Welcome to
23rd National Award For Excellence In Energy Management
MY HOME INDUSTRIES Pvt., Ltd.
VIZAG GRINDING UNIT

TEAM MEMBERS

VP - Works

Manager – Electrical

GM – Process Presenter

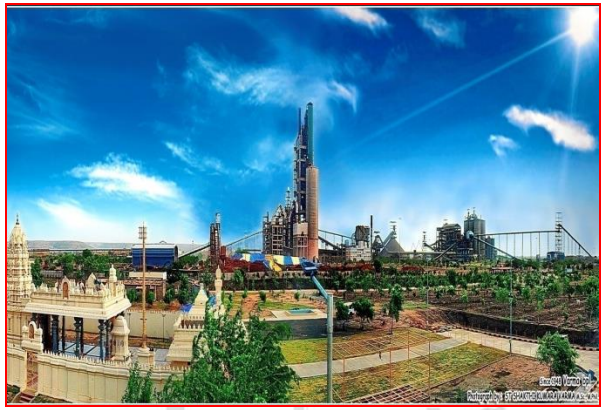
BRIEF INTRODUCTION OF THE COMPANY

Mallecheruvu Cement Plant

Mellacheruvu Cement Works is the main factory consisting of three units with combined installed capacity of **3.5** million tonnes per annum clinker. The factories is also supported with two coal based captive power station with 15 MW and 60 MW capacities, located within the cement factory.

Grinding Unit at Vizag was established in 2009 with capacity of 1.5 MTPA and upgraded to **2.0** MTPA in 2012. The factory is endowed with advanced technology of Vertical Roller Mill for slag grinding supplied by Loesche, Germany and Ball Mill for grinding OPC & PPC from Humboldt Wedag, Germany.

Vizag Grinding Unit



Jayajothi Cement Plant

The factory is having cement manufacturing capacity of **3.2** million tons per annum. The factory was established with world class equipment and technology from national and internationally renowned suppliers like by Loesche, Germany.

Grinding unit at Tuticorin was established in 2017 with capacity of **1.50** million tons per annum in southern part of Tamilnadu. The technology incorporated is from world leader M/s. F L Smidth, they (M/s. FLS) are known for supplying state of art technology.

Tuticorin Cement Plant

MHIPL Total Capacity : 10.2 MTPA

FOREWORD

Dr. Rameswar Rao Jupally, Chairman
(Telangana State Ambassador for Swach Bharath & Pride of The Nation awardee)

- **The My Home Group** associated with Cement, Constructions, Media, Power and Education

- **MHIPL** is one of the fastest growing cement industries in India, under the efficient leadership of our beloved Chairman. Cement sector journey started in 1998 with 0.2 MTPA and increased production capacity to 10.2 MTPA

- **MHIPL-VGU** is committed to maintain the Best HSE&Q practices at all stages of process.

- **MHIPL-VGU** is certified with Integrated Management System, **IMS since 2011** & **EnMS 2020**

BRIEF INTRODUCTION OF THE UNIT

My Home Industries Pvt. Ltd., Vizag Grinding Unit

- **MHIPL – VGU**, was established in Aug. 2009 with a capacity of **1.5 MTPA** and enhanced to **2.0 MTPA** in 2012.

- The plant has most modern art of technology with

  a) Vertical Roller Mill for Slag & Clinker grinding, supplied by M/s Loesche, Germany.

  b) Ball Mill for Clinker grinding, supplied by M/s KHD, Germany.

BRIEF INTRODUCTION OF THE UNIT

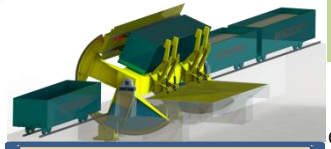
MHIPL-VGU produces and supplies

- Portland Slag Cement, **PSC**
- Ordinary Portland Cement, **OPC**,
- Portland Pozzolana Cement, **PPC**
- Composite Cement, **CC**
- Ground Granulated Blast-furnace Slag, **GGBS**

- These products are dispatched by Road & Rail, through a wide network of dealers across south India, North-East India and Southern & Eastern India.

VGU - PLANT FLOW CHART

MHIPL – VGU, was established in Aug. 2009 with a capacity of 1.5 MTPA and enhanced to 2.0 MTPA in 2012



Wagon Tippler

Wagon Tippler
Slag & Clinker Unloading
MAKE: M/s. ELECON
Cap:20 Wagons/hour, 1200 TPH
Motor: 2X55 kW/1000 RPM

Dump Hopper

Clinker Silo-1
Cap:12000 MT

Clinker silo-2
Cap:23000 MT

Clinker Truck Tippler
M/S. India SKS Pvt. Ltd.
Cap: 60 MT

Slag Truck Tippler
M/S. India SKS Pvt.Ltd.
Cap: 60 MT

RECLAIMER
MAKE: M/s. ELECON
Type: Pylon Type Scrapper Reclaimer,
Travel: 127 M
Travelling Unit Speed: 1.5-3.0 M/MIN
Scrapper Chain Conveyor Speed:0.61 M/Sec,
Capacity: 650 TPH

STACKER
MAKE: M/s. ELECON
Type: Rail Mounted Single Boom
HYD. Luffing Slewing
Capacity: 1200 TPH
Travelling Tripper Speed: 15 M/MIN

