

Project Profile

A Zero Energy Building



Credit: David Wakely

Overview

Site Details

- Location: San Jose, CA
- Building type(s): Commercial office
- Renovation of a 1960 building
- 6,560 ft²
- Completed August 2007

New Buildings Institute

New Buildings Institute (NBI) is a nonprofit organization working collaboratively with commercial building professionals and the energy industry to improve energy performance of commercial buildings.

IDEAs Z2 DESIGN FACILITY

IDEAs' new headquarters building was designed to meet 100% of its net energy requirements using renewable energy from photovoltaics. The project transformed a commonplace building—a 60s era tilt-up concrete building—into something extraordinary for our times. The intent of the design was to be a “proof of concept” to demonstrate how thoughtful design and a full complement of sustainable design techniques can simultaneously achieve ultra high energy efficiency and high comfort for occupants using current technologies while reaching net zero energy at an affordable price. The building was fit with a fully integrated, grid-tied, net-metering, photovoltaic system sized to provide 100% of the net energy requirements, allowing it to make zero contribution to global warming.

Energy

The building uses PV to provide 100% of its net energy use. It harvests daylight to reduce electric lighting energy consumption, uses occupancy sensors to turn off lights in unoccupied spaces, uses high efficiency, (plug in) office equipment and innovative automatic controls to minimize plug loads, provides a high efficiency HVAC system featuring radiant heating and cooling in the floors and a ground-source heat pump, uses highly rated insulation, and using monitoring equipment to gather data on the energy performance of all building systems.

For an in-depth case study, visit:

buildings.newbuildings.org/overview.cfm?projectid=1346