

We are committed...

...committed to progressive, bold, fearless inquiry that benefits both the individual and the planet. This ethos pervades everything we do—and in the world of sustainability we do a lot.

Sustainability at UCSC means making connections across disciplines, colleges, infrastructure, and operations. This ability to cross boundaries comes naturally to us because it is also how we learn.

Sustainability at UCSC also includes staying open to new ideas and questioning our everyday habits—another thing we are good at. It informs how we live, and how we give back to our community.

We are proud of these values.
We are committed to these practices.



The following pages reflect the progress we have made towards our meeting our sustainability goals.

We are making significant progress and want to share the good news. By sharing this news we help to build momentum and energize everyone who is working so hard to meet our goals. Naturally there are areas where we can improve—this is also a motivator—one that challenges us to think 'outside the box', to strive to do better.

Highlights

Buildings

UCSC Biomedical building receives LEED Gold certification.



Land, Habitat, Watershed

The UCSC Invasive Species Management Plan tackles the tough issue of managing invasive plant species across our vast campus.



UCSC's 2012–13 annual average of 19,210 daily vehicle trips is 4.9% lower than the previous year.



Water

Water recycling bio-digester is installed for washing campus fleet vehicles.

2010-13 Campus Sustainability Plan. Our progress.

Achieved

For new construction and renovations over \$5 million, achieve LEED "Silver" and strive to achieve LEED "Gold" or equivalent, exceed the energy efficiency standards of CA Energy Code (Title 24) by at least 30% and exceed Labs21 EPC by 20% or more

Criteria for selecting leased space should include a interior rating that is equivalent to a LEED certified commercial space

Consistently incorporate "green workshops" early in the Detailed Project Program and Project Planning Guide project phase; base design decisions on thorough life cycle cost analyses

Progressing

Define criteria and set targets for implementation of sustainability guidelines for new projects and operation of built spaces and developed outdoor areas

Define, incorporate and comply with sustainability guidelines in campus design standards for new projects and operations of built spaces and sustainable maintenance and operations policies

We can do better

Develop and document opportunities to integrate and communicate "economic and "social" benefits of sustainable design into construction, operation and maintenance of campus buildings and facilities

Develop internal criteria, guideline and credits for sustainability performance of existing building; develop pilot auditing template and test on various building types; begin tracking conversion of existing building as % of total square footage, develop metrics, set targets



Buildings

Facilities

and

50% increase of student interns and volunteers actively engaged with land and habitat stewardship projects on the main campus

Secure and phase in staff and operational resources to implement critical stewardship programs and initiatives that support instruction and research

Secure and phase in staff and operational resources to implement critical stewardship programs and initiatives that 1) support environmental compliance and protect sensitive species and habitats, and 2) enhance community safety and enjoyment of campus natural areas

Develop an Academic Plan (previously called Collaborative Plan) for increasing the use of campus lands for education and research

Initiate a Landscape Management Plan for main campus that includes a Fire and Vegetation Management Plan and provides strategies for effective habitat and sensitive species management



Maintain ADT to UCSC's main campus below levels defined by the Comprehensive Settlement Agreement

Create and implement a policy that integrate sustainability criteria and Fleet Services review into the approval process of UCSC fleet vehicle purchases

Decrease percentage person-trips to and from UCSC's main campus using single occupancy vehicles modes of transportation from 40% to 35% * Reduce campus fleet fuel use by 15%*

Develop UC system-wide alternative funding mechanisms for sustainable transportation initiatives



Maintain or decrease campus water Reduce water use in non-residenirrigation Reduce water use in non-residential areas by implementing pro-

Complete 19 high-priority water conservation projects identified in the Water Efficiency Survey

Install metering on unmetered irrigation points identified by the Water Curtailment Task Force

Reduce water use in non-residential areas by implementing programs that provide incentives for conservation Create mechanisms for tracking cost savings resulting from reduced water use and redirecting said savings to future water conservation measures

Maintain or decrease student per capita water use*

*Learn more about these metrics here.