Slag Storage
Reclaimer | Stacker
Cap: 20000 MT

Gypsum & coal Storage
Cap: 3000 MT | Cap: 5000 MT

400 MT Clinker Hopper
200 MT Gypsum Hopper
1200MT Fly Ash Silo-1
1200MT Fly Ash Silo-2

BALL MILL

BALL MILL
MAKE: M/s. Humboldt Wedag India (KHD)
Type: Closed Circuit
Two Compartments
Ball Mill Size: 4.2 M D X 13.5 M L
Mill Speed: 16.86 RPM
Shaft Power: 3700 kW
Cap:OPC-105 TPH and PPC-120 TPH

5000 LTS Grinding Aid System
800 MT Fly Ash Silo
400 MT Clinker Hopper
400 MT Slag Hopper
300 MT Gypsum Hopper

VRM
Table Dia : 5300 MM
Speed: 22.7 min-1
Rollers: 3+3
Roller Size: 2240 MM DX 710 MM W
Motor Capacity: 4250 kW / 990 RPM

VRM
Loesche Mill
53.3+3CS
Cap: OPC: 205TPH
GGBS:160 TPH
CC:205TPH

HAG
MAKE: M/s. SINGHANIA SYSTEM TECHNOLOGISTS
Heat Duty
20 MKcal/hr.
5 MKcal/hr.
Coal Quantity
B1-3450 kg/Hr.
B2-865 kg/Hr.

COAL MILL
MAKE: M/s. Alstom Projects India Ltd.
Closed Circuit
Two Compartments
Size: 2.2 M DX5.5M L
Mill Speed: 22.03 RPM
Capacity: 5 TPH

60 MT Fine coal Bin

Silo-1 GGBS
4000 MT
14x20

Silo-2 OPC
4000 MT
14x20

BLENDER
MAKE:M/s. Sanghavi Engineering
Capacity: 360 TPH
Blender

ROTARY PACKERS
MAKE: M/s. EEL
Type: 16-RS, Double discharge
Capacity: 240 TPH
No of Packers : 05

TRUCK LOADING
MAKE: M/s. EEL
Capacity: 120 TPH
Size: 650 width
2850mm c/c 19 mts

Silo-3 PSC
4000 MT
14x20

Silo-4 CC
4000 MT
14x20

Silo-5 CC
4000 MT
14x20

Silo-6 CC
3000 MT
14x16

Packing Plant

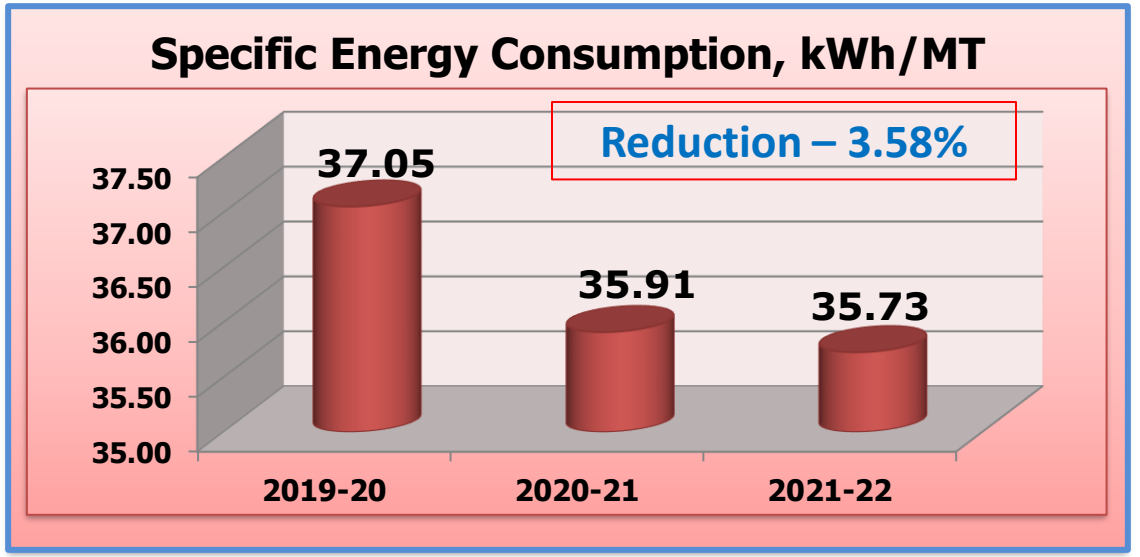
WAGON LOADING
MAKE: M/s. EEL
Capacity: 120 TPH
Size: 650 width,2850 mm c/c

Cement Dispatch by Road, Rail and Bulker

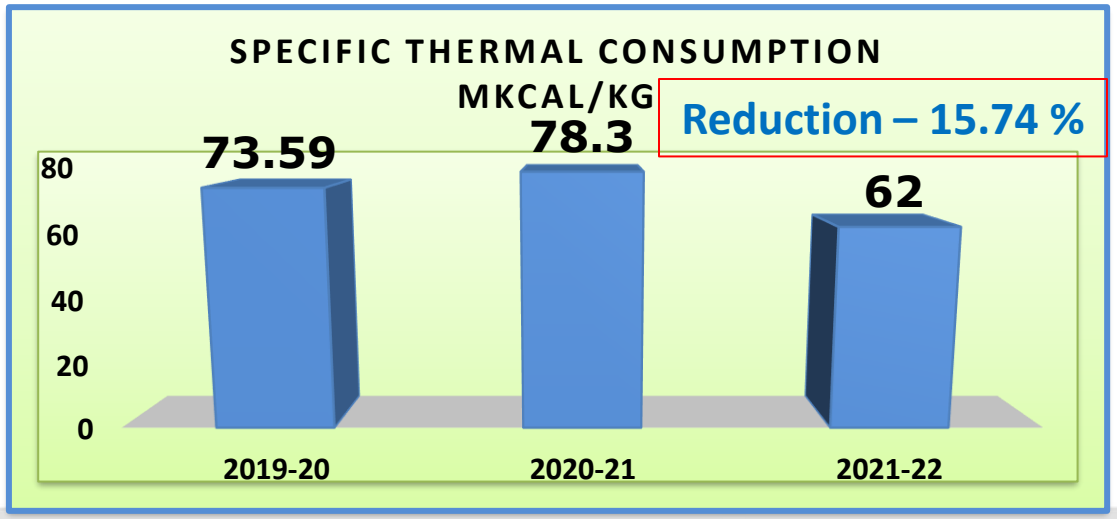
- Supplier: LNVT Technologies
- No of Modules :13950
- No of invertors: 45
- Total area 25 Acres

