22nd National Award for Excellence in Energy Management -2021

My Home Industries Private Limited
Mellacheruvu Cement Works

We are “My Home Group”

My Home Group is a large and fast growing company based in Telangana. The group has presence across the nation with interests in an entire value chain

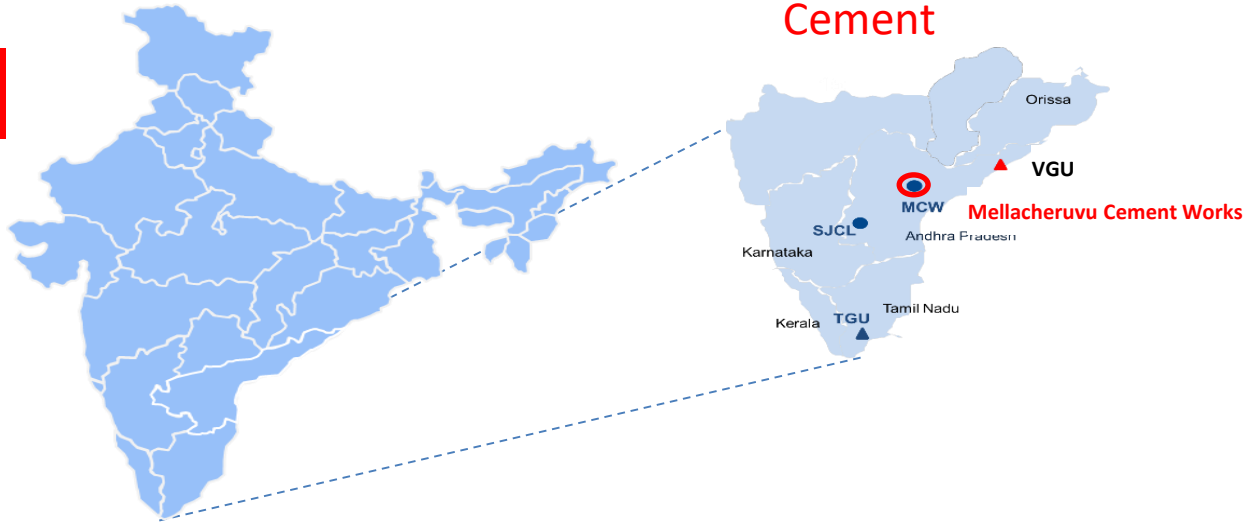
Dr. Rameshwar Rao Jupally
Founder & Chairman

Telangana State Ambassador

for Swatch Bharath &

Pride of The Nation awardee

- Cement
- Power
- Consultancy
- Construction
- Education



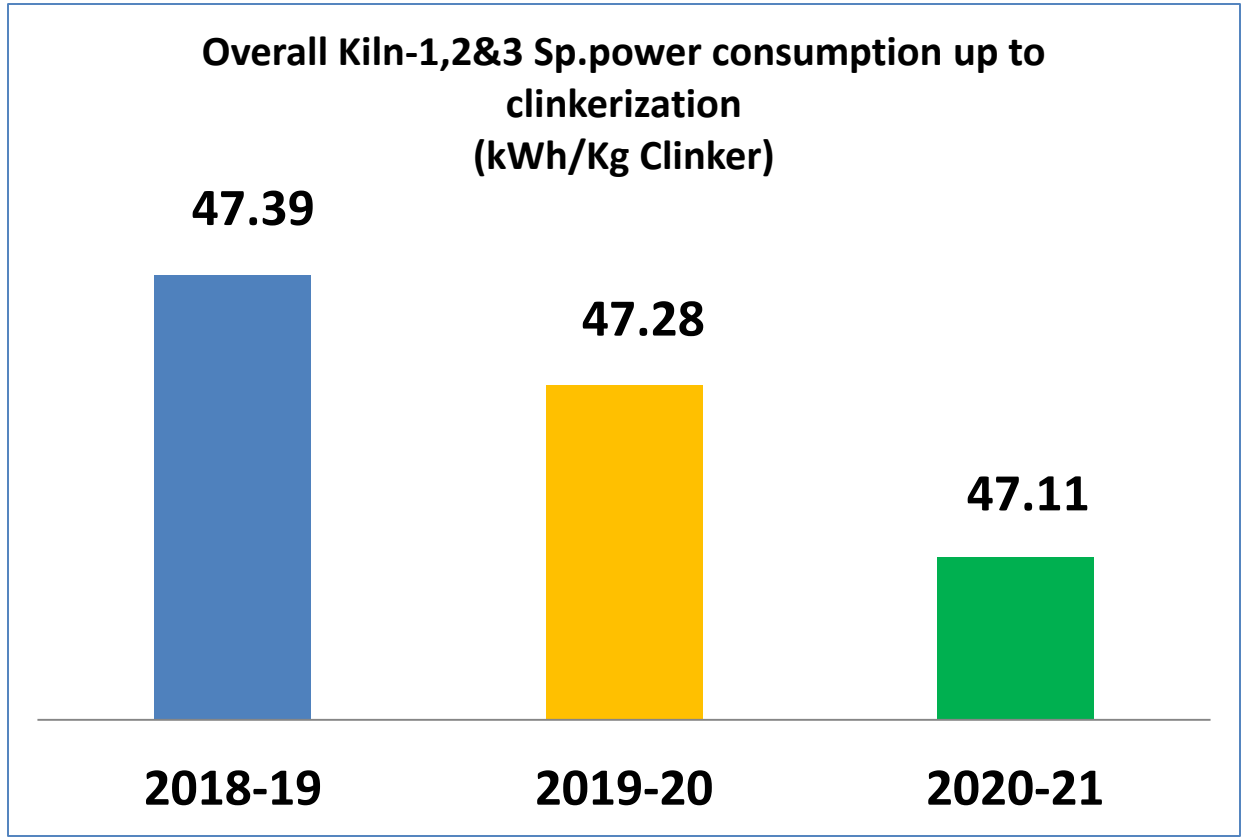
Company Profile

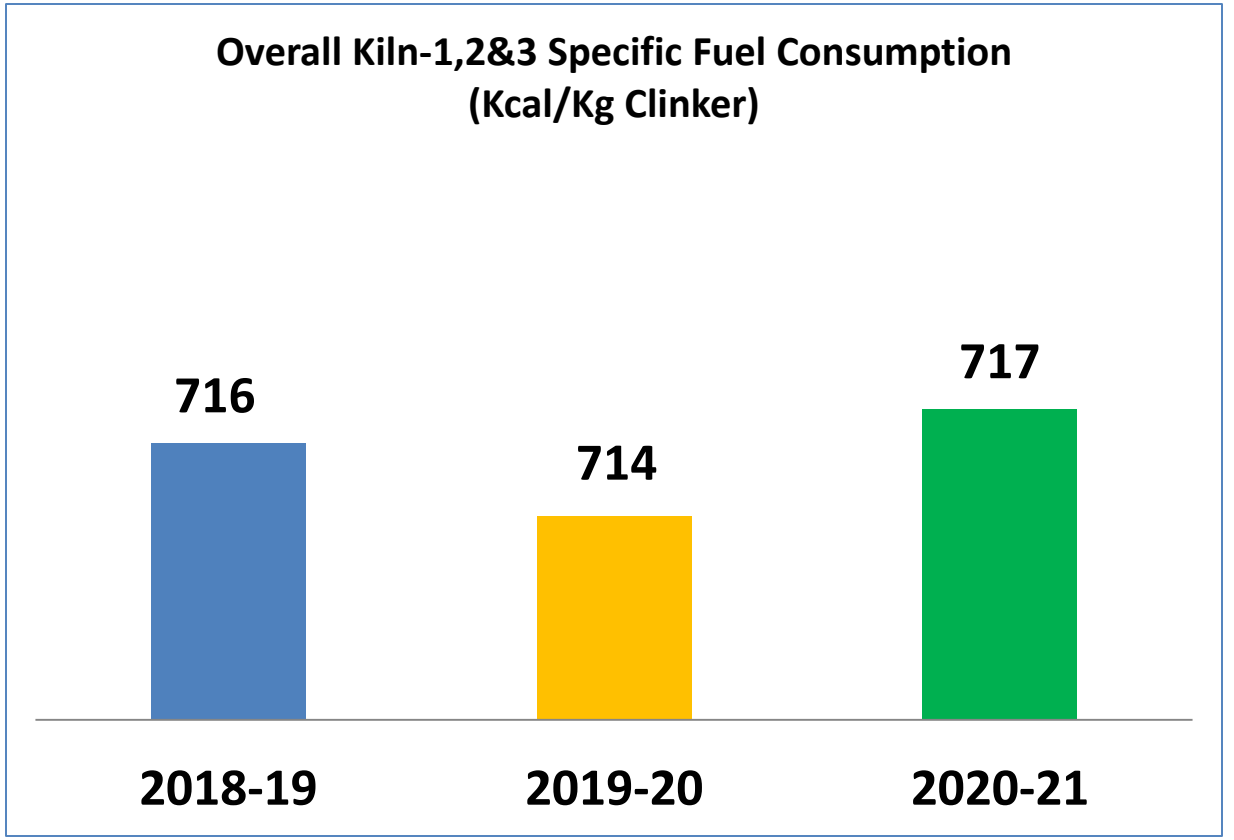
- My Home Industries Pvt Ltd (MHIPL) is established in the year 1998 with an installed capacity of 0.2 mtpa and rose to 10.0 mtpa.
- Other core businesses of the group are Construction & Real Estate, Power, Transport, Power Consultancy and Education.
- MHIPL-MCW is an ISO 9001:2015, ISO 14001:2015&45001:2018,ISO 50001:2018 certified company.
- MHIPL-MCW received CII Green Co GOLD Rating in 2017
- MHIPL is the members of CSI (Cement Sustainability Initiative) and also have the road map for sustainability.

