Summary of study: GHP for Foundry (Investment Casting): Unit - 3

Industry : Foundry (Investment Casting)

Unit profile : A foundry located in Rajkot (Gujarat) engaged in production of precision steel and alloy castings

Identified technologies: Gas heat pump (GHP)

Application : Replacement of packaged air-conditioners (ACs) with GHP

Key features:

- Desired room temperature: 25º C
- Existing system: Packaged ACs (various sizes)
- Proposed system: GHP units

Year of investigation : 2012

Potential energy and cost savings:

		Existing System (packaged ACs) (1)	Proposed System (GHP) (2)	Reduction (1) – (2)
Primary energy consumption	MWh/year	1,476	733	742
CO_2 emissions	t-CO_2/year	307	149	158
Charges (electricity/ gas)	Rs/year	1,900,500	1,624,546	275,855
Electricity cost	Rs/kWh	5.75		
Natural gas cost	Rs/SCM	27.95		

Note:
This report is an example for investigating the potential of application of Japanese low carbon technology (LCT) in Indian industries. GHP is the LCT which can generate greater benefits for air conditioning applications using waste heat source.