SPECIFIC ENERGY CONSUMPTION LAST 3 YEARS (FY 2019-22)

Description	2019-20	2020-21	2021-22
Production, MT	12,67,240	11,70,065	11,65,884
Electrical Energy consumption, Kwh	46956000	42017000	41653000
Specific Energy consumption, Kwh/MT	37.05	35.91	35.75
% Of reduction		**3.58**	



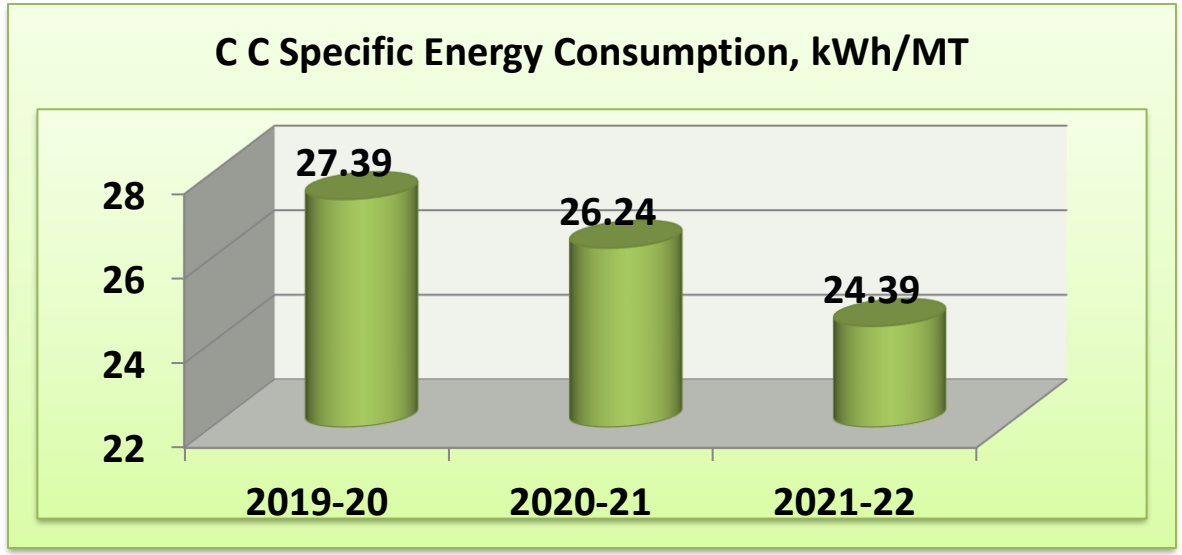
Description	2019-20	2020-21	2021-22
Production, MT	12,67,240	11,70,065	11,65,884
Thermal energy consumption, Mkcal	93,264	91,620	72,290
Specific Thermal consumption Mkcal/Kg	73.59	78.30	62.00
% Of reduction		**15.74**	

