

UNIVERSITY
OF
CALIFORNIA

Environmental Sustainability



The University of California has always been on the leading edge.

It's no surprise then that decades before the world took notice of climate change, UC faculty, researchers, students and staff recognized the problem and set out to do something about it.

That's the University of California.



BUILDING THE FUTURE

The Living Laboratory

Long before sustainability became a pillar of the University of California, students took it upon themselves to reshape their campuses and be stewards of the environment.

In 1968, UC Davis students started a public bus line that is a model for other campus transportation systems. UC Santa Cruz students helped launch a campus farm in 1971 that spurred the growth of sustainable agriculture through its research and education programs.

Students also were a driving force behind UC's sustainability policy, enacted in 2003 and now an integral part of how our campuses operate. UC is the nation's leading university for green building, and we have pledged to cut greenhouse gas emissions to 1990 levels by 2020 with the goal of eventually becoming carbon neutral.

We're tapping into our own leading-edge research in energy efficiency, renewable energy, biofuels and green construction to meet these ambitious targets. That research allows UC to continue to lead by example: UC Davis opened the nation's largest planned net-zero energy residential community in 2012 and the first net-zero energy building at a university in 2013.

As a living lab, we are practicing what we preach, and along the way our students are learning how to build a sustainable future.

It Takes a Village to Be Green

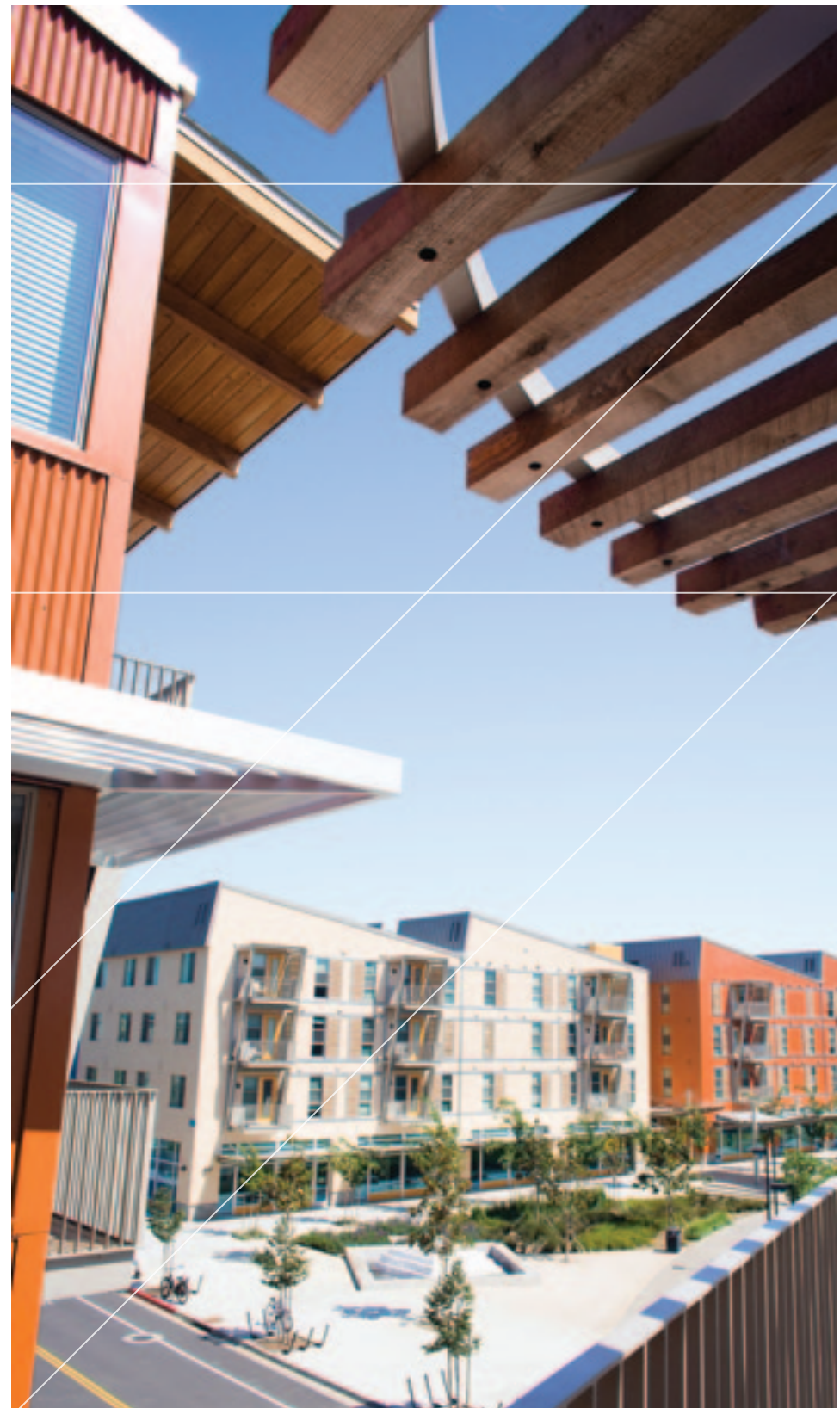
Welcome to West Village, the nation's largest planned net-zero energy community.

UC Davis' newest neighborhood—the eventual home of 4,200 students, faculty and staff—opened in 2012 with the goal of proving that a large-scale development can produce as much energy as it uses.

Proximity to the campus reduces reliance on cars; bike paths and open space contribute to a healthy environment; and solar panels and other technologies help the community produce its own clean power. Web and cellphone apps provide feedback about energy use and encourage conservation.