IMPACT OF COVID-19

- Utilization capacity reduced.
- Sp. Fuel consumption is increased due to stoppages of kilns due to low market demand.
- Power plant stopped due to no power demand.

Energy Performance in Last 3 Years

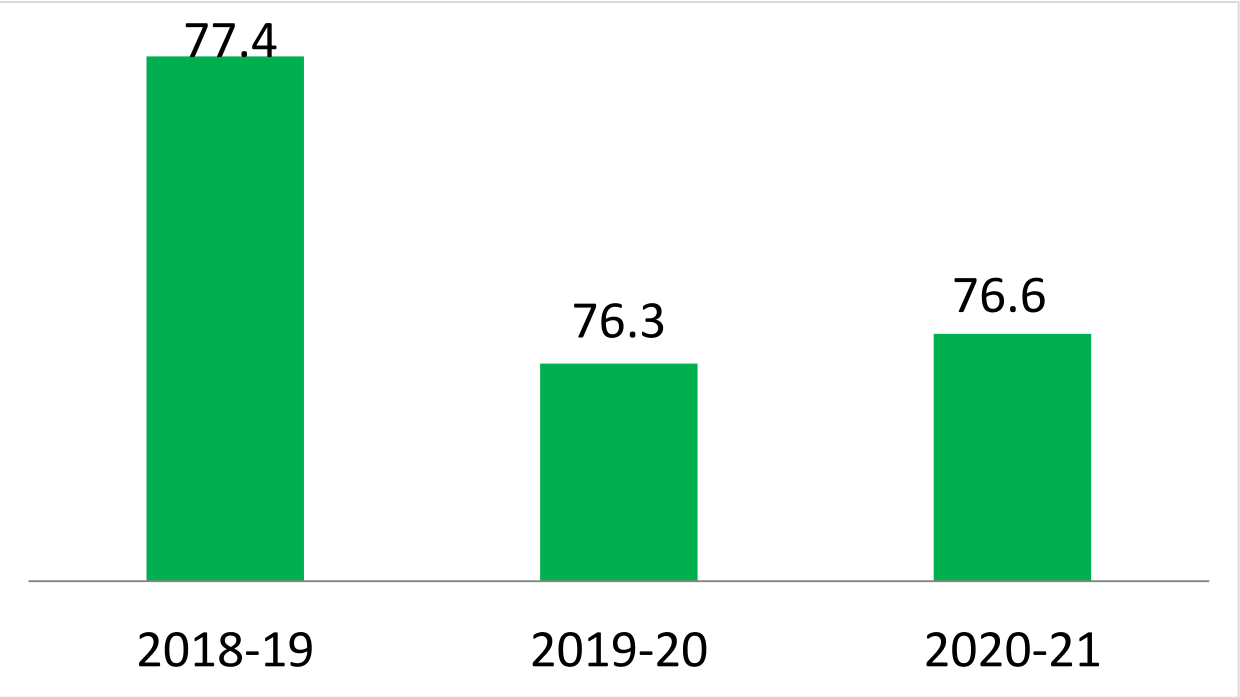




Sp. Fuel consumption is increased due to stoppages of kilns due to Covid-19 pandemic effect.

Energy Performance in Last 3 Years

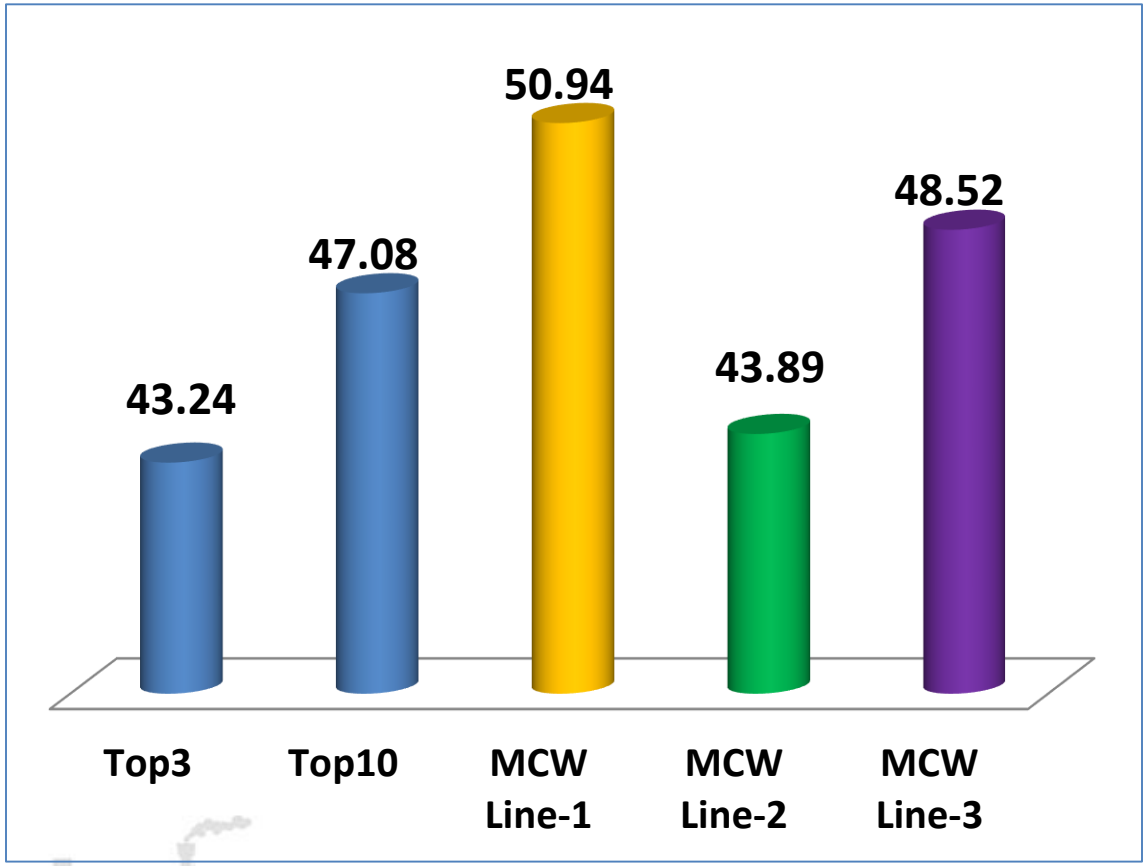
Reduction of Specific Power Consumption
kWh/Ton of Cement



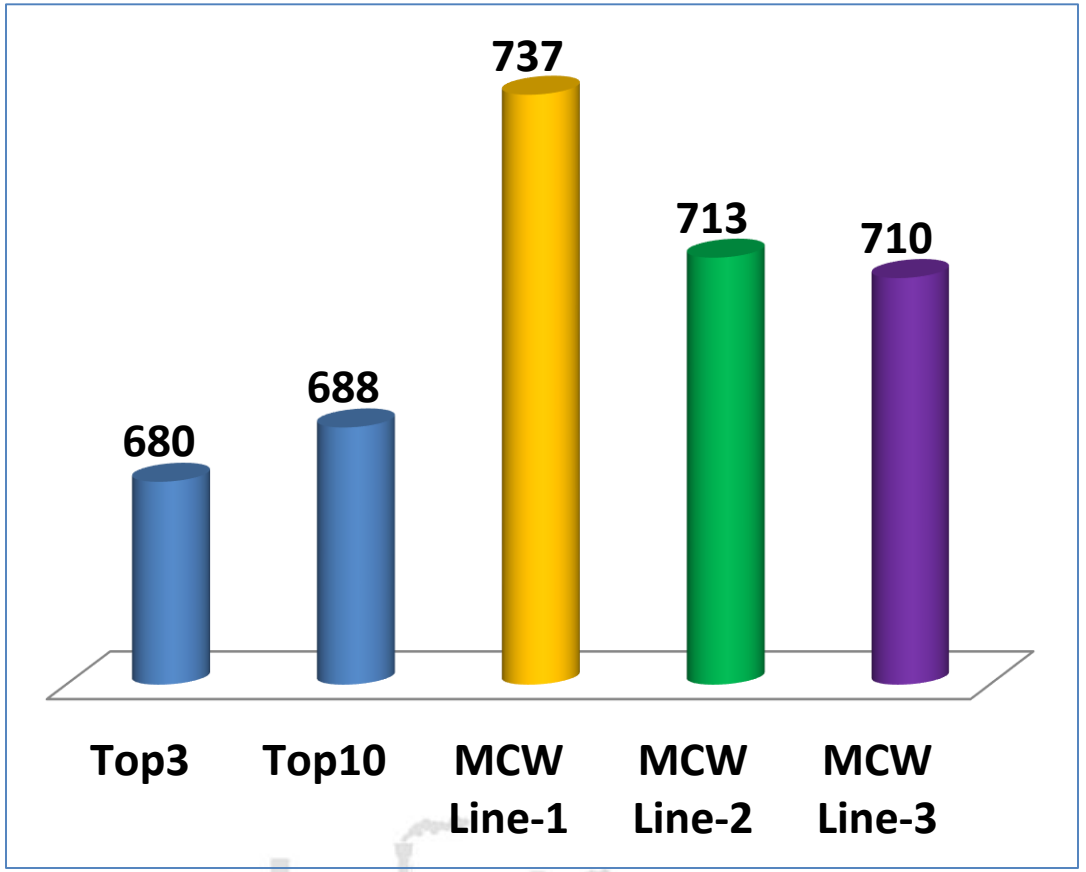
Sp. Power consumption is increased due to stoppages of plants due to Covid-19 pandemic effect.

