Teknocrat's

Energy tip of the month

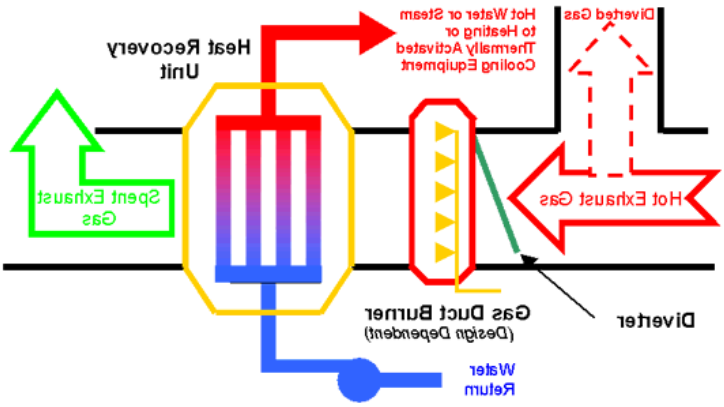
GreenMAGIC
Increase profits with pride…

Does your manufacturing process involve heating?
If yes, there is an opportunity to save energy.....

Option 1: Renewable Energy Sources

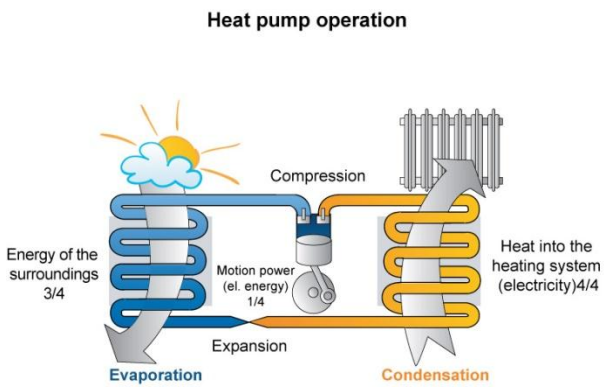
Tubular solar heating systems can be used if the outlet temperature requirement is upto 60 deg. C. If Outlet temperature is more, parabolic solar thermal solutions are worth considering. Solar thermal solutions can produce temperature upto 400 deg. C if one uses thermic fluid . Nowadays, solutions are available which will automatically source shortfall of heat energy from existing heating equipment such as electrical heaters or boilers if solar energy is insufficient.

Option 2: Use of waste heat recovery



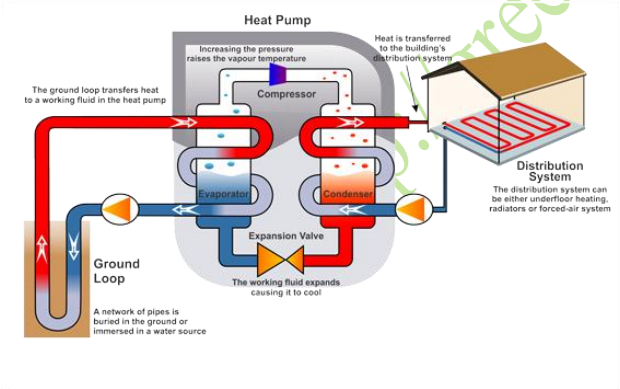
Many industrial applications such as furnace, boilers emit hot exhaust gases. Heat contained in the flue gases can be extracted using heat exchangers & in turn will be utilised in other heating requirements . e.g. Combustion air supplied to boiler can be preheated by boiler flue gasses , which increases boiler efficiency.

Option 3: Use of heat pump



Mechanical heat pump is equipment based on Thermodynamic principle. The cycle generates heat along with cooling effect. It is evident from the experience that an air conditioner generates cooling effect in a room & heating effect outside the room. So, using the same principle, if one uses heat pump instead of electrical heating in a heating process, there is a potential to save 30% energy. By product of heating through heat pump is cooling, which one can use for cooling process. So, if a process requires both, heating & cooling; then **heat pump can save energy upto whooping 70%,** when compared with electrical heating

Option 4: Geothermal heat pump



A geothermal heat pump or ground source heat pump (GSHP) is a central heating and/or cooling system that transfers heat to or from the ground.

It uses the earth as a heat source (in the winter) or a heat sink (in the summer). This design takes advantage of the moderate temperatures in the ground to boost efficiency and reduce the operational costs of heating and cooling systems, and may be combined with solar heating .Ground source heat pump exchanges heat with the ground. This is much more energy-efficient because underground temperatures are more stable than air temperatures through the year.