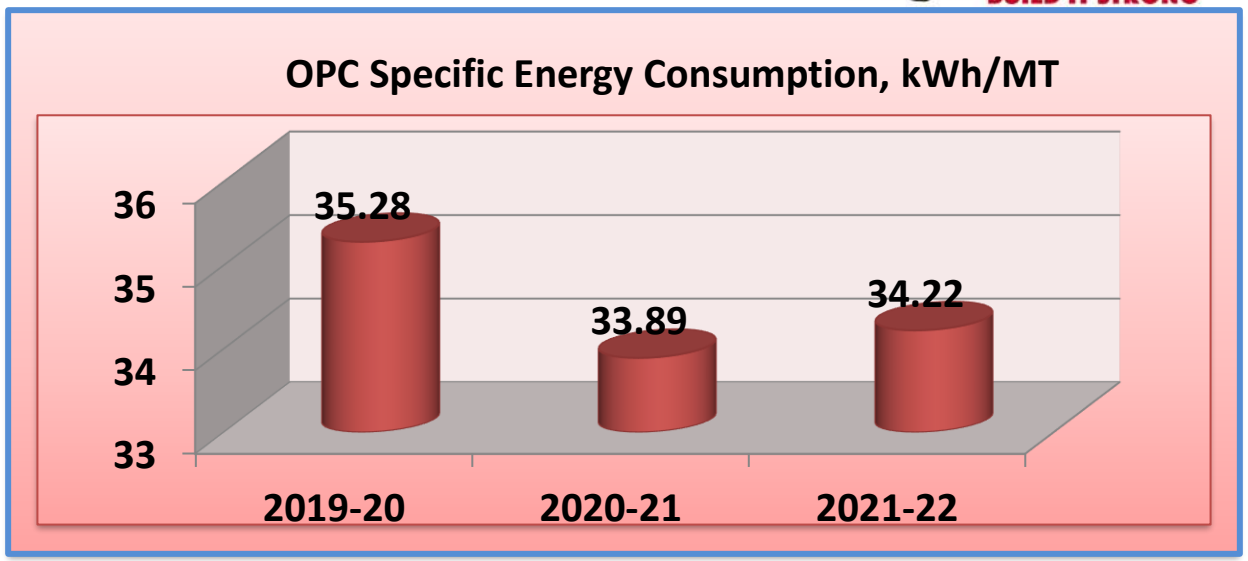


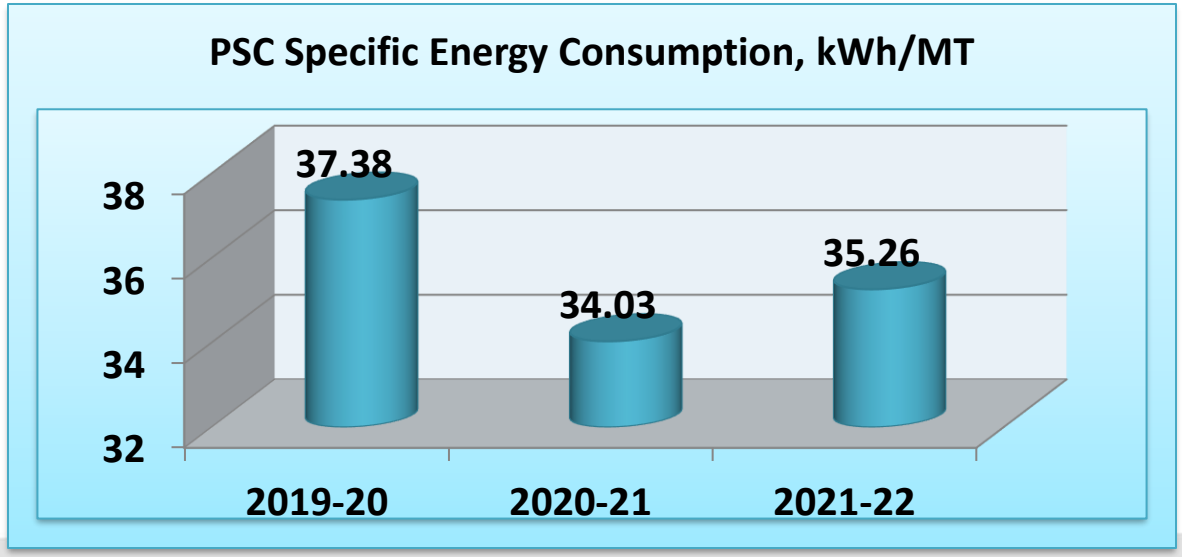
SPECIFIC ENERGY CONSUMPTION LAST 3 YEARS (FY 2019-22)

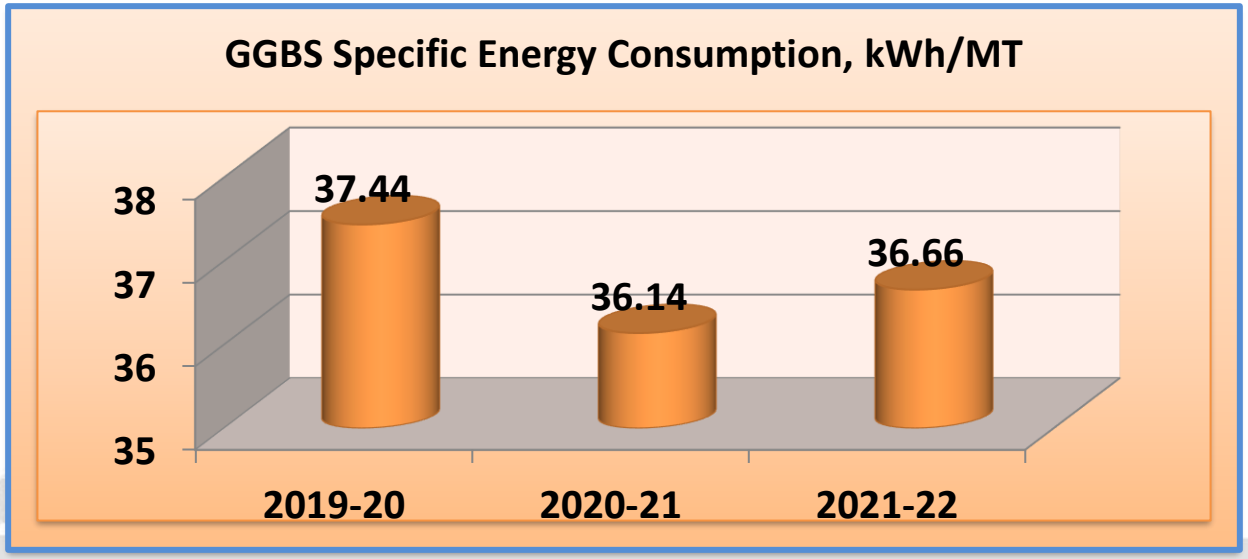
MY HOME GROUP

MAHA CEMENT
BUILD IT STRONG









INFORMATION ON COMPETITORS, NATIONAL & GLOBAL BENCHMARKING

S. No	Product	Specific electrical Energy consumption (KWH/ Ton)			Short term Target	Long Term Target	Bench mark	How close to CII-National	Neighbor Plant
		2019-20	2020-21	2021-22	2022-23	2023-24	CII		
1	C C	27.39	26.24	24.39	24.00	23.50	-	-	-
2	OPC	35.28	33.89	34.22	34.00	32.00	29.79	Plant-1	-
3	PSC	37.38	34.03	35.26	35.00	34.00	32.60	Plant-2	34.50
4	GGBS	37.44	36.14	36.66	36.00	34.00	-	-	37.50

