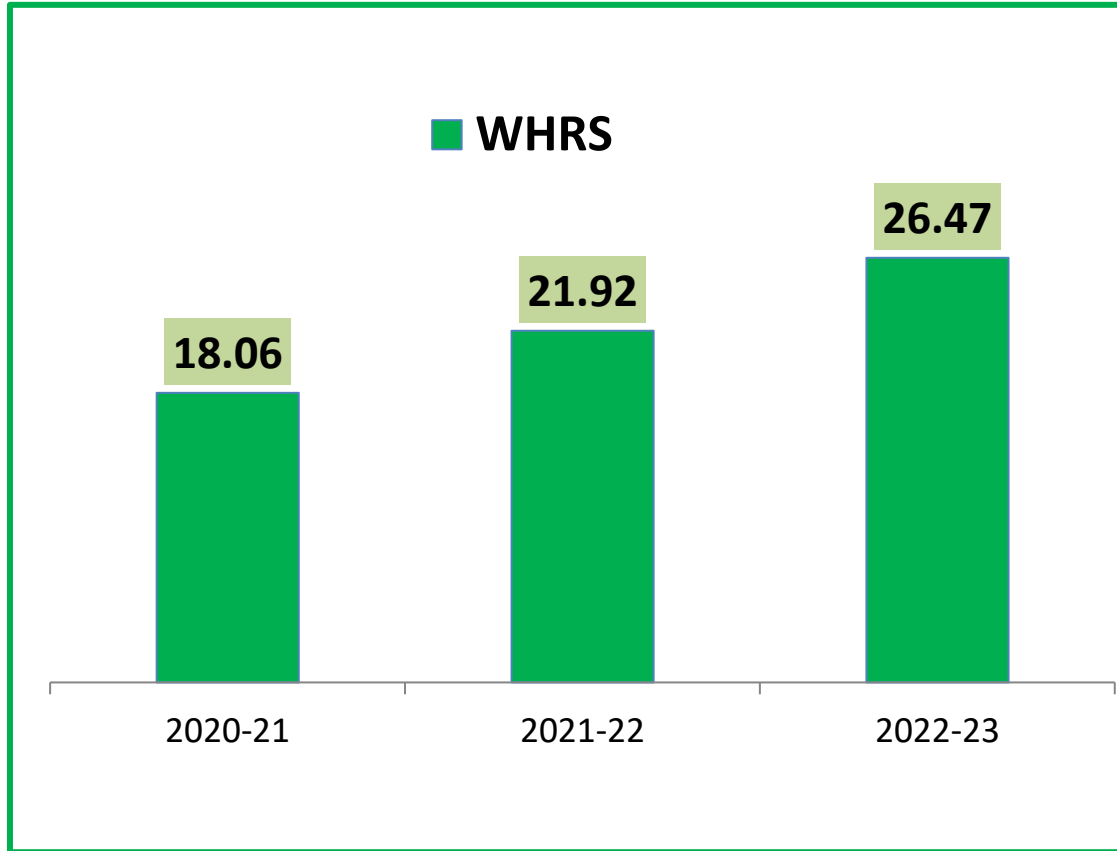
WHR Generation (Million KWh)



