



Presentation on Usage of Alternative fuels



My Home Industries Pvt Ltd.,

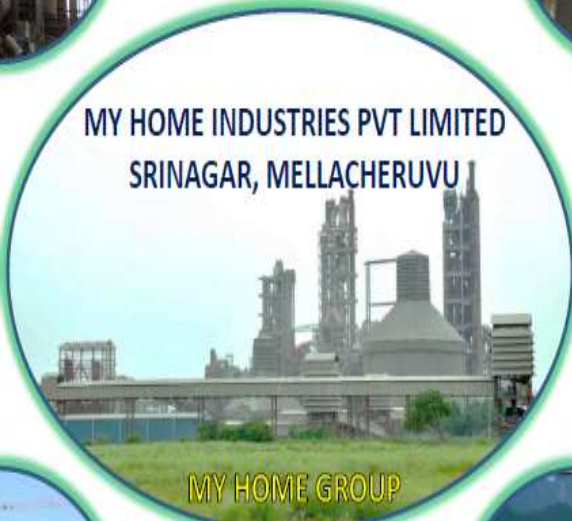
(An ISO 9001:2008 , ISO 14001:2004 and OHSAS -18001 Certified Company)

Mellacheruvu – 508 246

Nalgonda District (Telangana)



Company Profile



- My Home Industries Pvt Ltd (MHIPL) is established in the year 1998 with an installed capacity 0.2 mtpa and rose to 8.5 mtpa in Andhra Pradesh and Telangana states.
- MHIPL entered into a JV with CRH Plc, Ireland in 2008, an internationally reputed group having the business in cement and building materials in 35 countries.
- Other core businesses of the group are Construction & Real Estate, Power, Transport, Power Consultancy, Medical and Education.
- MHIPL is an ISO 9001:2008, ISO 14001:2004, OHSAS 18001 certified company.

Present Production Capacities

Details	Particulars	Unit-I	Unit-II	Unit -III	Total (MT)
Present capacity	Clinker	0.660	1.183	1.20	3.043
	Cement	0.792	1.108	1.40	3.30

Capacities in million tonnes per annum



Production Technology applied

- **Dry Process of Cement Manufacturing Technology**
- **Three units are set-up with state-of –the-art technology from Walchand Industries, KHD Germany and FLSmidth, Denmark.**
- **Online x-ray analyzers ensure quality at every stage of manufacture.**
- **Fuzzy logic system operates all the equipment with total automation to ensure consistent quality.**



Best practices adopted for utilization of AFR

- ❖ **Usage of alternative fuels (pharmaceutical waste) in kiln**
- ❖ **Usage of petro polymer fuel (PPF) for kiln light ups in place of Diesel.**

Co-processing at MHIPL



- System installed and commissioned in March '12
- Facility designed by FL Smith, Denmark, considering safety & environmental aspects as per CPCB guidelines (HAZOP study was conducted by M/s Chola, Chennai)
- System is designed to handle and fire spent organic solvents along with coal in Kiln and Pre calciner burners.
- Total project cost about 12 crores.

Salient Features of Co-Processing System Liquid HW Storage tank



- ❖ Storage tanks - 2 Nos. double walled made of SS 304 , each of 100 KL capacity.
- ❖ Continuous online level sensors provided for monitoring the quantity of solvents stored.

Liquid HW Pumping System

- ❖ Unloading pumps - (1+1) 25 m³/hr capacity with flame proof motors.
- ❖ Feed pumps - (2+1) 5 m³/hr capacity with flame proof motors.