Highlights

Energy

A 250kw array of solar panels is installed on McHenry library, producing over half of the library's energy needs.



Food

"Waste Buffet" awareness events in campus dining halls display plates of uneaten food to provide an educational deterrent to wasting food.



The pilot removal of paper towels from Stevenson College residence halls results in the decision to eliminate paper towels from all campus residences in Fall 2013.





Procurement

"Green washing" awareness training video created to educate campus staff on deceptive marketing tactics that mislead consumers about a product's environmental attributes.



Reduce campus energy use (BTUs per Assignable Square Foot - ASF) by implementing planned energy efficiency projects in the Strategic Energy Plan

Create a Green Fund for projects including mechanisms to track and reinvest savings

Progressing

Generate at least one megawatt of on-site renewable energy

Create a policy on growth related emissions

Increase integration of energy and sustainability criteria into the design of new buildings and major renovations

We can do better

Reduce greenhouse gas emissions to 2000 levels by 2014 to the extent resources permit*



Gas

Energy and

Greenhouse

Compost 100% of potentially compostable and biodegradable materials from dining operations

Increase total food purchased for UCSC dining that meet one or more "sustainable" criteria to 25%*

Complete green certification of remaining dining facilities and encourage certification of vendoror self-operated coffee shops/café facilities on campus Reduce purchase of meat by UCSC dining operations by 10% from 2008 levels to 19% of total food purchases and evaluate the mitigation impacts of UCSC's carbon footprint*

Phase in sustainable procurement practices for remaining campus dining and vendor- or self-operated coffee shops/café facilities

Establish experiential learning garden sites at all colleges



Compost 100% of potentially compostable and biodegradable materials from UCSC Dining operations

Conduct baseline campus-wide audit to effectively identify, prioritize and engage waste reduction/diversion strategies Increase percentage of total reported waste self-hauled by Physical Plant to 90% for non-construction waste and 65% for construction waste by increasing capacity of waste management equipment, facilities, and staff to the extent resources permit

Increase non-construction waste diversion to 75%*

Develop a sustainable recharge rate to support long-term viability of waste diversion activities and strategies



Develop an online training module on Greenwashing Awareness to supplement the Sustainable Purchasing Guide

odule Increase percentage of total spend for purchases of office supplies with recycled or environmentally preferable content using Cruz-Buy e-procurement tool

Reduce print and copy paper use and move toward adopting 100% post consumer waste office paper standard Review campus printing and copying requirements and match requirements with appropriate Energy Star-rated network equipment

Develop appliance replacement plan based on cost-avoidance study and facility renovation schedule, and identify funding sources required to implement

*Learn more about these metrics <u>here.</u>



Awareness, Education, Engagement

At UCSC, when we think about sustainability we look at the big picture—people, places, and things. The next few pages are about the people and the connections they make.

In a university setting, it is only natural that layers of knowledge are shared and supported. This section showcases the many ways people on our campus are reinforcing their commitment to our shared sustainability principles.

Living Laboratory Opportunities

Academic learning is brought to life at UC Santa Cruz through a variety of opportunities that link research, teaching and campus operations by utilizing the campus as a living laboratory to explore, understand, and solve sustainability challenges. This section characterizes the campus academic, co-curricular and research programs and projects that utilize UCSC as a living laboratory.

Arboretum

Research and teaching facility committed to plant conservation that serves both the campus and the public. Its rich and diverse collection, containing representatives of more than 300 plant families, provides beginning students with a broad survey of the plant kingdom. Facilities for growing plants offer students and research faculty opportunities to experiment with living plants and their ecosystems.

Campus Natural Reserve

Provides outdoor classrooms and living laboratories for students and faculty across academic disciplines. The Reserve sponsors internships and volunteer opportunities in environmental education, ecology and stewardship, and provides teaching and logistical support for undergraduate courses to connect their classroom learning with hands-on examples of course concepts in the field.