West Village was designed using state-of-the-art techniques for water conservation, energy and cooling efficiencies, and lighting, some of which were developed at UC Davis. An experimental biodigester developed by a professor of biological and agricultural engineering may soon turn campus garbage into a prime power source.

All that innovation has caught the attention of professors on campus. A half-dozen UC Davis research centers focused on—what else?—energy and conservation have moved to West Village and more are on the way.





SUSTAINABLE WATER

Slowing the Flow

How low can we go? That was the question for UC Santa Barbara students Katie Cole and Mathew O’Carroll as they looked at how the university could reduce its water use.

UC adopted conservation goals in 2013 to ease the strain that population growth and climate change are putting on the state’s limited water supply. UC’s plan would cut potable water use by 20 percent by 2020. Cole and O’Carroll believed their campus could do better.

Together with other graduate students at UC Santa Barbara’s Bren School of Environmental Science and Management, they analyzed usage and devised a plan that will reduce water use by 40 percent by 2028.

The plan makes a convincing financial case for installing more-efficient faucets, toilets and landscape irrigation systems, and optimizing cooling tower operations. When fully implemented, the plan could save more than 46 million of gallons of water per year.

Better yet, the Water Action Plan provides a template that other UC campuses and universities can follow.

“We feel really good that this plan is not going to sit on a shelf and collect dust and that it’s going to help the university,” O’Carroll said.



environmental achievements

100+

LEED-certified buildings

UC Berkeley's Energy Management Initiative will save up to \$4 million a year.

UC Davis, UC Irvine and UCLA diverted 75% of waste from landfills.

UC Merced is the only campus in the country where every building is LEED certified.

UCSF Medical Center's waste reduction initiatives save \$1 million annually.

At UCLA, 47% of employees and 74% of students use alternate commuting options.

UC Davis's Aggie Stadium is the first zero-waste stadium in the country.

50% of all trash diverted away from landfills

UC Irvine's Smart Labs use 50 percent less energy than traditional labs.

UC San Diego has the largest fuel cell of any campus in the country.

Student-built mobile solar-energy generator at UC Riverside powers campus events.

UC Berkeley, UC Davis, UC Irvine, UCLA and UC Santa Barbara named Bicycle Friendly Universities by the League of American Bicyclists

\$128 million

saved in energy costs between 2004-13

national accolades

Topping Sierra magazine's Cool Schools list of greenest universities

Annual inclusion in Princeton Review's Green Honor Roll

Several campuses in U.S. News and World Report's Top 10 Eco-Friendly Colleges

Winner of the American College and University Presidents' Climate Commitment Climate Leadership Award

Global Green USA Millennium Award in 2010

Multiple winner of the EPA Game Day Challenge

UC sustainability policy includes:

energy

transportation

green building

waste reduction

purchasing

operations

water

recycling

foodservice

climate protection

Top-Down Sustainability

UC San Diego's commitment to sustainability can be found in its classrooms, its labs, even on its rooftops—where solar panels, rooftop gardens and solar water heaters help reduce energy consumption.

Solar panels sit atop more than 30 structures, generating 3 megawatts of power and saving UC San Diego roughly \$2 million a year in energy costs—savings that will grow as the campus adds more solar panels.

But the sun doesn't always shine, even in San Diego. So engineering professor Jan Kleissl and his students designed a wireless network of weather-monitoring sensors to help optimize solar generation and energy efficiency. The network can pinpoint the best time to use ocean breezes to cool buildings and identify ideal locations for expanding solar energy projects.

Kleissl said he hopes the experience inspires students to enter careers that advance clean energy technologies.

“From constructing the stations, to programming the sensors, there is a lot of opportunity for students at any skill level to participate,” Kleissl said. “Hopefully we can open their eyes to opportunities and how to practically apply their research to projects with a positive impact.”





SUSTAINABLE FOOD

Real Food Served Here

Even with a 25-acre organic farm right on campus, UC Santa Cruz dining halls have to look beyond university borders for enough sustainable food to feed 8,000 hungry students.

Already, UC Santa Cruz has surpassed a universitywide mandate that 20 percent of its food be organic or locally grown, and is committed to hitting 40 percent by 2020 through the Real Food Challenge.

The Agriculture and Land-Based Training Association (ALBA) is helping the campus meet the challenge. ALBA teaches farm workers to run small organic farms—from growing produce to developing local buyers, such as UC Santa Cruz, for their produce.

ALBA also is a partner with Farm Fridays, educational events initiated by a student in 2005. Students enjoy a special organic dinner on Farm Fridays while meeting local farmers to learn about sustainable agriculture. Students see first-hand the raw fruits and vegetables used to make their meal. For some, it's their first exposure to fresh produce. The experience helps educate students about sustainable food, also part of the UC mandate.



A Sustainable Future

The University of California will continue to be a leader in sustainability. UC's visionary and measurable goals for 2020 will ensure that groundbreaking work will continue in all areas of sustainable practices.

By 2020, UC has committed to:

Cut greenhouse gas emissions to 1990 levels—a 50 percent reduction.

UC Merced pledges to be zero-net in emissions, energy use and waste by 2020.

Divert 100 percent of campus solid waste from landfills.

UC Berkeley's 63,000-seat Memorial Stadium will be zero waste.

Procure 20 percent of its food from sustainable sources.

UC Santa Cruz sets goal of achieving 40 percent.

Reduce potable water use by 20 percent.

UC Santa Barbara plans to reduce consumption by 40 percent.

After 2020, UC will become carbon neutral as soon as possible.

Follow our progress at <http://sustainability.universityofcalifornia.edu>.