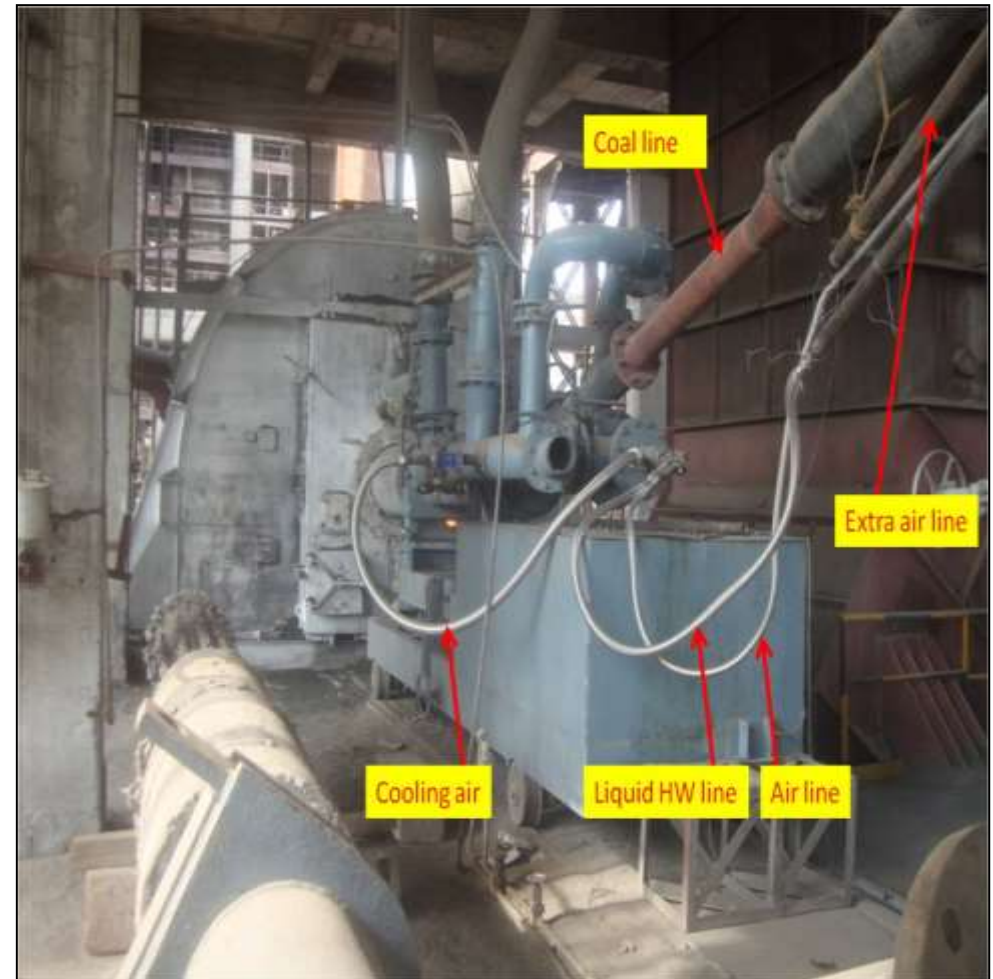


Unloading pumps



Solvent feed pumps

- ❖ MF(Multi Fuel) station for regulating & monitoring solvent flow with atomizing air
- ❖ Burner stations of capacity 3000 kg/hr with pipe & fittings in SS 317



Fire Hydrant Systems at AFL Storage



- ❖ Fire Hydrant system –Foam type - 273 cum/Hr @ 7.0 Kg pressure.
- ❖ Temperature sensors provided around the tank to monitor surface temperature.
- ❖ With increase of surface temperature the Fire hydrant system automatically starts.





Nitrogen Blanketing (Safety systems)

- ❖ Nitrogen Generator system of 30 Ncum/hr capacity for blanketing while unloading and pumping of liquid waste.

Uses:

- ❖ This will eliminate the fire hazard even at elevated temperatures.
- ❖ This also does not allow solvent vapors to vent out because of positive nitrogen pressure(150-200 mmwg).

