

For nearly two decades, the University of California, Irvine (UCI) has been a leader in energy conservation, incorporating efficiency measures into every aspect of its operation. In the last two fiscal years alone, campus energy efficiency initiatives saved 16 million kWh of electricity, 3.1 million therms of natural gas, and \$3.8 million. UCI's aggressive energy management program focuses on reducing greenhouse gas emissions and energy waste by implementing best practices and harnessing emerging technologies.

Since 1992, buildings constructed at UCI have outperformed California's Title 24 by 20-30 percent. Older buildings continuously undergo energy efficiency upgrades of mechanical and lighting systems. In addition, UCI works with local utilities and through the Savings by Design Program to implement energy efficiency opportunities for new building construction. In fiscal year 2007-08, Savings by Design projects saved over 1.7 million kWh of electricity. New buildings are designed to meet or exceed LEED certified standards. UCI's first two projects to complete the LEED certification process were awarded LEED Gold. Thirteen other new construction projects, and one existing building, are in the queue for LEED certification.

The campus'18 MW, base-loaded co-generation facility, which became operational in 2007, employs five recovery methods to efficiently capture and utilize heat produced by electrical generation in order to supply buildings with electrical power, chilled water, hot water, and heating. In fiscal year 2007-08, the cogeneration plant saved an estimated 3.7 million kWh of electricity and over 2.9 million therms of natural gas. UCI is in the process of installing roof mounted photovoltaic solar panels on 12 campus buildings. Each year the system will offset up to 1 MW of peak electricity demand from the grid and generate more than 1,370,000 kWh of renewable energy.

UCI continuously implements energy conservation projects, including HVAC efficiency upgrades, MBCx (Monitoring Based Retro Commissioning), laboratory ventilation control improvements, occupancy based ventilation in teaching labs, low pressure drop filtration systems, occupancy sensor and lighting efficiency upgrades, etc. Between fiscal years 2006-08, energy efficiency projects saved over 10 million kWh in electricity and over 149,000 therms of natural gas, resulting in cost savings of over \$1.4 million. UCI goes beyond tradition programs by reducing energy consumption in already efficient buildings. Thus, the campus is installing "smart" real-time air quality sensing in labs and pilot testing more than a dozen other pollution and energy reduction projects, which if successful, can be utilized at other institutions. UCI is also implementing IT energy saving measures such as CRT monitor replacements, PC power management, server virtualization, thin client PC's, and data center power utilization improvements. In 2007-08, IT measures saved over 214,000 kWh of electricity.

Campus operational endeavors are complimented by a variety of educational and outreach activities. UCI staff work with the Alliance to Save Energy's Green Campus program to engage students in energy efficiency initiatives. In 2007-08, Green Campus projects saved more than 290,000 kWh of electricity. UCI hosts various educational events that focus on energy efficiency, including LABS for the 21st Century conferences, Earth Day, and seminars featuring campus faculty. In addition, UCI staff have spoken about sustainability and energy efficiency at national and state-wide events.

For more information about sustainability and energy efficiency at UCI, visit www.sustainability.uci.edu.