INFORMATION ON COMPETITORS, NATIONAL & GLOBAL BENCHMARKING

ENERGY SAVING PROJECTS PLANNED in 2022-23								
S. No	Energy Saving Project details	Electrical Energy		Thermal Energy		Investment	Pay back period	
		Reduction in Power kWH	Rs. Lakhs per Annum	Kcal/ Kg of cement	Rs. Lakhs per Annum	Rs. Lakhs	Months	
1	Utilize VFD in screw compressor 634 cp1 and avoid unloading of compressor	272000	14.68	0	0	10.00	08	
2	Packer section bag filter fan VFD installation and avoid the damper losses	15000	0.81	0	0	3.00	44	
3	Replace existing high mast light fixure with LED for identified poles	21000	1.13	0	0	5.00	53	
4	Install AC energy savers for identified split AC units 45 nos	95000	5.13	0	0	3.20	08	
5	Replace existing exhaust fan with BLDC fan	23400	1.26	0	0	0.14	02	

ENERGY SAVING PROJECTS IMPLEMENTED LAST 3 YEARS

Year	No of Energy Saving Projects	Investments (In Millions)	Electrical Savings (In Million Kwh)	Savings (INR Million)	Impact on SEC (Electrical KWH / MT Cement)
2019-20	06	0.770	0.3703	1.999	0.30
2020-21	05	2.074	0.1169	0.630	0.10
2021-22	10	1.500	0.6477	3.396	0.56

ENERGY SAVING PROJECTS IMPLEMENTED LAST 3 YEARS

S. No	Energy saving Project details Year : 2019 -20	Achieved Savings: 2019-20			
		Electrical Energy		Investment	Pay back period
		Reduction in Power kWH	Savings Rs. Lakhs per Annum	Rs. Lakhs	Months
1	Optimized grinding media specific area in second chamber of cement mill	105000	5.67	0.5	01
2	Reduced the pressure drop across the damper in cement (ball mill) CA fan	22500	1.21	0	0
3	Reduced the generating air pressure of air compressor from 6.6-6.0 bar	51852	2.80	0	0
4	Replaced few of existing conventional lights with LED lights	18312	0.99	0.27	03
5	Optimized the voltage distribution transformer	16668	0.90	0	0
6	Reduction the pressure drop across inlet damper in VRM bag house fan	156000	8.42	0	0

ENERGY SAVING PROJECTS IMPLEMENTED LAST 3 YEARS

S. No	Energy Saving Project Details Year: 2020- 21	Achieved Savings : 2020-2021			
		Electrical Energy		Investment	Pay back period
		Reduction in Power kWH	Savings Rs. Lakhs per Annum	Rs. Lakhs	Months
1	Modification of inter connectivity of packer bag cleaning circuit to run with single blower	15840	0.85	0	0
2	Installation of Low pressure compressor for flay ash un loading	86480	4.67	20.0	51
3	Replacement Silo's Rotary Air Lock with double flap valve	2132	0.115	0.24	25
4	Replacement motorized bag diverter with pneumatic bag diverter	6547	0.35	0.10	03
5	Replacement of 5 no's of Rotary Air Lock with double flap valve	5946	0.32	0.40	10

ENERGY SAVING PROJECTS IMPLEMENTED LAST 3 YEARS

S. No	Energy Saving Project Details Year : 2021-22	Achieved Savings: 2021-22			
		Electrical Energy		Investment	Pay Back Period
		Reduction in Power kWH	Savings Rs. Lakhs per Annum	Rs. Lakhs	Months
1	Optimize operation of VRM reject belt conveyor by installing VFD and maintain desired RPM	11300	0.61	1.50	29.51
2	Optimize operation of coal mill bag filter by installing VFD and maintain desired suction	30220	1.63	4.00	29.45
3	Reduce the dust accumulation inside VRM inlet-1 & 2 ducts	267500	14.44	1.00	0.83
4	Improve the power factor and reduce the distribution losses at identified location by installing capacitor banks	34290	1.85	3.30	21.41
5	Optimize operation of 1 no silo top bag filter by installing of VFD and maintaining desired silo suction	11340	0.61	4.00	78.69
6	Reduce excess pressure drop across cement mill ball mill CA fan to prevent dust accumulation in inlet of cyclones	27200	0.47	0	0.00
7	Reduce false air infiltration in coal mill separator from identified area by arresting air ingress	5600	0.30	0	0.00
8	Reduce false air across VRM circuit by arresting air leakages from identified areas	244800	13.22	0	0.00
9	Avoid leakages from flange opposite to 613BL4 blower	6500	0.35	0	0.00
10	Replace existing blades with FRP blades in CT cooling fan	9020	0.48	1.20	30.00

INNOVATIVE PROJECTS IMPLEMENTED

OBSERVATION

3nos of AC's (2*1.5TR+1*3TR) at Clinker Silo- 2 MCC and AC's are getting frequent problem due to its continuous operation hence I/O panels are getting over heated

ACTION TAKEN

Separate Cabinet provided for I/O panels with one no. of 1.5TR AC unit, Removed 1No. Of 1.5TR and 1no. of 3TR AC units in MCC room

ADVANTAGES

5.85 units /hr. saved from total AC consumption
Equipment availability (I/O panels) increased
Power Cost saving for year @ 5.85 KWH * 8760 hr/Year = **51,246 units**
Annual savings (51,246 @Rs.6.0) = **Rs. 3,07,476/-**

INNOVATIVE PROJECTS IMPLEMENTED

OBSERVATION

VRM Bag House purging performance is low due to Bag house DP is high.