COMPARISON WITH NATIONAL BENCH MARKING

Electrical SEC. Up to Clinkerisation
kWh/Ton of Clinker

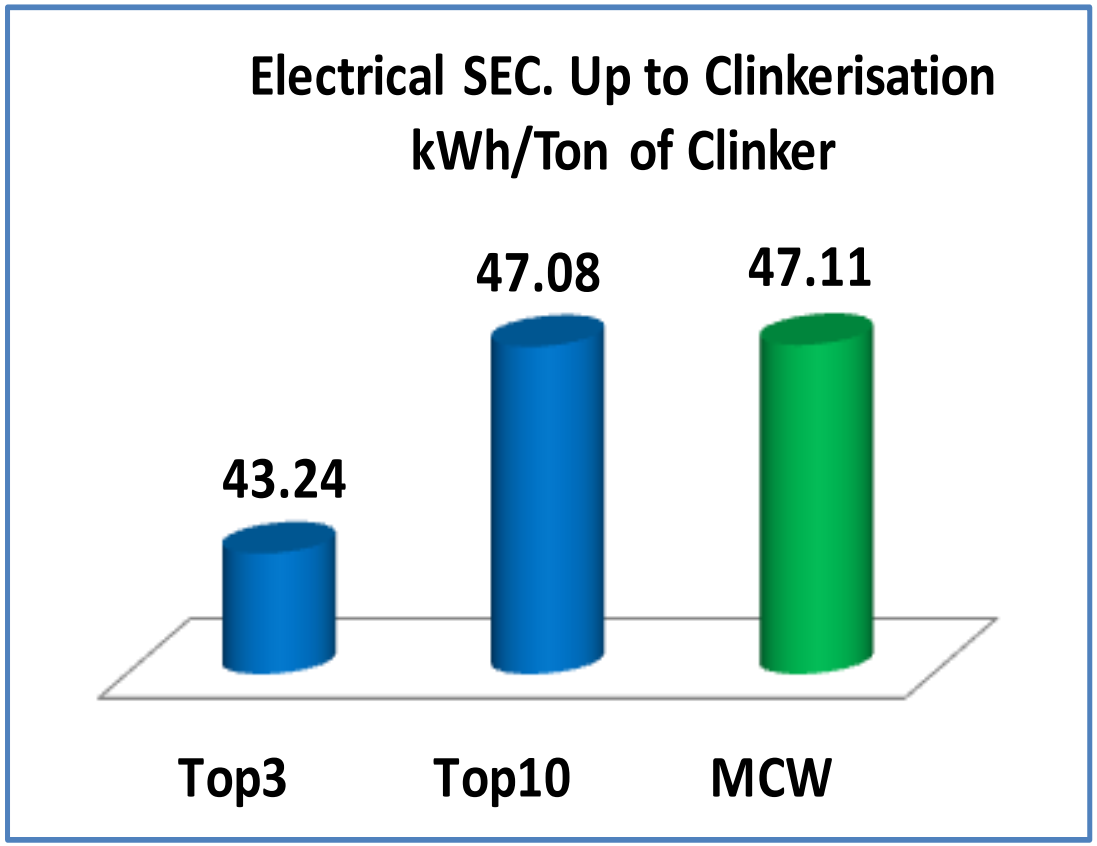


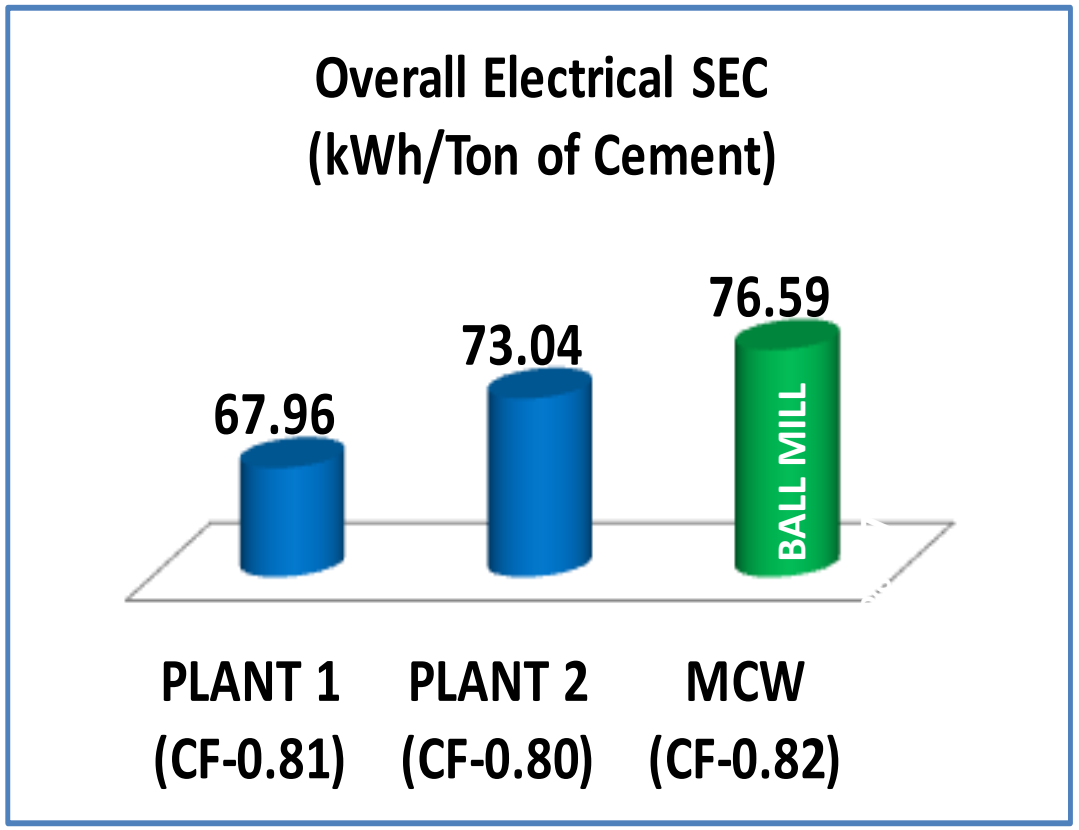
Specific Heat Consumption
kCal/kg Clinker



Reference :"CII Energy Benchmarking for the Indian Cement Industry Version 5.0 " manual

Benchmarking with National Performance



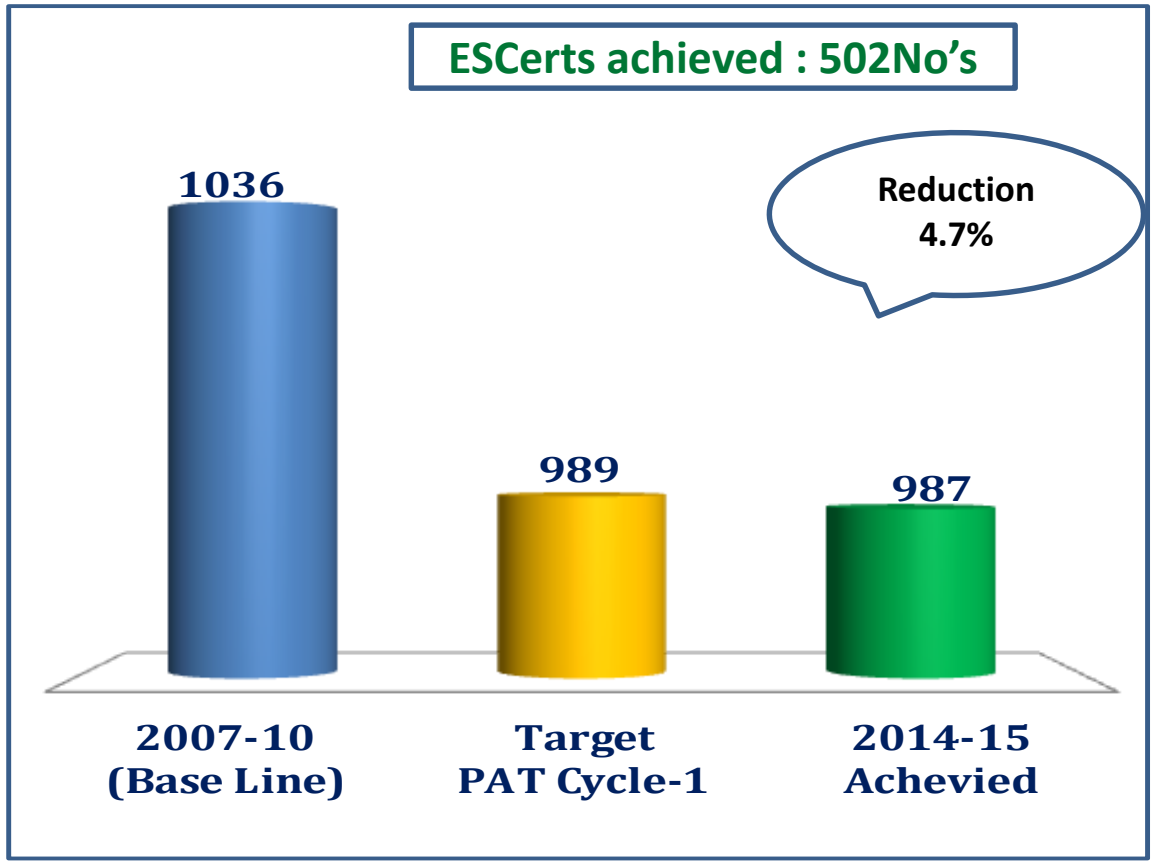


Reference : "CII Energy Benchmarking for the Indian Cement Industry Version 5.0 " manual
: Overall Electrical SEC benchmarking comparison as per Clinker consumption factor