Problems Faced after commissioning



- ❖ Receiving quality of AFL is main concern, while pumping the liquid from storage tank to user end.
- ❖ Viscosity and Net calorific values are main quality concerns and affect the Feeding rate and system efficiency.
- ❖ Due to the variable viscosity and calorific value in AFR, effects the clinker burning process.
- ❖ Odour at some times emits from storage Tank vent.

AFL Laboratory



- ❖ Modified Filters are provided in transport pipe lines.
- ❖ Spray system improved by changing the burner gun from OBA40⁰ to OBA60⁰ nozzle.
- ❖ AFR firing shifted from Kiln to PC
- ❖ setup alternative fuel Laboratory for analysis of flash point, Viscosity ,CV and other & Minor constituents, etc .

Scrubber system for odour control



- ❖ Installed Dry & Wet Scrubber to avoid odour emissions from the storage tanks to atmosphere.
- ❖ Invested 50 Lakhs.

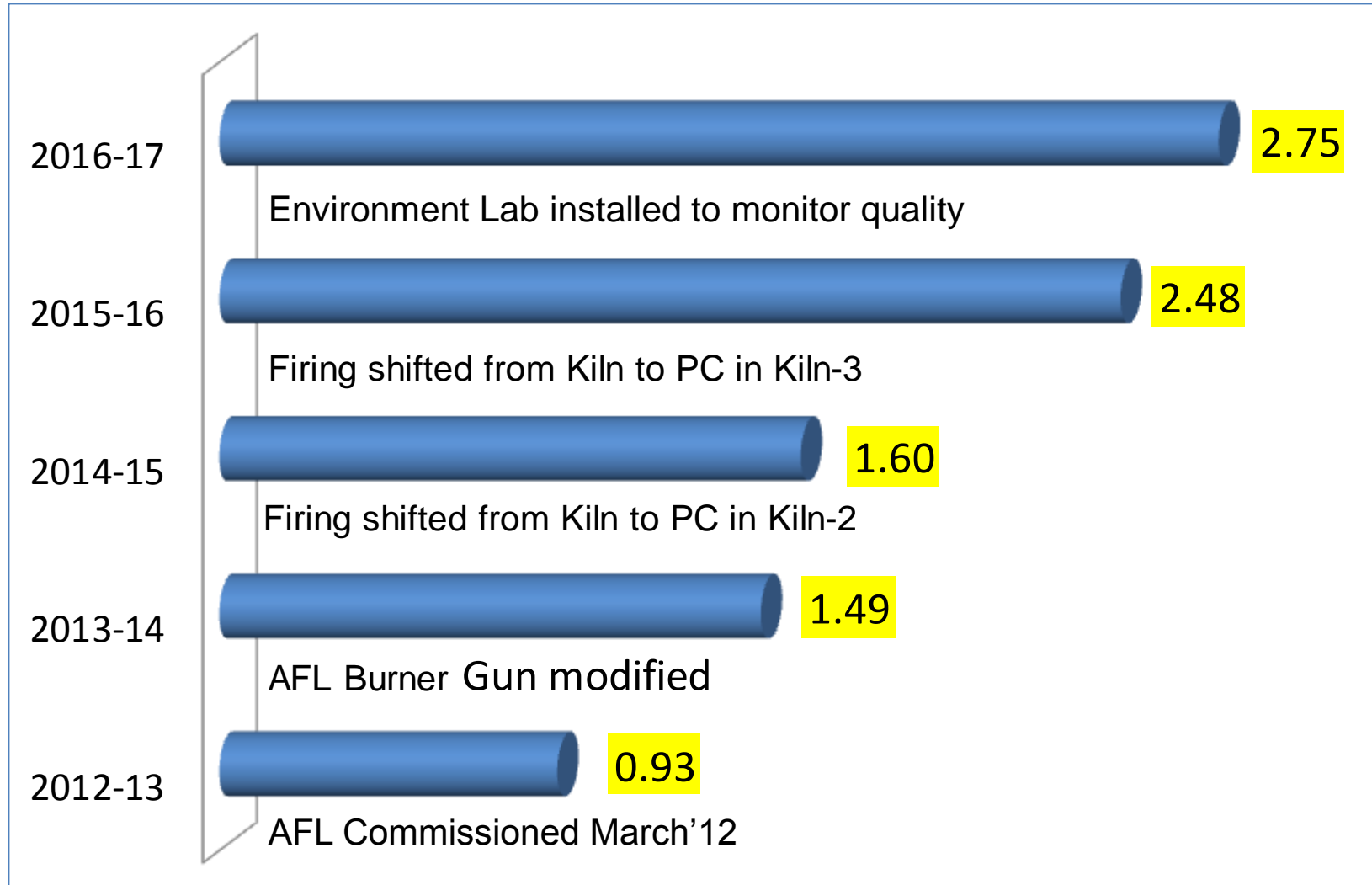


Typical analysis of (Spent Organic Solvents) utilized for Co-Processing.



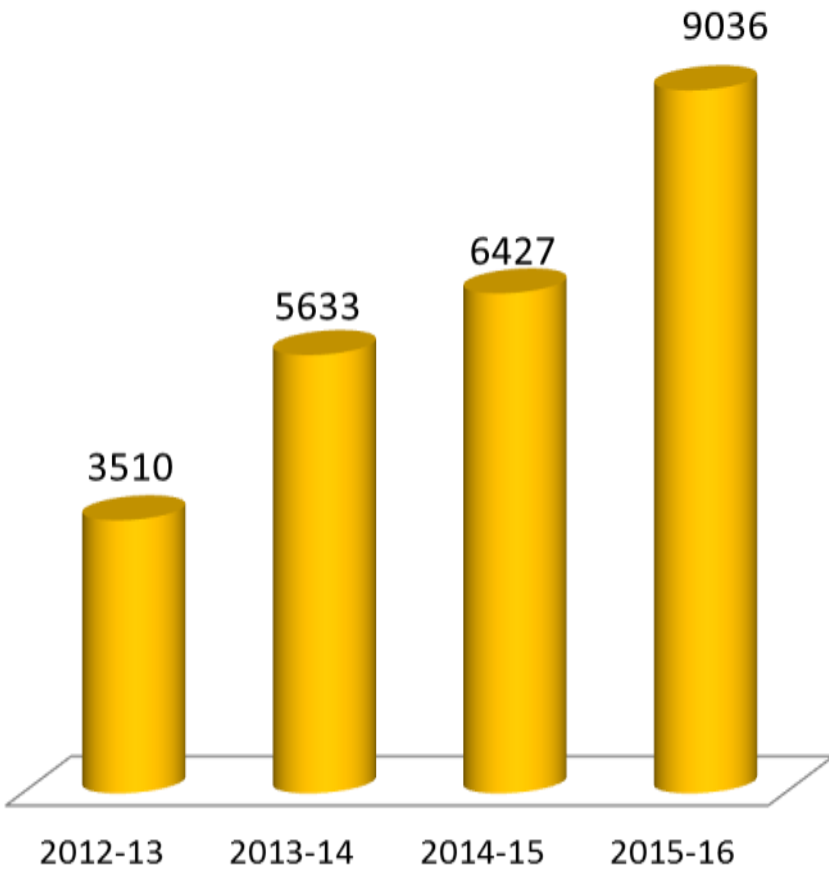
Sr. No.	Parameters	UOM	Liquid Waste
Proximate Analysis			
1	Moisture Content	%	0.81
2	Ash Content	%	1.43
3	Volatile Matter	%	95.68
4	Fixed Carbon	%	2.08
Ultimate Analysis			
1	Carbon	%	43.94
2	Hydrogen	%	7.31
3	Nitrogen	%	5.59
4	Sulphur	%	<0.1
5	Mineral matter	%	1.44
6	Oxygen	%	41.62
7	GCV	Kcal/mol	3500 - 5855
8	Chloride as Cl	%	0.02

