

"PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MSME CLUSTERS IN INDIA"

To develop and promote a market environment for introducing energy efficiency and enhanced use of renewable energy technologies in process applications in the selected energy-intensive MSME clusters, United Nations Industrial Development Organization (UNIDO) in collaboration with Bureau of Energy Efficiency (BEE) is implementing a project titled "Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India" funded by Global Environment Facility (GEF) and co-financed by Ministry of Micro, Small and Medium Enterprises (MoMSME) and Ministry of New and Renewable Energy (MNRE).

Implementing high speed blunger technology in place of ball mill in a ceramic industry to save energy

Objective

To minimize energy consumption by installing a high speed blunger technology in place of ball mill in a ceramic industry.

Implementation

Installed a high speed blunger technology in place of ball mill to mix the raw materials to produce ceramic slurry in a ceramic unit. This will result in energy savings.

Principle

The energy efficient high speed blunger technology can save around 50% of energy consumption when compared to ball mill. The starting torque of ball mill motor is high due to uneven starting load, which consumes more power than the normal operation. Further, ball mills consume lot of time in loading and unloading due to nature of design, and also require grinding media for the operation which consumes half of the space, making it less productive when compared to blunger technology.



Savings

₹ 10,07,664



Investment

₹ 20,00,000



Pay Back

24 months



Unit Profile

Paradise Pottery is a ceramic unit located in Thangadh, Gujarat. Unit manufactures 3,600 MT of sanitaryware per annum.

Benefits

- Improved productivity
- Reduced energy consumption and energy costs



Outcomes



1,43,952 kWh of annual energy saving



₹ 10,07,664 of annual cost saving



118 T of CO₂ reduction per year (0.82 kg/kWh)



Replication Potential

In all the ceramic units using ball mill for preparing the ceramic slurry

Cost Economics

	Before implementation	After implementation
Charge per day (MT)	40	44
Energy consumption per month (kWh)	23,156	11,160
Energy consumption per year (kWh)	2,77,872	1,33,920
Energy saving per year (kWh)	1,43,952	
Annual cost saving (₹ 7/kWh)	₹ 10,07,664	
Investment	₹ 20,00,000	
Simple payback period	24 months	



Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/hr) * no of working hours/year

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Unit

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