% of Grid electrical energy substitution



Utilization of Renewable Energy



38.7% of Total plant electrical energy substitute by Green Power in 2022-23

7. Utilization of Waste/Waste Management

7.1 Installation of Liquid AFR system



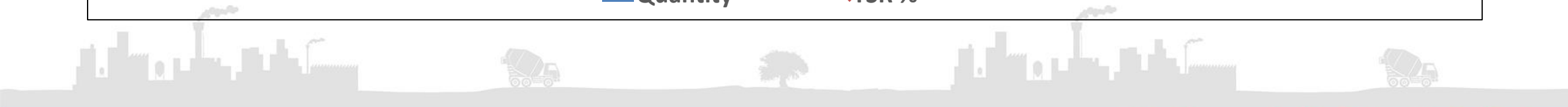
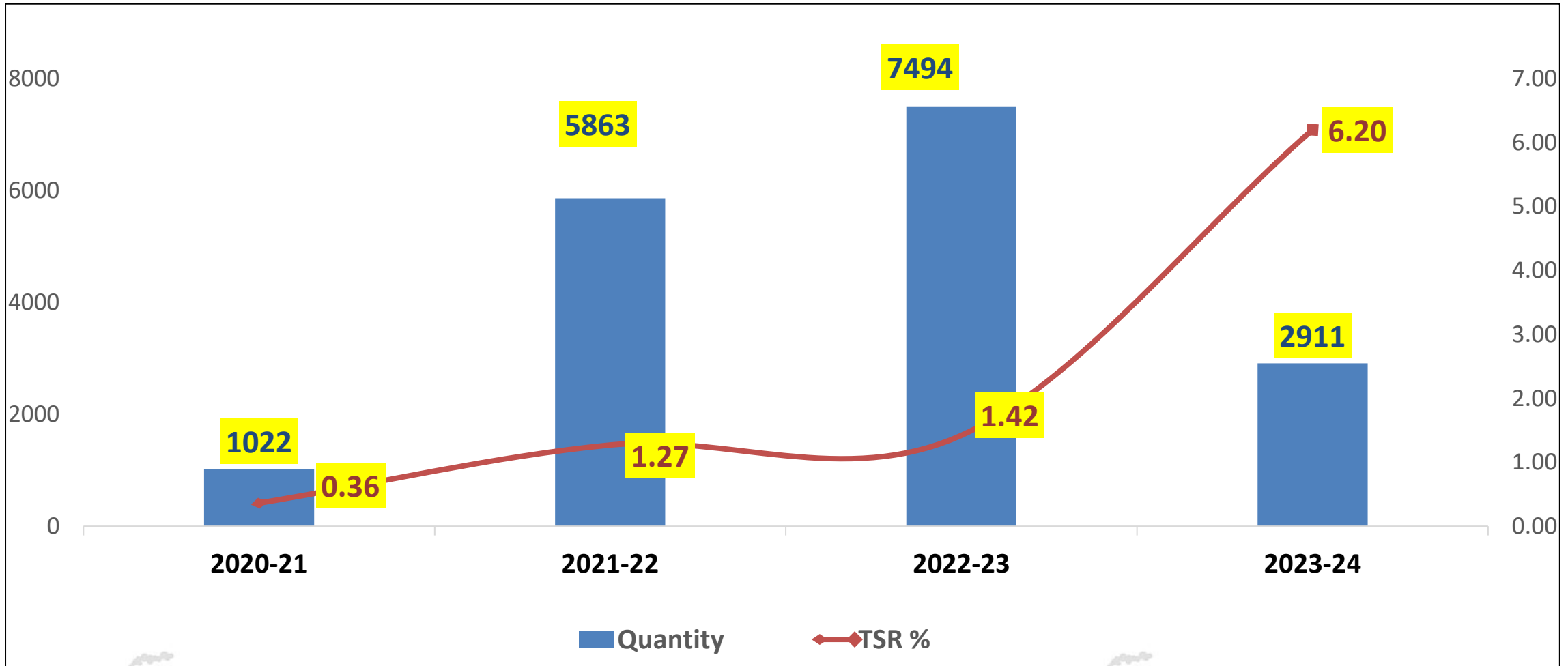
Installed Full-fledged Liquid AFR system supplied by "PH1 Industries Pvt. Ltd.,"

