

Greening Caltech



Cahill

Linde + Robinson

Schlinger

Annenberg

LEED Buildings

Three Caltech buildings have been certified LEED Gold by the U.S. Green Building Council. Besides using daylight to illuminate 75 to 90 percent of all occupied spaces, Schlinger features energy-efficient fume hoods with auto-closing sashes; Cahill supports a 40-kW solar photovoltaic array; and Annenberg's chilled beams lessen the need for air conditioning. And Linde + Robinson, slated to become the first renovated lab in the country to achieve LEED Platinum status, will reuse rainwater as well as sunlight.

Fuel Cells

Installed with capital from the Bloom Electronics Service, Caltech's 20 units offer 2 MW of total capacity, providing 17,000 MWh of electricity annually (roughly 15 percent of campus load). Combined, these units reduce annual carbon emissions by 11,200 metric tons.



Zipcars & Hybrids

Caltech's car-sharing program offers four cars (two of them hybrids) to the campus community, while the Institute's fleet utilizes 125 electric carts and four hybrid vehicles.



Campuswide Recycling

Caltech's recycling program diverts approximately 40 percent of the Institute's waste (roughly 1,000 tons) from landfills each year. Nonrecyclable materials are sent to a waste-to-energy facility in Long Beach, while hazardous and electronic waste is recycled or safely disposed of locally by licensed third-party vendors.



Photovoltaic Installations

Eight separate buildings fly PV arrays that produce a combined capacity of 1.3 MW and generate 1,925 MWh of electricity annually (roughly 2 percent of total campus load). These installations, funded by power-purchase agreements, reduce the Institute's yearly carbon emissions by 1,600 metric tons.

Energy Efficiency

Broad

South Mudd

Extensive upgrades have saved more than 8 million kWh and \$1.3 million in the last two years.



Map not to scale.

Cogeneration Plant

This on-site, 12.5-MW natural-gas power plant cogenerates heat and steam to meet approximately 60 percent of the total campus energy load. In 2004 (the year of installation), the plant won an EPA Energy Star award.



Gardens

These xeriscaped open spaces feature native and climate-adapted plant species that require less water while mitigating the urban heat-island effect. All landscaped areas are now watered by a computerized irrigation system that detects and adapts to real-time climate conditions.



TURF REDUCTION:
Possible turf replacement (583,000 sq. ft.)

IRRIGATION SYSTEMS:
Existing high efficiency / drip systems (38,000 sq.ft.)

RAIN GARDENS:
Vegetation lets rain soak in (850,000 sq. ft.)

FOOD COMPOSTING:
Chander Dining Hall, Red Door Café, Broad Café