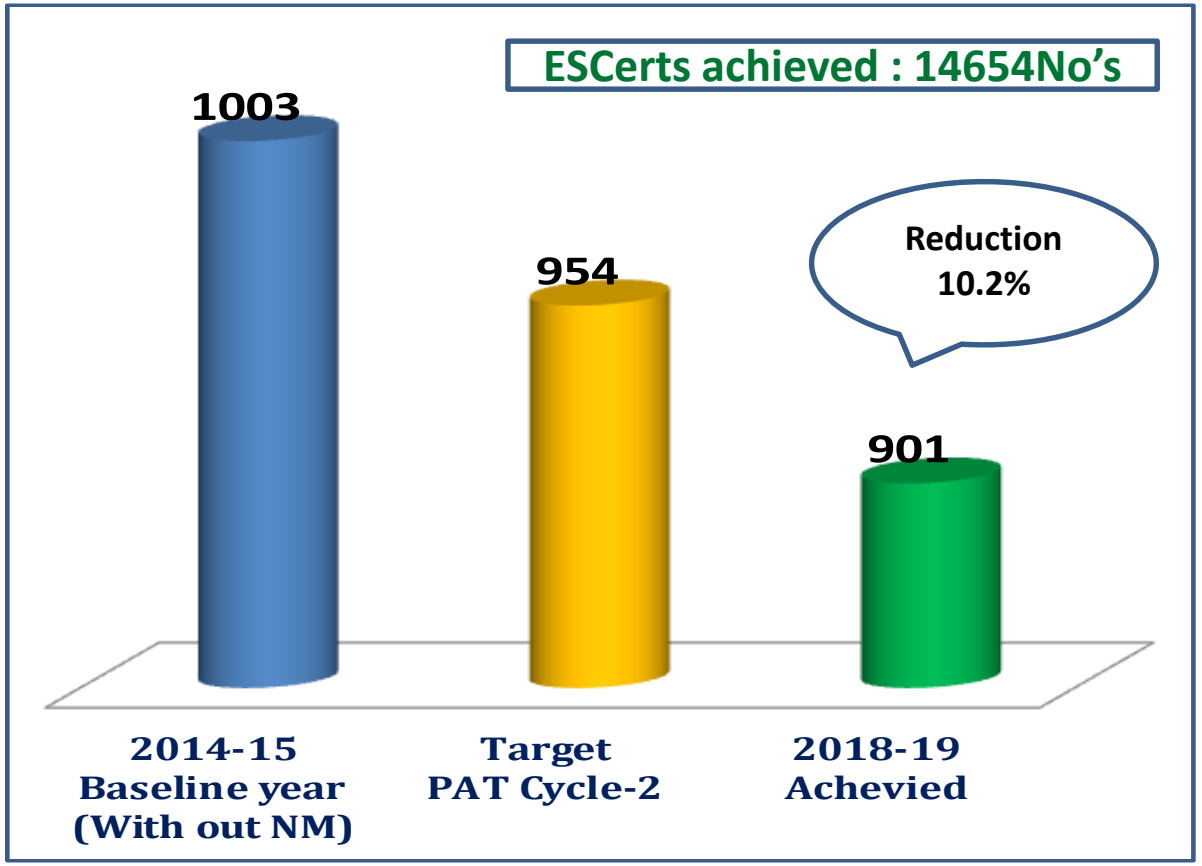
PAT

GTG SEC (K.Cal/Kg Equivalent of Cement)

PAT Cycle-1



PAT Cycle-2



GTG SEC reduction due to Encon Projects, Installation of 12.5 MW WHR PP and Unit-3 Cooler modification

List of Major Encon project planned in FY 2021-22

Si.No	Proposed Major Energy Saving projects(2021-22)	Investment Rs. Lakhs	CO2 Reduction MT/Annum
1	Replacement of Cement mill-2, 2nd chamber drag peb shell liners with thin classifying liners to improve the grinding efficiency	60	600
2	Install a new high efficiency static guide vanes within the existing separator casing of Cement mill-2.	80	600
3	Hot Air Re-circulation to Line 3 Cooler to improve WHR power generation	165	3762
4	Aluminium paint planned in unit-2 Preheater to reduce radiation losses	60	1252
5	Replacement of conventional lights with LED lights	15	127

Energy Saving projects implemented from 2018-21

Energy Saving projects implemented from 2018-21

Description	No of Energy Saving projects	Electrical Saving (Million kWh)	Thermal Saving (Million kcal)	Savings (INR Million)	Investment (INR Million)
FY 2018-19	19	1.76	11963	20.8	49.4
FY 2019-20	22	4.44	11913	30.2	4.3
FY 2020-21	22	1.91	8052	18.3	2.7
FY 2018-21	63	8.11	31927	69	56

Major Projects done in last three years:

- low NOx pyro jet burner installation
- Installed low pressure compressor for fly ash unloading
- VFD's installed for KC/PC coal conveying blowers
- Cooler MFR hole size modification in unit-1 kiln to improve cooler efficiency
- Enlargement of all Major process fans inlet box to reduce fan power consumption

Innovative Project-1

Optimization of Unit-2 PC coal conveying blower

Benefits Achieved:

- Coal phase density increased from 2.69 to 3.66 kg coal/kg air
- Power consumption reduced by 15 kW/hr
- Sp.heat consumption reduced by 1.5 kcal/kg clinker
- Annual savings in Rs:24.06 Lakhs
- Investment in Rs:2.64 Lakhs
- Pay back: 2 Months

Observation :

- Unit-2 PC coal blower operating with Lower phase density 2.69 kg coal/kg air indicates more amount of air is being used for coal conveying which results in excess power consumption and also increases the thermal energy as the excess air being added in the PC.

Analysis:

- PC blower positive displacement Blower is running with constant speed and hence unable change blower RPM to meet required volume and pressure.

Action taken:

- Existing unit-3 turbo blower is not in operation for unit-3 new low Nox burner, which utilized for Unit-2 PC coal conveying blower by installing conveying lines from existing unit-3 jet air blower to Unit-2 PC blower for optimizing the coal phase density (kg coal/kg air) and reduce the blower power consumption.

Innovative Project-2

Installation of mesh in inlet duct to reduce pressure drop at mill inlet

Before

After

Observation :

- VRM mill inlet draught high-170 mmwg due to accumulation of material.

Analysis:

- Mill inlet draught high due to material accumulation at mill inlet duct

Action taken:

- To Reduce pressure drop at inlet duct due to material accumulation, mesh installed at inlet ducts to avoid accumulation

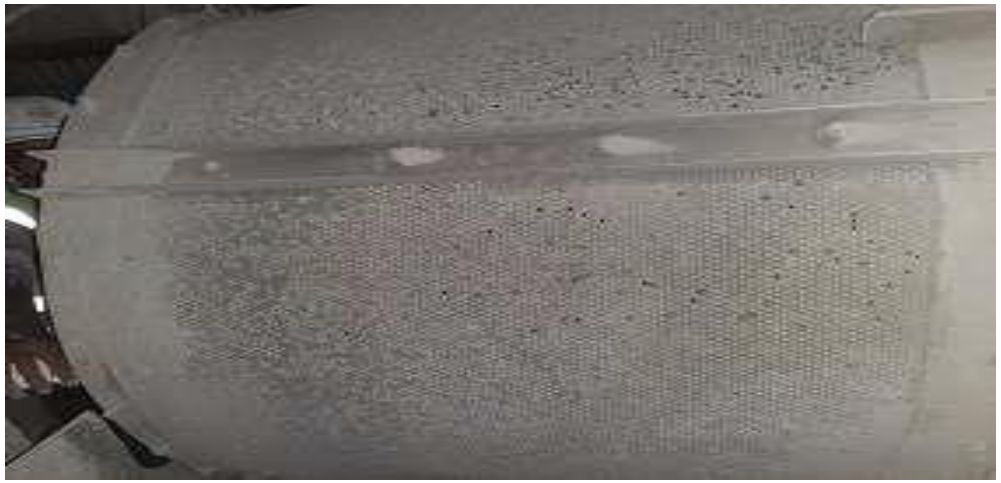
Benefits achieved:

- Mill inlet draught reduced from 170 to 95 mmwg
- Mill vent fan Sp.Power reduced by 0.2 kWh/Ton.of material
- Annual savings in Rs: 14.7 Lakhs

Encon Project

Optimization of Cement mill-1 Sp.power consumption

BEFORE



AFTER

Observation :

- Mill production operating at 52 TPH against target of 55 TPH

Analysis:

- It is observed that mill ventilation decreased due to outlet diaphragm jamming with grinding media and mill outlet mesh jamming frequently.

