

Alternative Energy Systems

Why Build with Alternative Energy Systems?

Energy consumption in the US is currently rising. General energy consumption in the US, measured in quads, has steadily risen from 84 quads in 1992 to 93 quads in 1999.

As demands for energy increases, the cost of energy also increases. Higher gas prices nationally and the recent energy crisis in California both demonstrate the economic results of increased energy consumption.

Higher energy consumption is proportional to increasing pollution. The US has consistently been one of the highest contributors to carbon dioxide emissions.

Alternative energy systems consume less energy or produce energy in a cleaner manner.

What are Alternative Energy Systems?

Solar Power

Active: Collects the sun's energy with panels and convert it to heat, useable for water heating, space heating, cooling, and electricity generation (also called Solar Thermal or Photovoltaic).

Passive: Orients buildings to make optimal use of heating and daylighting from the sun, letting the building serve as the solar collector and heat storage/distribution system.

Wind Power: Powers an electricity generator with turbines that spin with the wind.

Fuel Cell: Combines hydrogen and oxygen to make water and free electrodes, which can be stored as electric current in battery-like cells.

Biomass Power: Produces methane from human and agricultural wastes and uses it to generate electricity with heat, in a manner similar to active solar power.

Ground Source Heat Pumps: Modifies building temperatures with hot or cool air stored in the earth or in walls and circulated through vents.

Thermal Mass: Regulates building temperatures by using rocks or water to store hot or cool air which can be circulated throughout the building.

Cooling Tower: Draws hot air up into a tower and cool air into the building from outside, creating air circulation.

Sources:

Environmental Building News. 1992 ñ 1999.

Sosna Energy Consulting. Energy Compliance News. November 2000.