ACTION TAKEN

Several times flow measurement taken, Purging on/off time increased & decreased even though results not satisfied. Plant cross functional team brain storm and escalated to head office (projects) and extend the purging nozzle size 8 mm. So that Bag House DP will be reduced thereby reducing BH fan load.

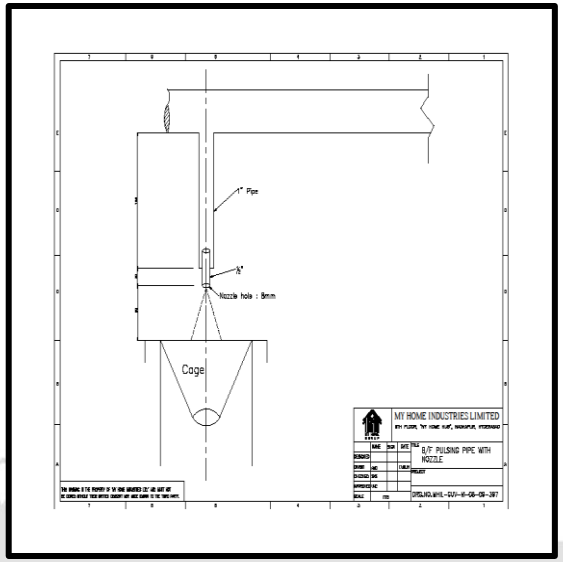
ADVANTAGES

Power Cost saving for year @ 10.0 KWH * 6000 hr/Year = **60,000 units**

Annual savings (60,000 @Rs.6.0) = **Rs. 3,60,000/-**

MILL PARAMETERS AFTER BH PURGING PIPES MODIFICATION

S.NO	DESCRIPTION	EXISTING PURGING	MODIFIED PURGING
1	Mill Feed, TPH	180	180
2	Mill inlet draft, mmwg	-80 to -85	-75 to -85
3	mill O/L draft,mmwg	-310 to -320	-330 to -340
4	Mill diff. pressure, mmwg	24- 26	26 - 28
5	Bag house fan speed, rpm	800	800
6	Bag House fan load, KW	1190	1180
7	BH I/l draft, mmwg	-340	-360
8	BH O/l draft, mmwg	-420	-430
9	BH diff.pressure, mmwg	85	75



INNOVATIVE PROJECTS IMPLEMENTED

OBSERVATION

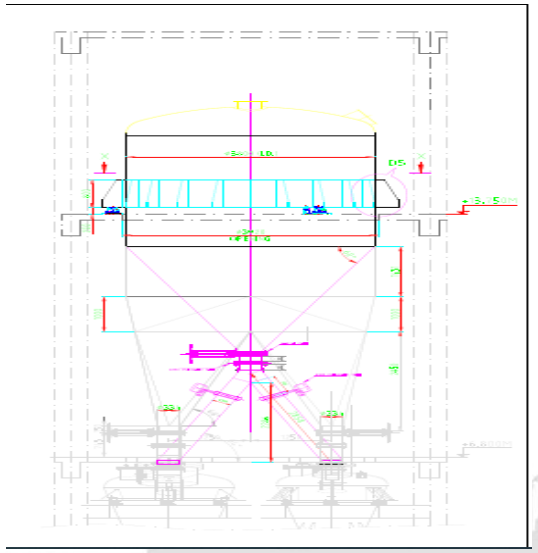
Fine coal hopper Pyjama chute – frequent coal fluctuation resulting in temperature variation in HAG.

ACTION TAKEN

Brain storming Prepared the drawing with consulting HO-Projects and replaced the fine coal bin with modified one

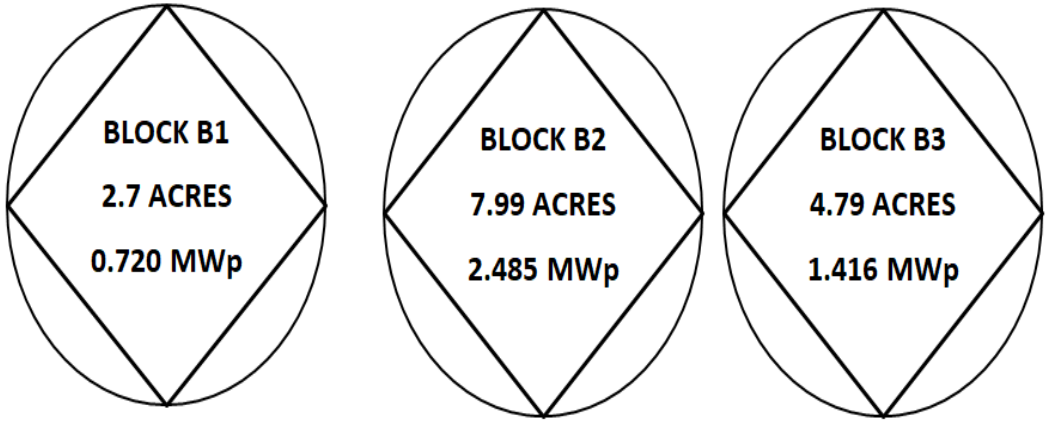
ADVANTAGES

Thermal energy reduced because of smooth operation of HAG with minimum temperature variation 10 deg c Reduction in thermal energy from 78.3 to 62.0 Kcal /kg. (Reduction - 15.7%)