TSR Target: 30%

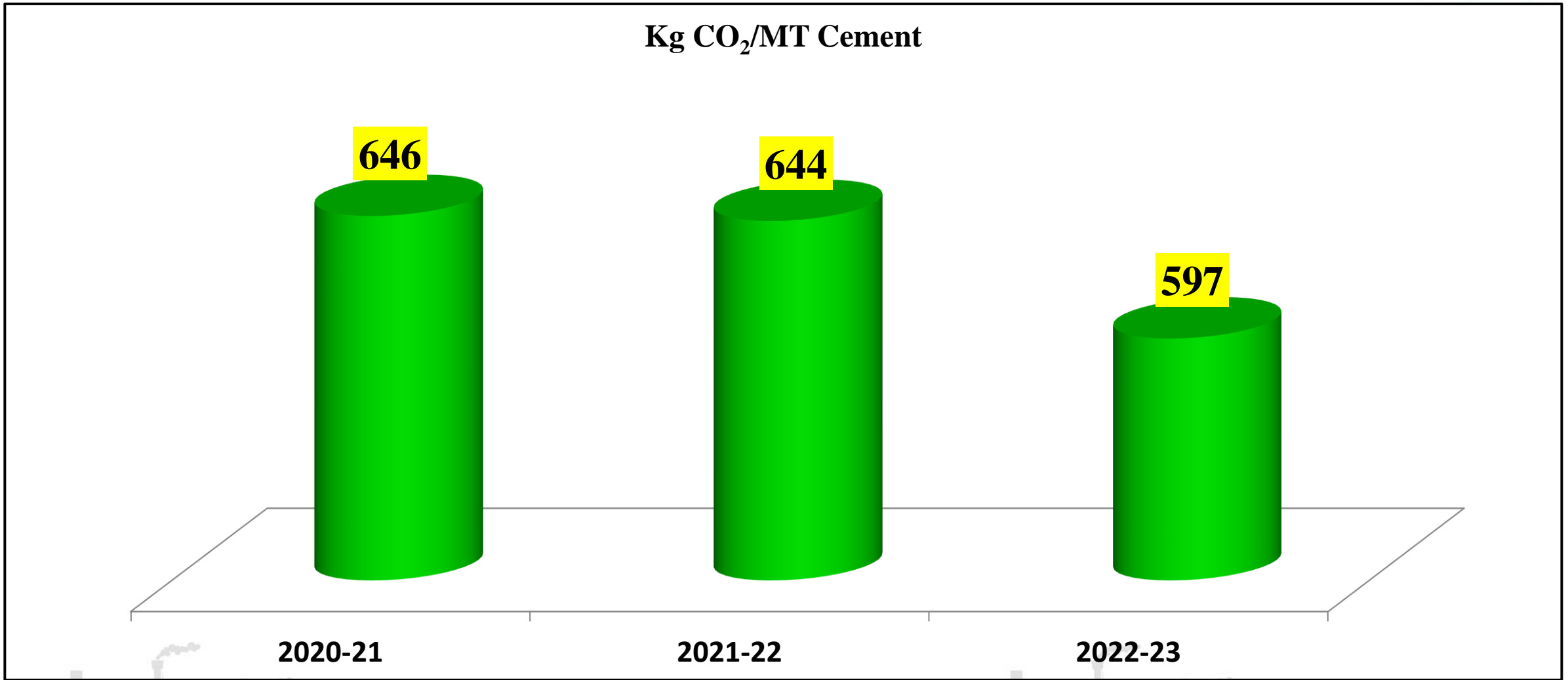


**Installed Full-Fludged Solid AFR system supplied by “Sangavi Engineering Pvt. Ltd.”
and commissioned on 03.06.2023**

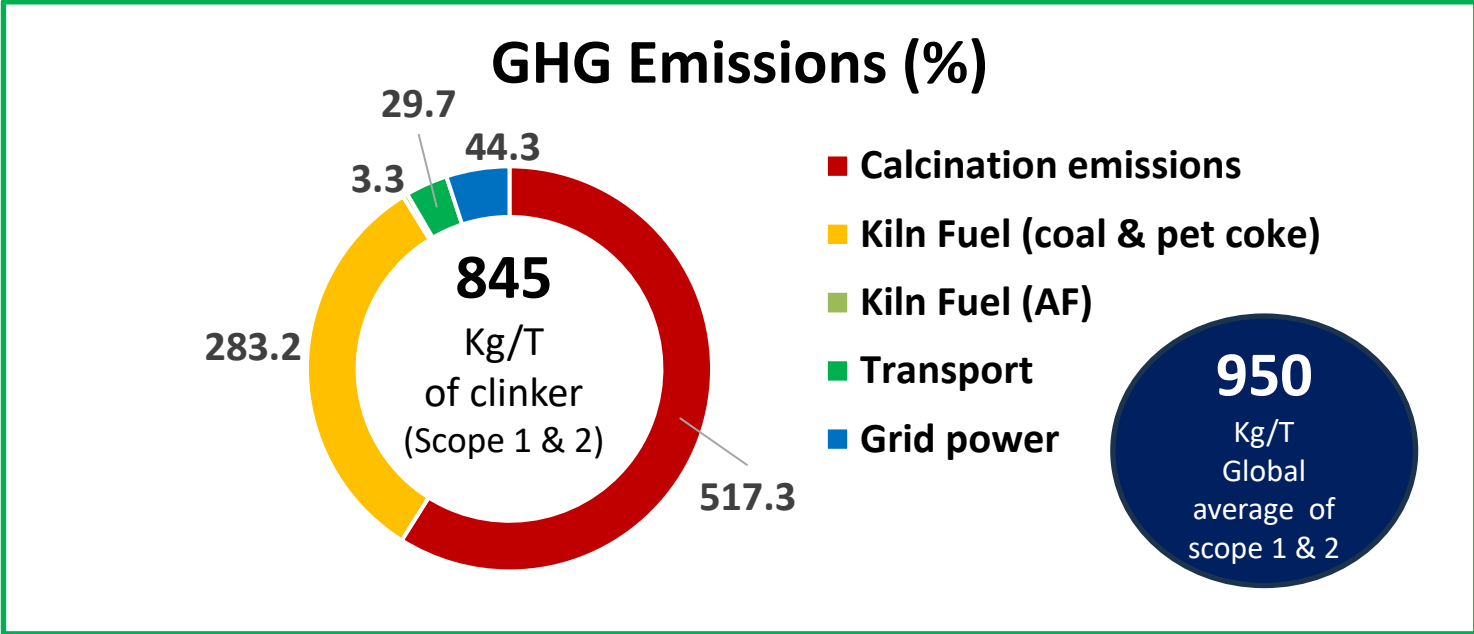
AFR consumption for last 3 years



8.1 GHG Emission intensity for last three years



8.2 Short term/Long term plan for GHG emission reduction



- **7.0 MW waste heat Recovery**
- **11.2 MW on-site solar power plant**
- **37.84 % of the total electrical power is sourced from own renewable power generation**
- **Absence of onsite fossil fuel-based captive power plant has eliminated significant non-kiln GHG emissions**
- **Made a humble beginning in using AFs**

		GHG – TPA CO ₂ e	
		Emissions	Offsets
1	Scope 1		
1.1	Calcination process	8,71,031	-
1.2	Kiln Fossil fuels	4,76,944	-
1.3	Kiln Afs	-	5,521
1.4	Fossil fuels for CPP	-	-
1.5	AF for CPP	-	Nil
Total of scope 1		13,47,975	5,521
2	Scope 2		
2.1	Grid power (non RE)	74,540	-
2.1	Grid power (RE)	-	-
2.3	Waste heat thermal use	-	-
2.4	Waste heat power	-	32,212
2.5	On site solar power use	-	14,932
Total of scope 2		74,540	79,356
3	Scope 3 emissions		
	(upstream and downstream transportation, employee commuting, business travel, waste generation)	8568	Nil

Certificate journey



- SJCPIL installed about [77 Nos](#) of digital energy meters at different locations.
- SJCPIL provided energy monitoring system (EMS) at centralized place through software system developed by M/s Virtual Automation to monitor closely.

9.2 Energy Management System

Sree Jayajothi Cements Private Limited

ENERGY POLICY

M/s. Sree Jayajothi Cements Private Limited is committed to Manufacture and Dispatch of Cement to achieve Energy Efficiency by continual improvement of our Processes.