Action taken:

- Modified the outlet mesh replaced with 5 mm SS square mesh in place of 3 mm round mesh to remove the wear out grinding media and improve the mill ventilation.

Benefits achieved:

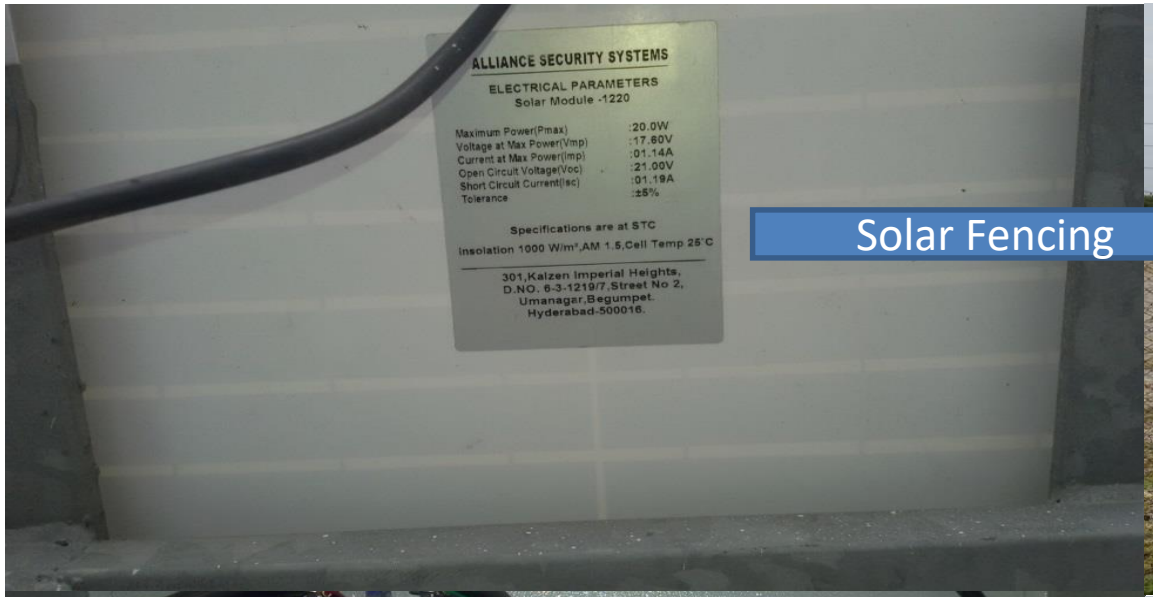
- Mill production increased by 5TPH
- Mill Sp.power reduced by 0.2 kWh/Ton.Cement
- Annual saving in Rs:2.61 Lakhs

Utilisation of Renewable Energy sources

Technology	Type of Energy	Onsite/Offsite	Installed Capacity (MW)	Generation (million kWh)	% of overall electrical energy
Electrical	Solar	On site	0.012	0.0135	12.56%
Electrical	Solar	Off Site	15.00	23.220	

Utilisation of Renewable Energy sources

SOLAR FENCING AT MINES MAGZINE



Solar Fencing

Waste utilization and management

- Installed Waste Heat Recovery power plant (12.5MW) incorporated in process.
- Usage of alternative fuels (Liquid pharmaceutical waste) 2.78% (TSR) in kiln's to reduce usage of natural resources.
- Usage of Pyrolysis oil for kiln light up in place of HSD oil.
- Fly ash addition is 32.46%.
- Composting machine (500 Kgs Capacity) installed for colony Food waste and utilizing manure for green belt.
- STP water is being used for plantation.

WHR system Installation at MHIPL

- MHIPL-MCW installed and commissioned 12.5MW Waste Heat Recovery System in 2017 with a capital expenditure of about Rs 126 crores and started utilizing waste heat from preheater and cooler of all the lines for power generation.

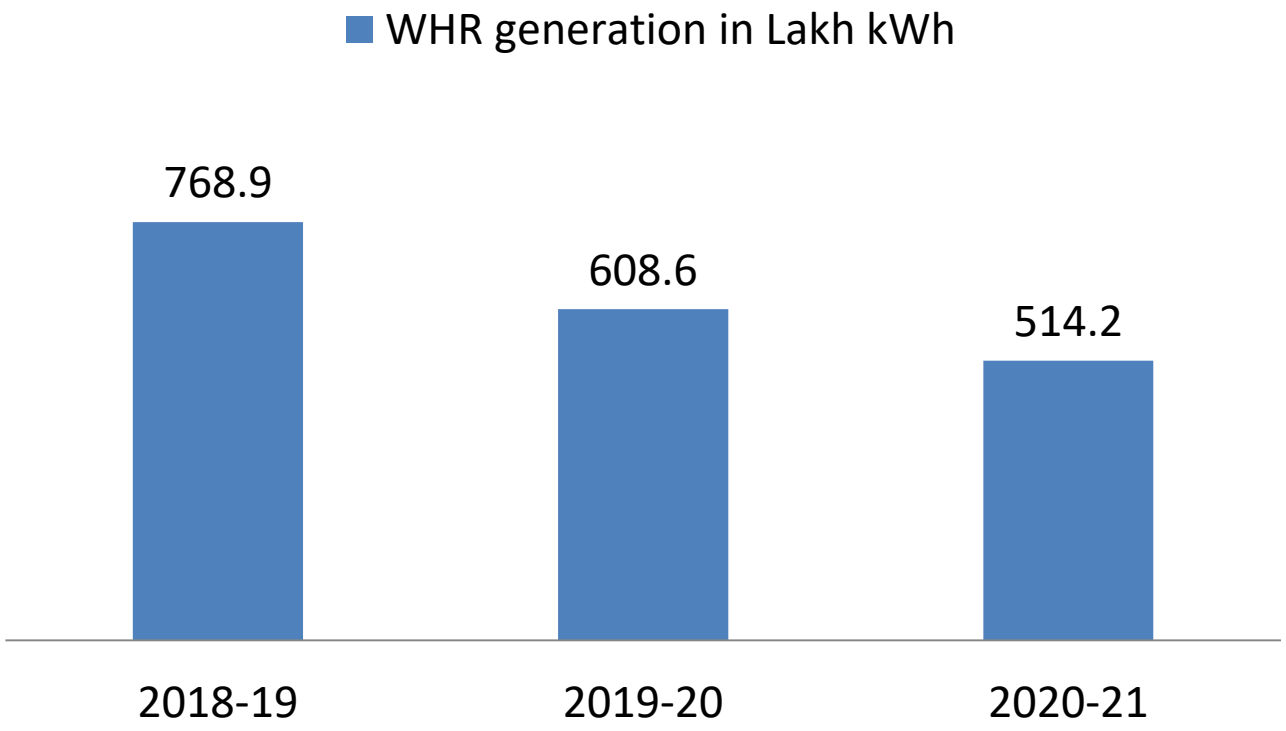
- Waste Heat Recovery System was installed by M/s LNVT/SINOMA Energy Conservation Ltd and achieving PLF of 85% an average.

Suspension Preheater Boiler

Air-Quenching Boiler (AQC)

Turbine -Generator

12.5MW WHRPP GENERATION



CO2 Reduction in 2020-21: 51420 MT/Annum

Composting machine (500 Kgs Capacity) installed for colony Food waste

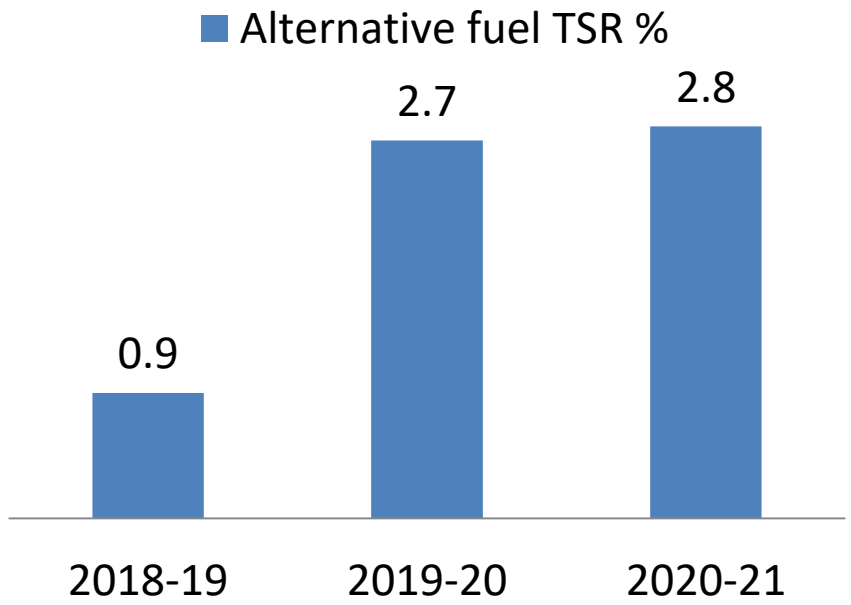
Commissioned in 2019

Feeding : 70% Wet waste & 30% Dry Waste as per machine standards.

Eqpt: M/s. Enviroclean
Capacity : 500kgs/day

Utilization of AFR Consumption for Pyro Processing

Fool proof AFR firing system for firing hazardous waste in kilns with the technological support from FLSmidth,Denmark.

