

CASE STUDY

Howrah foundry unit saves ₹5.8 lakhs annually by investing in a new energy-efficient pump - and recovers investment in 4 months!

BACKGROUND

Howrah, in the state of West Bengal, is one of the major foundry clusters in India. The use of induction melting furnace is growing due to demand for ductile iron castings. The induction furnace-based foundries use water pumps for coil and panel cooling. Water pumping is one of the major consumers of energy in these foundry units. Replacing the present inefficient water pumps with energy efficient (EE) pumps will lead to substantial energy and CO₂ savings.

Baseline

A foundry unit had cooling water pumps of the following specifications.

Head	50 m
Flow	900 litre per minute
Motor	15 kW

A photograph of the existing pumps is shown in Figure 1.

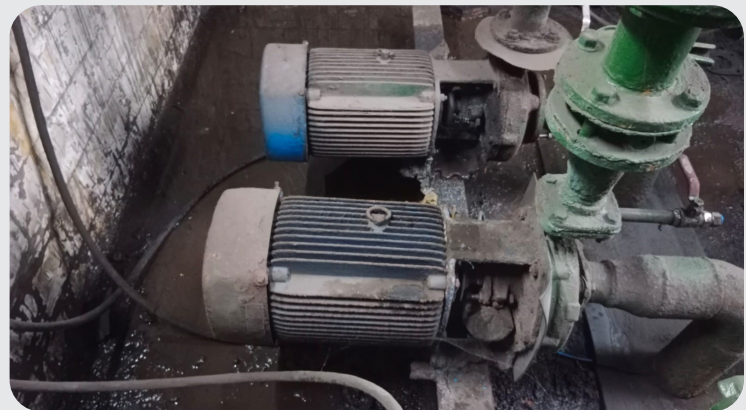


Figure 1: Existing inefficient pumps

The pumps were more than 4 years old and their efficiency had deteriorated to 28%. It was recommended to replace the existing inefficient pumps with new EE pumps having efficiency of 69%.

EE PUMPS AND ENERGY SAVINGS

The specifications of the new EE pump were as follows:

Head	47 m
Flow	900 litre per minute
Motor	11 kW

Adoption of EE pump will lead to an annual energy savings of 71,515 kWh, which is equivalent to monetary savings of ₹5.8 Lakh per annum. The investment in a new pump will be about ₹2.0 Lakh. The payback on investment will be within 4 months. The GHG emission reduction from the recommended measure will be about 59 tCO₂ per annum.

The energy savings is depicted in Figure 2.

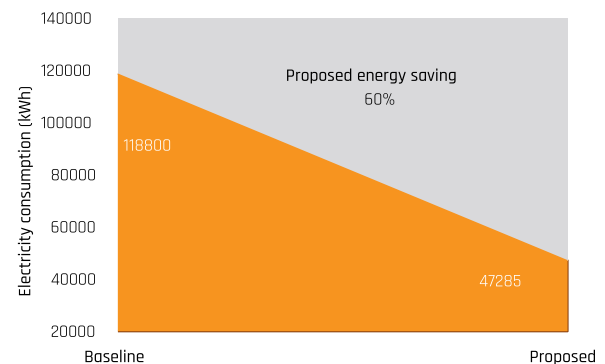


Figure 2: Energy savings

For more details, please contact

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