UTILIZATION OF RENEWABLE ENERGY SOURCES

Year	Technology (electrical)	Type of Energy	Onsite/ Offsite	Installed Capacity (MW)	Generation (million kWh)	% of overall electrical energy
FY 2019-20	PV Cell	Solar	Onsite Gen.	4.0	6.180	13.16
FY 2020-21	PV Cell	Solar	Onsite Gen.	4.0	5.835	13.89
FY 2021-22	PV Cell	Solar	Onsite Gen.	4.0	6.179	14.83



PLANT & MODULE DETAILS	
MODULE WATTAGE	330Wp
MODULE OREINTATION	PORTRAIT
TILT ANGLE	16 Deg
TOTAL DC CAPACITY	4.613 MW
INVERTER TYPE	STRING
INVERTER NOMINAL CAPACITY	90 KW
NO OF INVETER	45
NO OF MODULES	**13950**

UTILIZATION OF RENEWABLE ENERGY SOURCES

Projects implemented for renewable energy for My Home Group

- ✓ 4.0 MW Solar power plant at Visakhapatnam - February -2019
- ✓ 11.2 MW Solar power plant at Kurnool – February – 2019
- ✓ 6.3 MW WHRS at Kurnool – January – 2020
- ✓ 10 kw Solar power at Kodad – November -2017
- ✓ 12.5 MW WHRS at Kodad – March -2017

GHG INVENTORIZATION

Description	Emissions		
	2019-20	2020-21	2021-22
Total CO2 emissions, MT	53224	50312	47801
Production, MT	12,67,240	11,70,065	11,65,884
Emissions, kg co2 /MT of cement	42	43	41

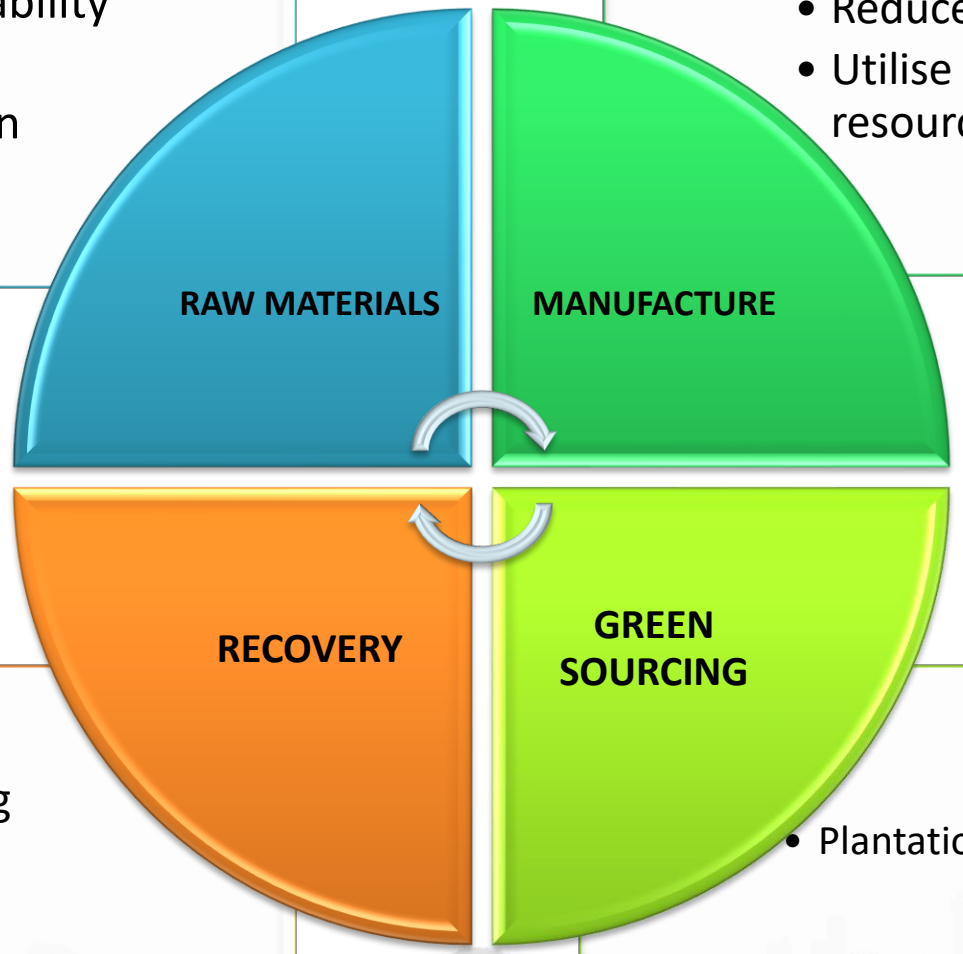
GHG INVENTORIZATION

- *Target (short term/ long term) for CO2 emission reduction and action plan to be mentioned*

Description	2019-20	2020-21	2021-22	Short term (2022-23)	Long term (2023-24)
Scope-1 & 2 Emissions, kg co2 /MT of cement	42	43	41	40	38

- ✓ Reduced the carbon foot print by reducing the clinker proportion
- ✓ Utilized industrial waste products like fly ash and slag, this improved the environment
- ✓ Reduction of clinker factor helped to conserve mineral resources like Lime stone, Clay, Laterite, Iron ore, Coal etc.
- ✓ Reduction of CO2 and greater sustainability in cement manufacturing

GREEN SUPPLY CHAIN MANAGEMENT



- Sustainability
- Low pollution

Maximum utilisation of alternative raw materials like slag, Fly ash, Gypsum, etc.

