

Energy efficient technologies for induction furnace units

S.No	Technology	Approximate Investment	Saving Potential	Implementation Period
1	Installation of shredding machine and scrap charging through bucket or vibro-feeder	Rs. 75 lakh (approximate cost for shredder machine for 250 hp motor) and Rs. 15.50 lakh for bucket and vibro feeder	Electricity consumption can be reduced by 5 to 10% per heat	15 to 20 days
2	Replacement of coil cradle of old furnace	Rs. 25 lakh (8 tonne furnace) and Rs. 28 lakh (12 tonne furnace)	Electricity saving by 15-20 kWh per tonne	2 to 4 days
3	Installation of CCM for billet making	Rs. 120 lakh (price of CCM equipment) + Rs. 150 lakh (expenses in civil and other work) = Rs. 270 lakh (total investment) with two stands provision	Additional realization of Rs. 100 lakh per annum for same production quantity. Savings in electricity by 10 to 12 kWh per heat	3 to 4 months
4	Sintering panel for sintering heat	Rs. 25 lakh	Approximately 100 to 200 extra heats per year. Approximately 25 to 30% increase in kVA utilisation index	2 to 3 days

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5	Scrap preheating	Rs. 18 lakh	Net saving in running cost upto INR 800 per heat in case of electricity tariff is more than INR 7 per kWh • Net saving in running cost is negative if electricity tariff is less than INR 4 per kWh.	1 month
6	Ladle preheating	Rs. 8 lakh	Net saving in running cost upto INR 300-350 per heat in case of electricity tariff is more than INR 7 per kWh • Net saving in running cost is negative if electricity tariff is less than INR 4 per kWh	1 month
7	Installation of EE pumps	Rs. 3.20 lakh for 22 kW energy efficient pump and Rs. 3.00 lakh for 18.5 kW energy efficient pump	Reduction in electricity consumption by 30 to 35%	2 days
8	FRP blades in cooling tower	Rs. 0.50 lakh for FRP blades	Reduction in electricity consumption of cooling tower fan by 25 to 30%	2 days
9	Installation of VFD on the air compressor	Rs. 3 lakh for 30 kW VFD	Reduction in electricity consumption by 15 to 20%	2 days