

## Contribution of the Cogeneration Systems to Environment and Sustainability

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**Abstract :** Kind of energy that buildings need changes in various types, like heating energy, cooling energy, electrical energy and thermal energy for hot top water. Usually the processes or systems produce thermal energy causes emitting pollutant emissions while they produce heat because of fossil fuels they use. A lower consumption of thermal energy will contribute not only to a reduction in the running costs, but also in the reduction of pollutant emissions that contribute to the greenhouse effect and a lesser dependence of the hospital on the external power supply. Cogeneration or CHP (Combined heat and Power) is the system that produces power and usable heat simultaneously. Combined production of mechanical or electrical and thermal energy using a simple energy source, such as oil, coal, natural or liquefied gas, biomass or the sun; affords remarkable energy savings and frequently makes it possible to operate with greater efficiency when compared to a system producing heat and power separately. Because of the life standard of humanity in new age, energy sources must be continually and best qualified. For this reason the installation of a system for the simultaneous generation of electrical, heating and cooling energy would be one of the best solutions if we want to have qualified energy and reduce investment and operating costs and meet ecological requirements. This study aims to bring out the contributions of cogeneration systems to the environment and sustainability by saving the energy and reducing the emissions.

**Keywords :** sustainability, cogeneration systems, energy economy, energy saving

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