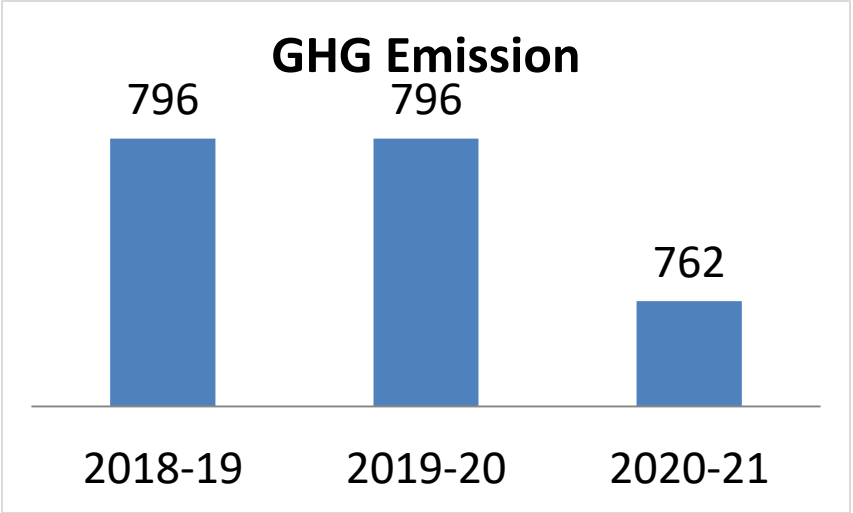


Action taken to improve the AFL consumption:

- Modified the PH bottom cyclone dip tube with honey comb design to avoid the dip tube failure and increase the AFL Consumption.
- AFL solvent storage tank discharge pipe size increased from 2 inch to 4 inch to increase AFL consumption.

GHG INVENTORISATION
(Kg Co2/MT Cementitious product)

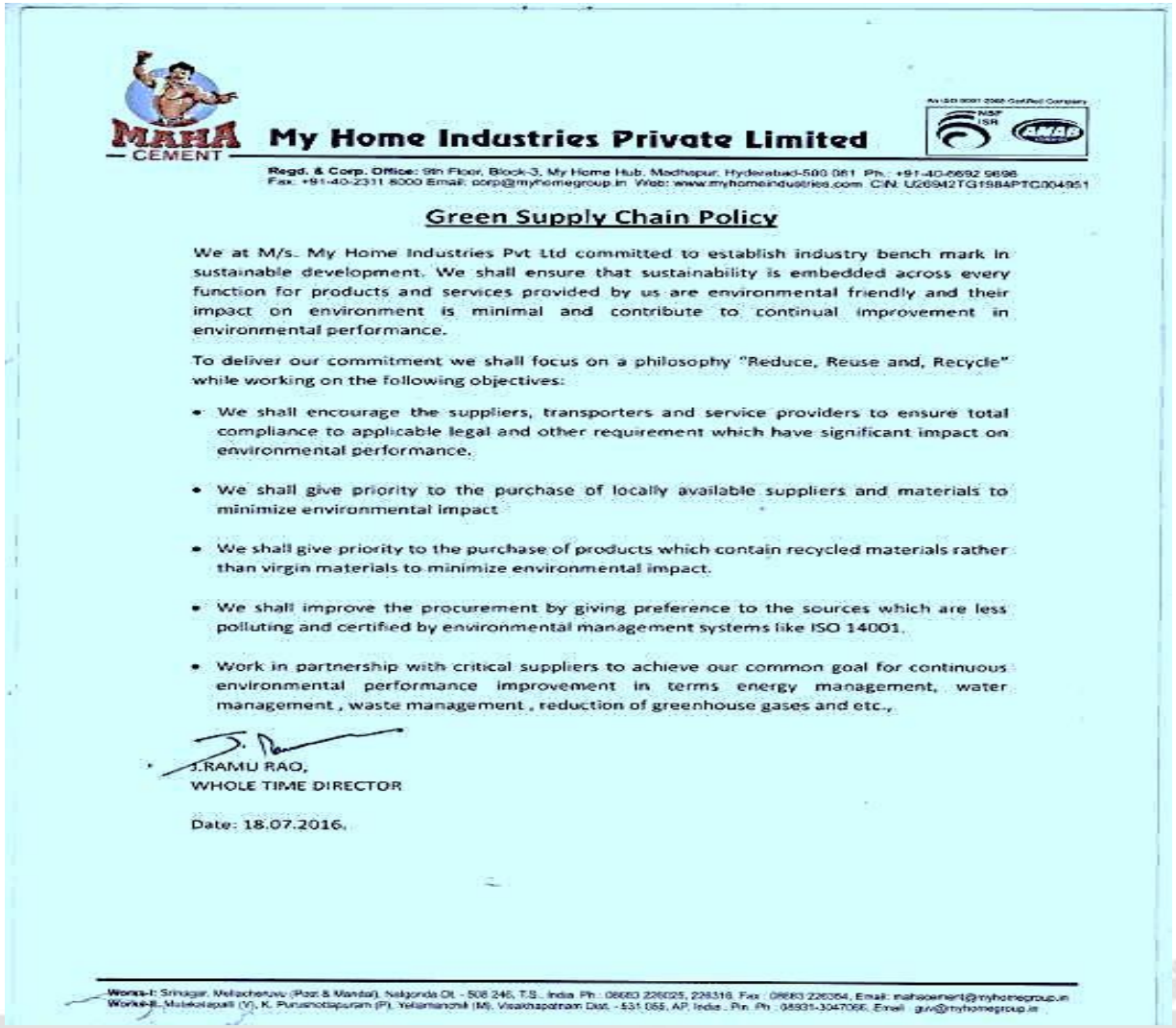
Year	Scope-1 emissions	Scope-2 emissions	Scope-3 emissions	Total
	Kg CO2/MT Cementitious product			
2018-19	789.35	0.67	5.77	795.79
2019-20	788.76	2.04	5.75	796.55
2020-21	747.91	6.48	7.82	762.21



GHG reduction due to Encon Projects, Low Nox pyro jet burner installation

Green Supply Chain

POLICY



My Home Industries Private Limited

Regd. & Corp. Office: 9th Floor, Block-3, My Home Hub, Madhapur, Hyderabad-500 081. Ph.: +91-40-6692 9696
Fax: +91-40-2311 8000 Email: corp@myhomegroup.in Web: www.myhomeindustries.com CIN: U26942TG1984PTC004951

Green Supply Chain Policy

We at M/s. My Home Industries Pvt Ltd committed to establish industry bench mark in sustainable development. We shall ensure that sustainability is embedded across every function for products and services provided by us are environmental friendly and their impact on environment is minimal and contribute to continual improvement in environmental performance.

To deliver our commitment we shall focus on a philosophy "Reduce, Reuse and, Recycle" while working on the following objectives:

- We shall encourage the suppliers, transporters and service providers to ensure total compliance to applicable legal and other requirement which have significant impact on environmental performance.
- We shall give priority to the purchase of locally available suppliers and materials to minimize environmental impact
- We shall give priority to the purchase of products which contain recycled materials rather than virgin materials to minimize environmental impact.
- We shall improve the procurement by giving preference to the sources which are less polluting and certified by environmental management systems like ISO 14001.
- Work in partnership with critical suppliers to achieve our common goal for continuous environmental performance improvement in terms energy management, water management , waste management , reduction of greenhouse gases and etc.,

J.RAMU RAO,
WHOLE TIME DIRECTOR

Date: 18.07.2016.

Works-I: Srinagar, Mellacheruvu (Post & Mandal), Nalgonda Dt. - 508 246, T.S., India. Ph.: 08683 226025, 226316, Fax: 08683 226264, Email: mahocement@myhomegroup.in
Works-II: Mulakalapalli (V), K. Purushotapuram (P), Yelamanchili (M), Visakhapatnam Dist. - 531 055, A.P, India. Pin. Ph.: 08931-3047066, Email: gvs@myhomegroup.in

AWARENESS &TRAINING

- **9 Critical vendors are identified out of total 2500 based on those material having maximum impact on environmental in supply chain.**
- **Visual aids-training for better understanding on green initiatives.**
- **Display of posters-on shop floor for better understanding and to create the awareness in every individual.**
- **Recognition letters shall be issued to the vendors after assessment on environmental performance by the end of March every Year as a part of encouragement.**
- **Emphasizing on rail/bulk transportation for inward and outward transportations to continual improvement of environment performance.**

Best Practices implemented on energy front in Green Supply Chain

After completion of the training,

- **M/s Neo Techniques, Kluber lubricants, Asco pneumatic and Shanti gears are replaced their existing conventional lighting system with LED lights considering environmental benefits and energy savings.**