We shall achieve this by:

- Continuous monitoring and improving the Energy performance by an effective Energy Management System.
- Complying with applicable legal requirements and other requirements related to Energy use, Consumption and Efficiency.
- Ensuring the availability of information and necessary resources to achieve Objectives and Energy Targets.
- Setting Objectives and Energy Targets, regular review and update as necessary.
- Conducting Periodical Energy Audits to identify the Energy losses to reduce Specific Energy Consumption.
- Supports the procurement of Energy Efficient Products, Services and Design for Energy Performance improvement.
- Adoption of eco-friendly and new Energy Efficient Technologies to improve Energy efficiency.
- Utilization of alternate and renewable energy sources to Produce Green Power.
- Reduction of Greenhouse gas emissions for Environmental Sustainability.

SJCPL/EnMS Policy/01
Rev. 01: Date: 01.01.2020

Ranjith Rao. J
Managing Director

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Regd. & Corp. Office: 9th Floor, Block-3, My Home Hub, Madhapur, Hyderabad - 500 081, Telangana, India.
 Ph.: +91-40-6692 9696 | Fax: +91-40-2311 8000 | Email: corp@myhomegroup.in | CIN: U02695TG 2006PTC112441

Certificate of Registration

ENERGY MANAGEMENT SYSTEM - ISO 50001:2018

This is to certify that: Sree Jayajothi Cements Private Limited
Srinagar
Yanakandla (V)
Banaganapalle (M)
Nandyal District 518 124
Andhra Pradesh
India

Holds Certificate No: **ENMS 662693**

and operates an Energy Management System which complies with the requirements of ISO 50001:2018 for the following scope:

Manufacture and Despatch of Clinker, Cement and Ground Granulated Blast Furnace Slag utilizing Electricity, High Speed Diesel, Coal, Alternate Fuel and Raw Material (AFR), Solar Energy and Waste Heat Recovery System

For and on behalf of BSI:

Theuns Kotze, Managing Director Assurance - IMETA

Original Registration Date: 2017-04-21
Latest Revision Date: 2023-03-09

Effective Date: 2023-04-21
Expiry Date: 2026-04-20

Page: 1 of 1

...making excellence a habit.™

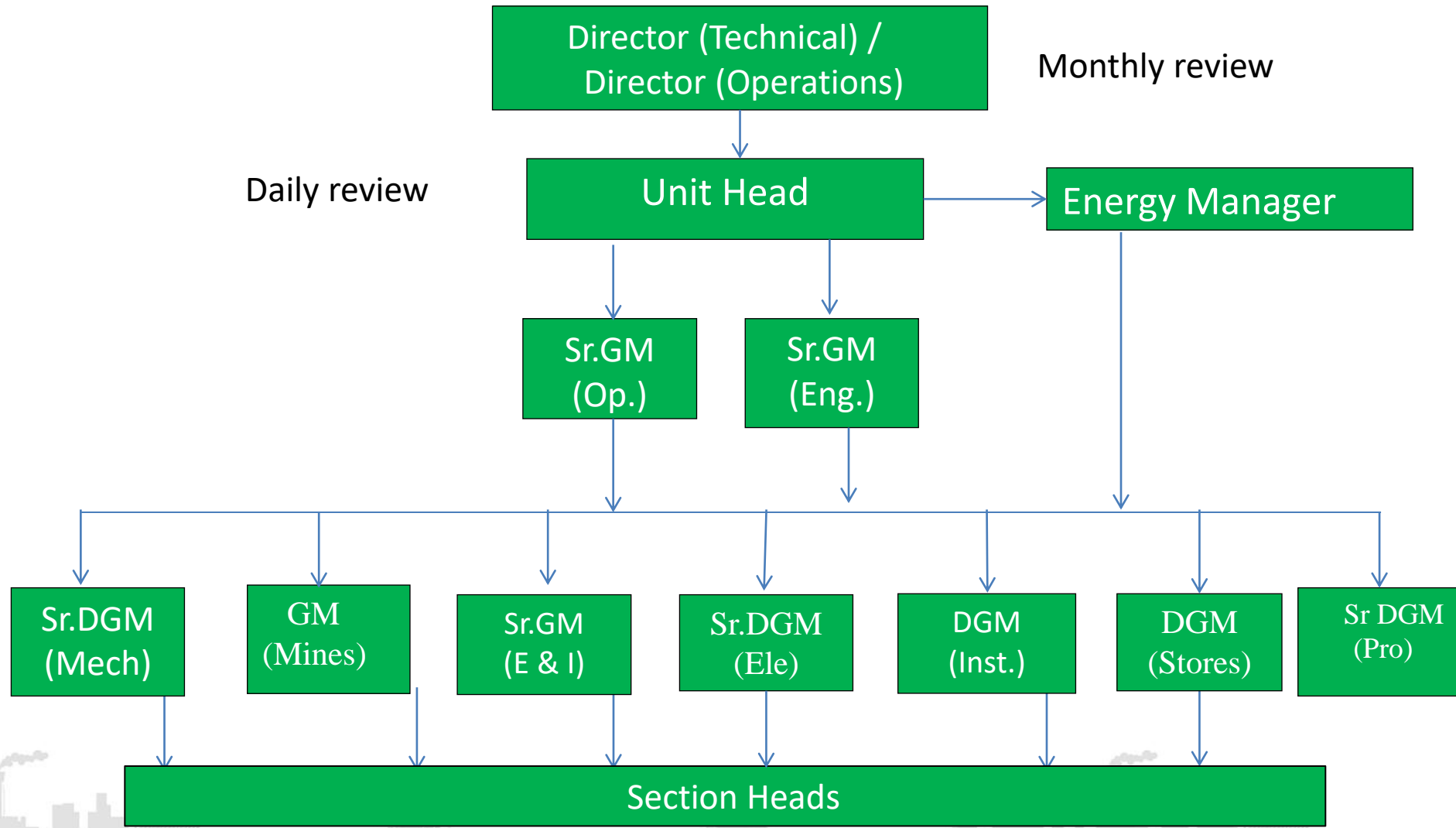
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 Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +91 11 2692 9000.
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Energy Policy