Efforts made for increase AFR TSR%

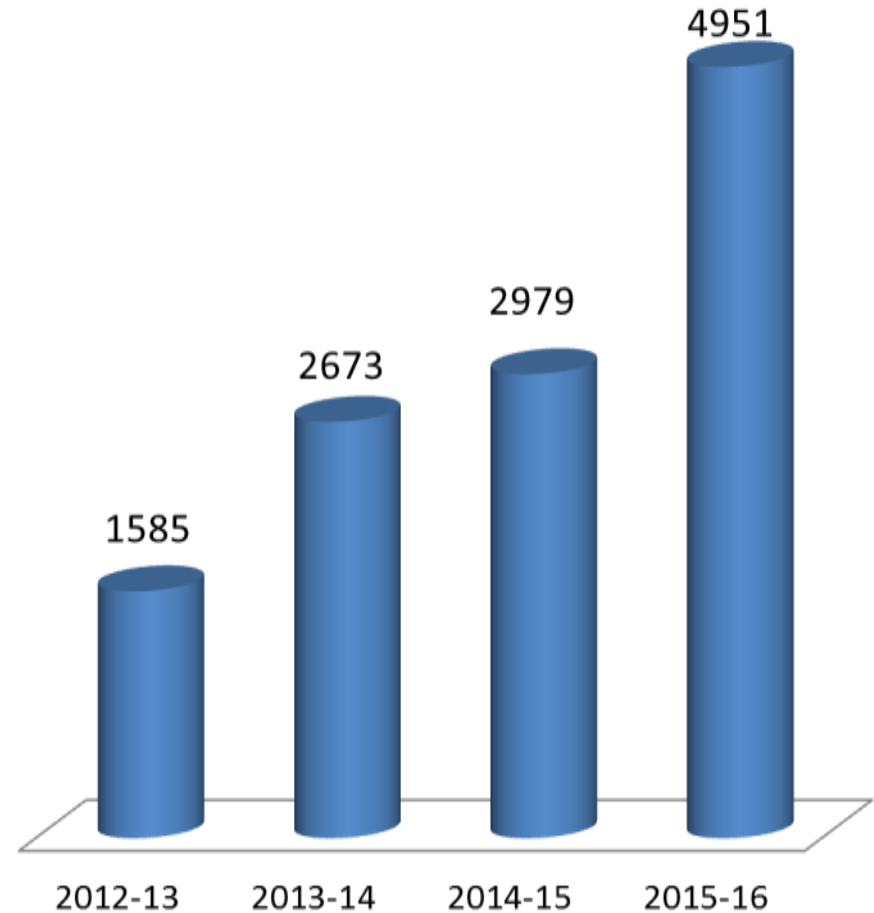


REDUCTION IN CO2 EMISSIONS DUE TO AFR USAGE

Coal saved (MT)



Co2 Saved (MT/Annum)





Solid AFR feeding



Proposed AFL in Line-1

- ❖ To achieve the AFR utilization 5% with in 3years and 10 % with in 5 years on TSR basis.
- ❖ Planning to install AFL system for Line-1 also.
- ❖ By feeding 1000 kg/hr in unit-1 ,we can achieve 5% AFL utilization on TSR basis
- ❖ Developing the in-house solid waste feeding system, which is already in Progress.
- ❖ Maximum utilization of waste generation with in the plant and surrounding areas