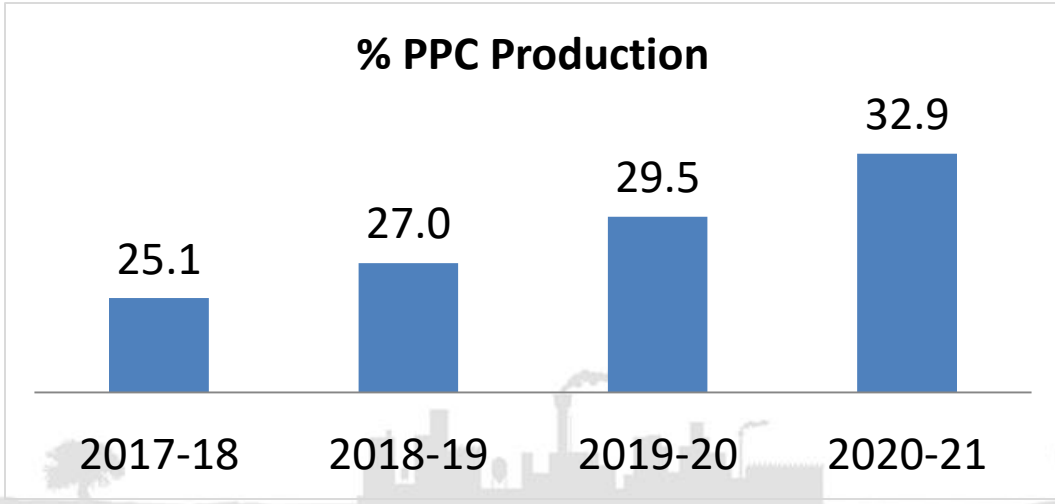
- **Padmaja Poly Packs Pvt Ltd recycled waste paper bags and Rain harvesting pits constructed for water conservation.**

Best Practices implemented on energy front in Green Supply Chain

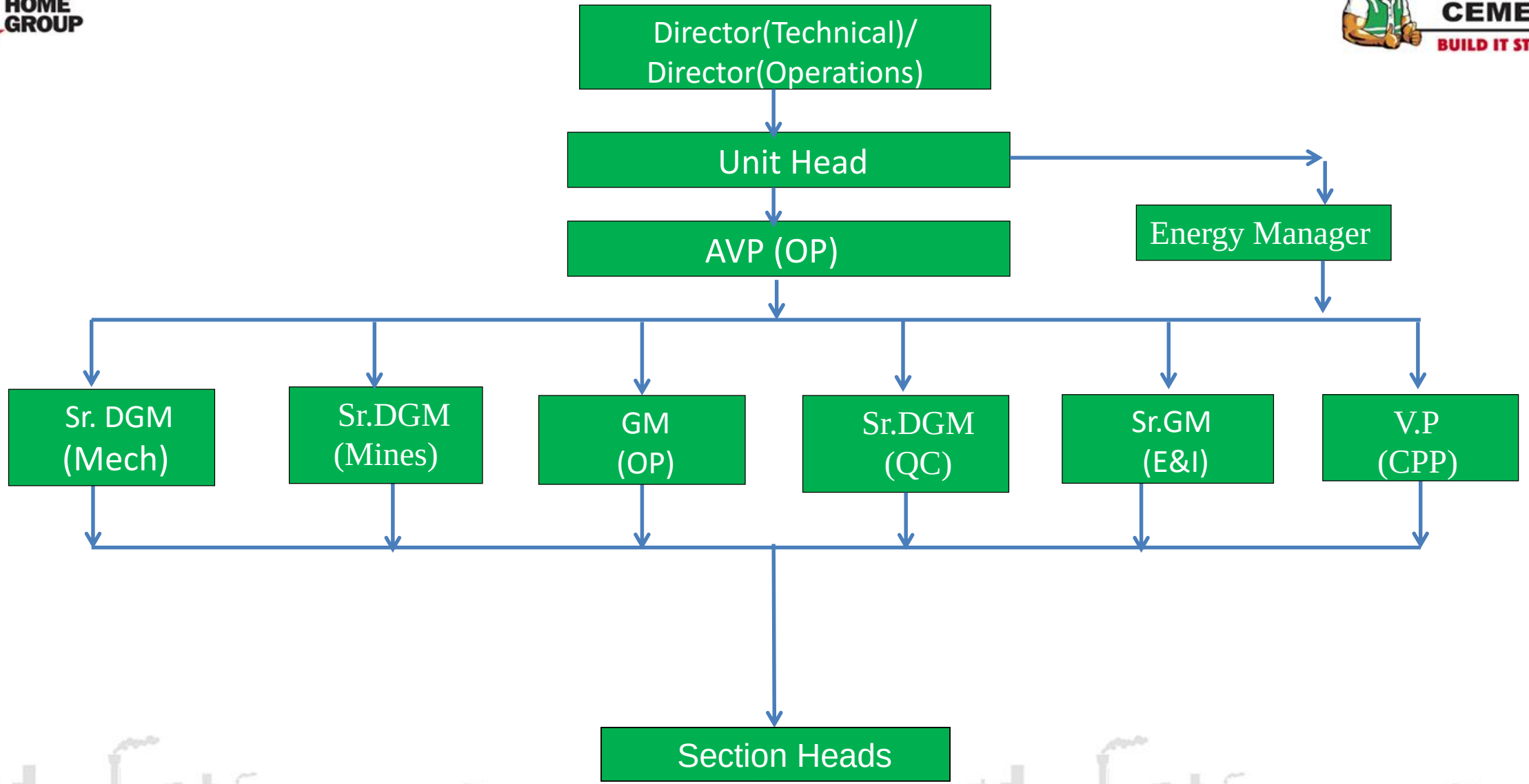
- Cement Bulk loading increased from 17 % to 34 %
- Procuring Energy efficient motors of IE3 & IE4.
- Replacement of conventional lights with 500 No’s LED lights
- Regular training for drivers on fuel saving.
- GPR system provided for truck monitoring.

Best Practices implemented on energy front in Green Supply Chain

- In PPC New cement grade introduced as **PPC HD+** cement with 18 % fly ash addition to increase the PPC production.
- Awareness programs conducted by marketing team to customers for developing PPC market.

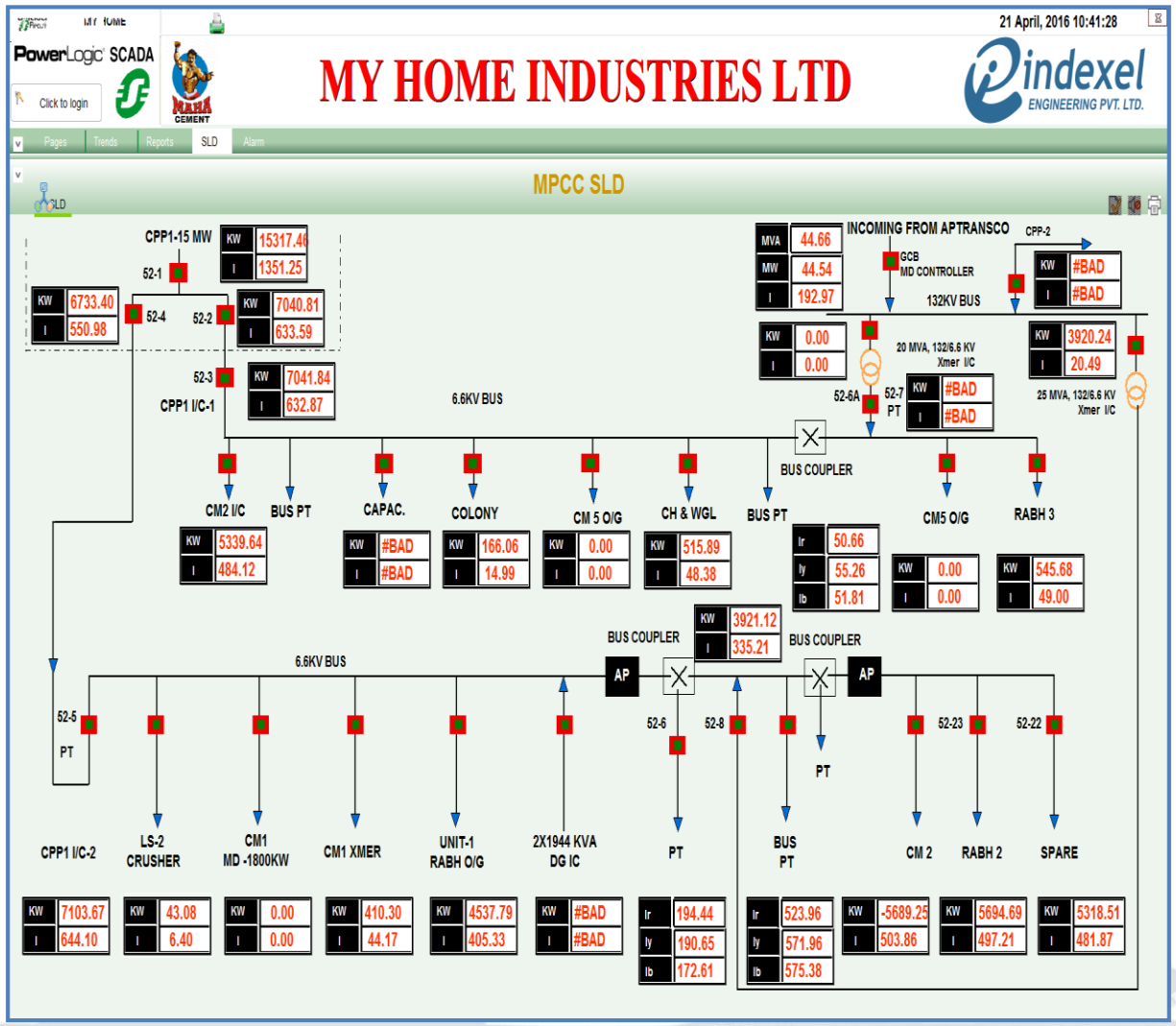


Energy Management Team



Energy performance Review Methodology

Online Energy Monitoring



- Energy Management System is developed to monitor and control the consumption of various forms of energy through an effective energy management system
- Discussion on Variances against the target during Daily Coordination Meeting
- Monthly review by Energy Conservation cell
- Monthly review by Top Management for actions
- Energy Audits Once in 3 years by recognized External Agency

Energy Projects Implementation Methodology

- Identifying the potential Energy saving equipment's /Areas by Plant Engineers.
- Data collection , shop floor involvement, brain storming , energy audit
- Categorized into No investment, Low investment and High investment.
- Categorized into Short term, Medium term and Long term.
- No / Low investment project Implementation - Immediately.
- High investment projects proposals – Put up for CAPEX approval.
- Approved Proposals are being Implemented with time frame.
- Review of project implementation ,Completion status and HOTO.
- Reporting the benefits / savings through monitoring and reviewing the performance.