EnMS Certificate

9.3 Monthly Reviews pertaining to Energy Efficiency



GHG emission reduction Strategy

S.NO	Initiative	Baseline	Cumulative % reduction from baseline levels				
		(% of total GHG emissions)	2025	2030	2040	2050	2070
		2022					
1	Scope 1 (Kiln fossil fuel-based emissions)	34%					
1.1	Co-processing of used solvents, and other industrial hazardous wastes	<0.5%	1.5%	5%	NA	NA	NA
1.2	Co-process of municipal solid waste	<0.5%	20%	20%	20%	NA	NA
1.3	Co-processing of agriculture residue and biomass	Nil	-	2%	5%	NA	NA
2	Scope 1 (Non kiln fossil fuels)	<0.01%					
2.1	Fossil fuel based captive power generation is not available	0	NA	NA	NA	NA	NA
2.2	Fossil fuel firing in the standby DG sets	<0.005%	NA	NA	NA	NA	NA
2.3	Company owned cars, and diesel engine machines etc	<0.005%	NA	NA	NA	NA	NA
3	Scope 1 (calcination emissions)	61%					
3.1	Reduction through increase in share of blended cements	Nil	5%	10%	15%	NA	NA
3.2	Carbon capture	Nil	0%	0%	5%	10%	15%
4	Scope 2 emissions (grid power)	5%					
4.1	Reduction through waste heat recovery boiler	7.0 MW is in operation					
4.2	Reduction through onsite solar power generation	11.2 MW is in operation					
4.3	Reduction through purchased green power	Yet to procured	0.5%	1.5%	5.0%	NA	NA



CII-ENERGY EFFICIENT UNIT AWARD-2018



CII-ENERGY EFFICIENT UNIT AWARD-2019

Awards & Accolades



APEX INDIA GREEN LEAF AWARD IN PLANT EFFICIENCY-2021 GOLD AWARD



SEEM Gold awards -2021 in Energy Excellence at New Delhi



National Award for Energy Excellence in Indian Cement Industry by NCCBM in 2022 at New Delhi



**SAVE
ENERGY & ENVIRONMENT**

Thank You!