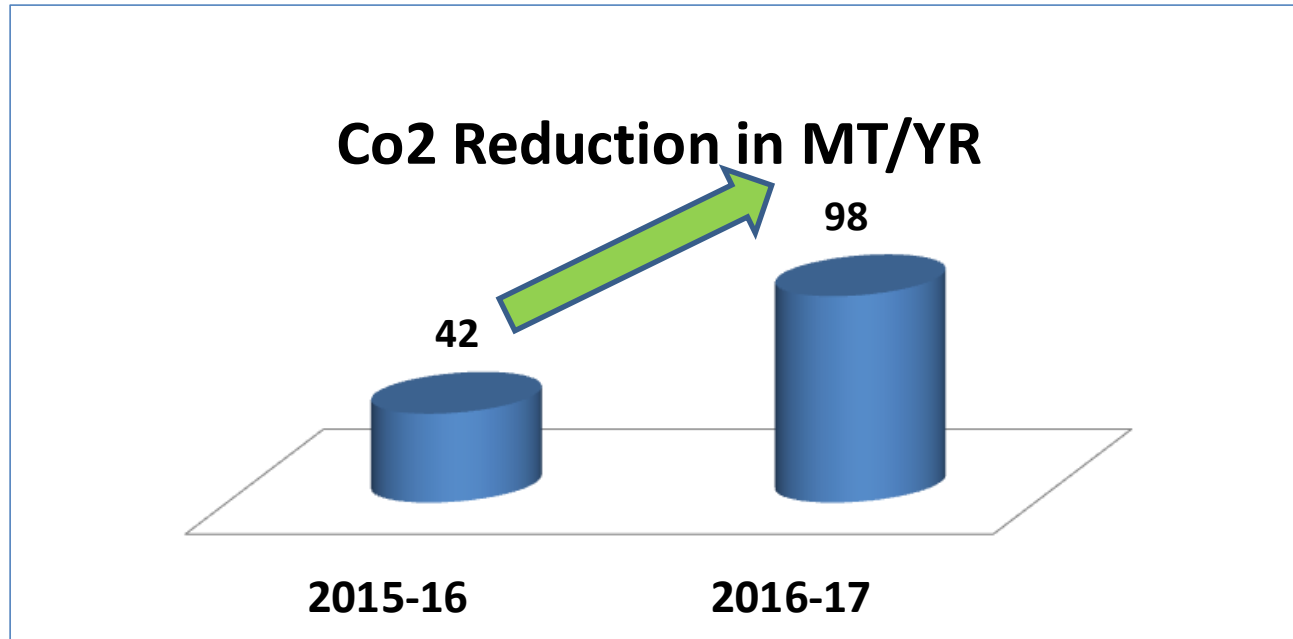
UTILIZATION OF PETRO POLYMER FUEL



- ❖ Substitute of Diesel firing Used for Kiln Heat up
- ❖ Petro polymer fuel generated from plastic waste
- ❖ 1MT fossil Fuel produces 3 MT of Carbon Dioxide (CO₂ emission).
- ❖ By using this PPF we are reducing CARBON FOOT PRINT.

DIESEL	PPF
Calorific Value 10000 Kcal/Kg	Calorific Value 10250 Kcal/Kg
High NOx and CO emissions	Low NOx and CO emissions
Does not meet green environment norms	Meets green environment norms
Net CO ₂ emissions = 3 tons per ton of Diesel fired	Net CO ₂ emissions = zero
Made from CRUDE OIL	Recycled Fuel from Waste Plastics

REDUCTION IN CO2 EMISSIONS DUE TO PPF USAGE



GHG emissions reduced by 98 MT CO₂ during the year 2016-17 .



Conducted KEP 2nd WORK SHOP ON BEST PRACTICES in ENERGY EFFICIENCY under Cement Sector on 07&08th June '16



AWARDS

GREENTECH SAFETY AWARD 2013



GREENTECH ENVIRONMENT AWARD 2013



EHS AWARD 2013



MOST PROMISING BRAND 2014-15



BEST MANAGEMENT AWARD 2015





17th CII National Energy Efficiency Award-2016



Organization Recognition Award in 30th Chapter Convention in Quality Circle(CCQC)-2016





**“The India’s greatest brands & leaders Award 2015 -16
Pride Of The Nation”
instituted by United Research Services(URS).**





Thank you

.....aiming to conserve natural resources