Strategies Adopted for Employee Involvement

- Trainings for Employee/Contract work man
- Quality circle – 21 Circles
- Kaizen
- Knowledge share through live demos
- Energy conservation Day Celebrations
- Green Co Rating (Gold Rating)
- CSI Member company

My Home Industries Private Ltd	KAIZEN IDEA SHEET		Kaizen Start :	03.03.2021	
			Kaizen Finish:	15.04.2021	
	Machine /Area Name:	**Unit-1 Cement mill**	Target Date :	18.04.2021	
			Kaizen No :	Pro/08	

Kaizen Theme:	**Idea:**	**Team Members (shri):**	
To improve the Cement mill-1 performance	Cement mill-1 outlet mesh modified to improve the mill ventilation	MD.Sofi (Mech)	A.Surendra (Mech)
		J.Venkat kumar (Process)	

Before Improvement	**After Improvement**	**Results & Benefits:**
		▪ Mill production increased by 5TPH ▪ Mill Sp.power reduced by 0.2 kWh/Ton.Cement ▪ Annual saving in Rs:2.61 Lakhs

Analysis (Why):	**Action Taken (Counter measure)**	**IN TANGIBLE**	
It is observed that mill outlet mesh jamming frequent due to low mesh size effecting the mill performance.	Modified the outlet mesh with 5 MM SS square mesh to improve the mill ventilation	Recurring √	One time
		Reversible	Irreversible

Scope & Plan for Horizontal Deployment

Sl.No	M/c No	Tgt.Dt	Resp.	Status

Training for employees

Vibration analysis

Efficient Operation of Equipment

Root Cause Analysis by CII

Implementation of ISO 50001/ Green Co

CERTIFICATION OF ISO 50001

MY HOME INDUSTRIES PRIVATE LIMITED
Srinagar - Mellacheruvu

Energy Management System Policy

M/s.My Home Industries 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.

Ranjith Rao J.
Managing Director

Place: Mellacheruvu
Date: 26.09.2020
Rev: 01

This is communicated at all levels within the organization and interested parties as appropriate.

bsi.

Certificate of Registration

ENERGY MANAGEMENT SYSTEM - ISO 50001:2018

This is to certify that:

My Home Industries Private Limited
Mellacheruvu Cement Works
Srinagar
Mellacheruvu (Village & Mandal)
Suryapet Dist. 508 246
Telangana
India

Holds Certificate No: **ENMS 689619**

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

The Manufacture, Supply and Export of Clinker & Cement by using Thermal and Electrical Energy, Generation and Supply of Power through Captive Power Plants using Coal Fired Boilers, Waste Heat Recovery, Solar Energy and Alternate Fuel.

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 2018-04-10
Latest Revision Date: 2021-03-22

Effective Date: 2021-04-10
Expiry Date: 2024-04-09

Page: 1 of 1

...making excellence a habit.

Green Co rating 2016 – Gold Rating

WON "GOLD AWARD" IN GREENCO SUMMIT– PUNE IN 2017

CII
Confederation of Indian Industry

Greenco

CII - Sohrabji Godrej Green Business Centre

hereby certifies that

My Home Industries Private Limited
Mellacheruvu Cement Works

has successfully achieved the standards as required for the following level of certification under the GreenCo - Green Company Rating System which is valid for a period of 3 years

GreenCo Gold

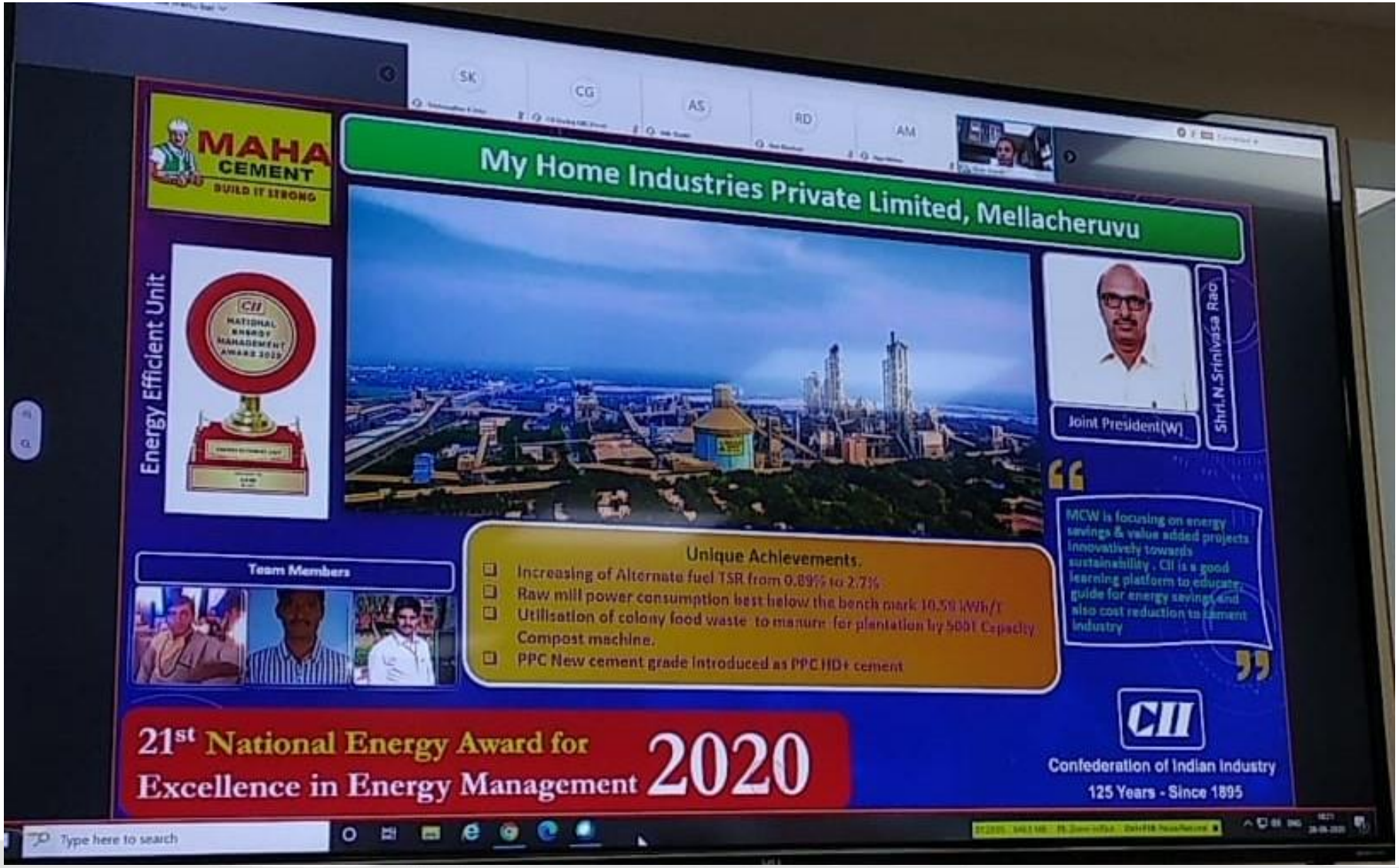
November 2016

Jamshyd N Godrej	Pradeep Bhargava	L S Ganapati	K S Venkatagiri
Chairman	Chairman	Chairman	Executive Director
CII-Godrej GBC	GreenCo Rating System	GreenCo Assessor Panel	CII-Godrej GBC

AWARDS

TELANGA STATE ENERGY CONSERVATION AWARD -2019 RECEIVED FROM TS POWER MINISTER

20th National Award for Excellent Energy Efficient Unit from CII in Hyderabad in Sep 2019


MAHA CEMENT
BUILD IT STRONG
My Home Industries Private Limited, Mellacheruvu
Energy Efficient Unit
Joint President(W)
Shri.N.Srinivasa Rao
MCW is focusing on energy savings & value added projects innovatively towards sustainability . CII is a good learning platform to educate, guide for energy savings and also cost reduction to cement industry
Team Members
Unique Achievements.
Increasing of Alternate fuel TSR from 0.89% to 2.7%
Raw mill power consumption best below the bench mark 10.58 kWh/T
Utilisation of colony food waste to manure for plantation by 500T Capacity Compost machine.
PPC New cement grade introduced as PPC HD+ cement
21st National Energy Award for Excellence in Energy Management 2020
CII
Confederation of Indian Industry
125 Years - Since 1895
Type here to search

Telangana State Energy Conservation Award -2020

PATH FORWARD TO BEST PRACTICES

- Utilization of hazardous waste target to 7.0%(TSR)
- Reduction of Green House Gases emissions by Encon Projects
- Installation 5.0MW On site solar plant.


Thank you