- Reduce energy
- Utilise the resources

1. Increase the production % of blended cement
2. Reduce the clinker factor % in cement
3. Optimise the thermal energy consumption

Spillage & ash material testing and reuse

- Recycling
- Reuse

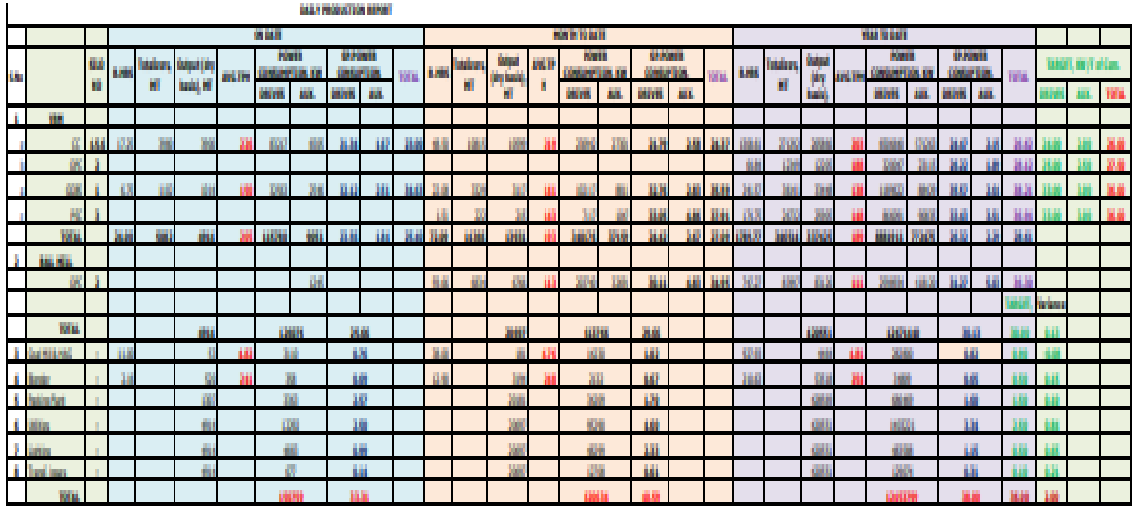
- Plantation

Total plant area 40% covered with plantation .

TEAM WORK EMPLOYEE INVOLVEMENT AND MONITORING

1.Daily monitoring system & use of IOT:

- ✓ Continuous specific electrical energy monitoring through DCS and Section wise SEC report generation on daily basis
- ✓ Compressor air leakages as and when observed



2. Review meeting chaired by:

- ✓ Daily Production review meeting chaired by plant head
- ✓ Monthly Review meeting with Directors (H.0)
- ✓ Monthly Energy performance review meeting with Energy cell

3. Separate budget for Energy conservation:

- ✓ Separate budget allocated for Energy conservation projects for 2022-23
- ✓ Budget allocated – 25 Lakhs

4. Energy efficiency / awareness training program

Class room trainings and On site pep talks conducted on Energy efficiency

IMPLEMENTATION OF ISO 50001/GREEN CO/IGBC RATING

bsi.

Certificate of Registration

ENERGY MANAGEMENT SYSTEM - ISO 50001:2018

This is to certify that:

My Home Cement Industries Pvt. Ltd.
Vizag Grinding Unit
Yellamanchili
Visakhapatnam 531 055
India

Holds Certificate No: **ENMS 727530**

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

Grinding and Dispatch of Cement and Ground Granulated Blast Furnace Slag.

For and on behalf of BSI:

Chris Cheung, Head of Compliance & Risk - Asia Pacific

Original Registration Date: 2020-10-09
Latest Revision Date: 2020-10-09

Effective Date: 2020-10-09
Expiry Date: 2023-10-08

Page: 1 of 1

...making excellence a habit.

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.
An electronic certificate can be authenticated online.
Printed copies can be validated at www.bsi-global.com/ClientDirectory or telephone +91 11 2692 9000.
Further clarifications regarding the scope of this certificate and the applicability of ISO 50001:2018 requirements may be obtained by consulting the organization.
This certificate is valid only if provided original copies are in complete set.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.
A Member of the BSI Group of Companies.

ISO 50001:2018

EnMS started in 2020 till valid 2023

2nd surveillance audit completed on 12th Aug'2022

Audit team appreciated during audit by adopting by initiatives and continual improvements

LEARNING FROM CII ENERGY AWARD OR ANY AWARD PROGRAMME

- CII study conducted in the year of 2021
- Initiated and recommended 15 projects - 11 completed (73% compliance) and the remaining are under progress

AWARDS

Winner of Golden Peacock Innovative product / Service -2019 Certificate & Trophy

Golden Peacock Occupational Health & Safety Award – 2017 Trophy & Award Certificate

NSCI-2016 Safety Award (Suraksha Puraskar) Trophy and Certificate

CII-SR EHS Excellency award with 3 star rating for 2015-16

14th Annual Greentech Safety Gold Award 2015" In Cement Sector

National safety award 2017

THANK YOU

B.RAMA SWAMY, GENERAL MANAGER (PROCESS)
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