

"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).

Energy saving by delaying the start time in the induction furnace

Objective

To reduce the energy consumption in a foundry by delaying the start time of one induction furnace.

Principle

Reducing the holding time of the molten metal in the furnace reduces the specific energy consumption of the furnace, leading to energy savings.

Implementation

Foundry has two furnaces and both of them come to tapping at the same time. This is leading to unnecessary holding of one furnace for 15 to 20 more minutes. To avoid this, the start time of one of the furnaces was delayed by 10 minutes.



₹ 9,65,430



Investment

Nil



Pay Back

Immediate



Unit Profile

Abhishek Alloys is a foundry unit, established in the year 1994 in Belgaum. The unit manufacturers machined special alloy grey, ductile iron components. Installed capacity of the unit is 4500 to 4800 MTs per annum.

Benefits

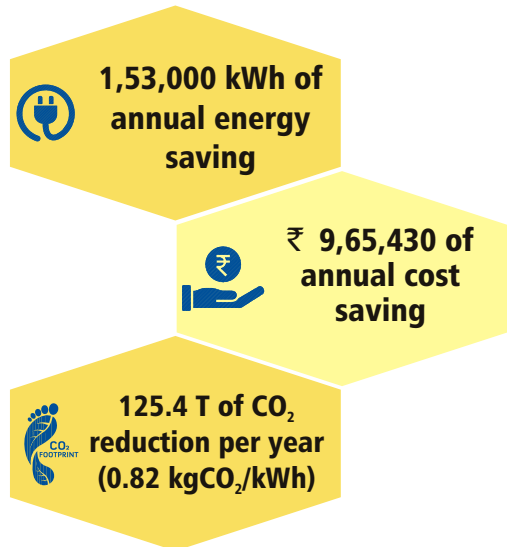
- **Reduced energy consumption**
- **Reduced energy costs**



Replication Potential

In all the foundry units with unnecessary holding time

Outcomes



Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/heat) * no of heats/year

Cost Economics

	Before implementation	After implementation
Holding time per heat (min)	15	5
Energy consumed while holding per heat	62.5 kW	20 kW
Energy consumption per month (300 heats/month) (kWh/month)	18,750	6,000
Electricity consumption per annum	2,25,000 kWh/year	72,000 kWh/year
Energy saving per annum	1,53,000 kWh/year	
Cost savings per year	₹ 9,65,430 (₹ 6.31/ kWh)	
Investment cost	Nil	
Simple Payback period	Immediate	

Contact details :

Unit

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