

"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).

Installing new energy efficient horizontal multistage pump in a foundry

Objective

Energy saving by installing an energy efficient multistage pump for circulating water to cool the induction coil of the furnace.

Principle

Horizontal multistage pumps are low noise and long-life pumps with compact design. They can operate with liquids up to 70°C.

Implementation

Installed an energy efficient horizontal multistage pump in place of old centrifugal pump for circulating water to cool the induction coil of the furnace.



Savings

₹ 1,29,600



Investment

₹ 45,000



Pay Back

5 months



Unit Profile

Adinath Extrusion Pvt. Ltd. is a foundry unit located in Jamnagar, Gujarat. They are established in 2009 and manufacture various brass components.

Benefits

- Improved efficiency of pump
- Reduced energy consumption & energy costs



Outcomes



17,280 kWh of annual energy saving



₹ 1,29,600 of annual cost saving



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



Replication Potential

In all the units with inefficient centrifugal pumps.

Cost Economics

Energy savings per month	1,440 kWh
Energy saving per annum	17,280 kWh
Cost savings per year (₹ 7.5/kWh)	₹ 1,29,600
Investment cost	₹ 45,000
Simple Payback period	5 months



Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/month) * 12

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Unit

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Cluster Leader

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