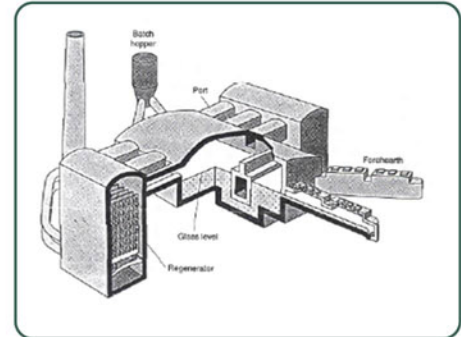




Case Study

Installing an energy efficient furnace in a Glass Factory

Main activities	Glass manufacturing plant
Region	European Union
Energy Consumption	Energy consumption was reduced from 4.84 GJ/t to 4.25 GJ/t though the investment.



Project goals

The furnace is central to any glass manufacturing plant and is responsible for 70-80% of total energy use. The aim was:

- To improve heat recovery in order to substantially reduce the energy consumed by the furnace.

Main investments

A new furnace was installed incorporating the following energy efficiency features:

- Larger and more efficient regenerators
- Increased crown insulation (11% savings)
- Upgraded furnace, flue and regenerator insulation (10%)
- Sealed low NOx burners (6%)
- A deeper glass bath (5%)

Benefits

The energy efficient features of the new furnace reduced the cost of melting glass from €16/t to €12/t, representing a 33% decrease in costs.

The full investment was €4 million to replace the furnace. Out of this, the cost of the energy efficient features was only €270,000.

Application

Glass factory or similar furnace installation.

Investment type	Cost (€)	Energy saved (GJ/year)	Saving achieved (€/year)	Payback period from energy saving
Energy efficient furnace	270,000	45,700	450,000	7 months