Center for Agroecology and Sustainable Food Systems (CASFS)

Research, education, and public service program dedicated to increasing ecological sustainability and social justice in the food and agriculture system. CASFS operates the 2-acre Alan Chadwick Garden and the 25-acre Farm. Both sites are managed using organic production methods and serve as research, teaching, and training facilities for students, staff, and faculty.

Curriculum

on or related to sustainability. Sample Courses: EE80S- Includes guest lecture series with invited speakers from across disciplines and weekly interactive lab activities. EE80J- Focus on Renewable Energy Systems. Lecture and lab series where students explore different sources and renewable energy technologies. College 8 2-unit tutorial- Food, Water and Energy topics. For a complete list of sustainability courses visit sustainability.ucsc.edu.

Education for Sustainable Living Program (ESLP)

Collaborative and interdisciplinary student-led effort to reshape the way students learn and engage them in projects that support sustainability on campus. ESLP supports student-led 2 and 5-unit sections, guest speakers and inspires participants to internalize the concept of sustainability within academia and greater society.

Friends of the Community Agroecology Network (FoCAN)

Student-initiated, student-led community on campus that supports CAN's mission of promoting rural livelihoods and sustainable food systems through action education and participatory action research. Student-initiated, student-led community at the University of California, Santa Cruz (UCSC), that supports CAN's mission of promoting rural livelihoods and sustainable food systems through action education and participatory action research.

Green Office Certification Program

Educates and encourages faculty and staff to work toward a more sustainability campus by providing them with a framework for implementing waste reduction and conservation practices in their workplace.

Impact Designs: Engineering and Sustainability through Student Service (IDEASS)

Interdisciplinary 5-unit upper division Capstone course open to students from all majors but emphasis on building relations between Social Science (especially Environmental studies) and Engineering. Students plan implement and evaluate "green-tech" community based (mainly off campus) service-learning projects.

Instructional Greenhouses

The facility is funded by the Division of Physical and Biological Sciences and the Division of Social Sciences and serves all students in the campus community. Designed for student use, the facility includes five greenhouses, two large outdoor classrooms and a lab holding a collection of over 700 species of diverse plants from around the world.

College 8, Kresge and Stevenson College Gardens

College-based gardens provide opportunities for students to share skills & develop gardening experience through gardening work days, internships, and educational workshops.

Life Lab Garden Classroom

Farm and garden-based education that promotes experiential learning for all ages through children's camps, field trips, youth and internship programs, and teacher workshops. They have also created curricula and workshops for educators interested in bringing learning to life in gardens nationwide.

Museum of Natural History

Houses collections of plants, fungi, lichens, marine algae, insects, fish, amphibians, reptiles, birds, mammals, and skeletons, for research and teaching purposes. The museum is actively cataloging and expanding its collections and is involved in multiple internships, research projects, classroom laboratory exercises, and cooperative ventures with other organizations. The museum also maintains a large assortment of field research equipment.

Program in Community and Agroecology (PICA)

The PICA residential program offers students an alternative to standard dorm living on campus and demonstrates the link between healthy communities and healthy food systems. PICA residents grow organic food together, direct a composting program, participate in weekly community meals, and organize 3 campus-wide sustainability events a quarter.

Provost's Sustainability Internship Program (PSI)

Year-long combination course/internship, sponsored by the University Provost, that helps students develop competencies necessary to become effective environmental professionals and leaders. Students are paired with staff or faculty mentors and work collaboratively with them on projects and research that help the campus reach its sustainability goals.

Research Highlights

111 faculty members engaged in research related to <u>sustainability</u>. Professor Carol Shennan and Associate Researcher Joji Muramoto (Environmental Studies) received \$2.3 million in grants for researching an economically feasible non-fumigant alternative to California strawberry growers who produce over 85% of the US strawberries using the world largest amount of methyl bromide. * Professor Michael Isaacson (Engineering)

received a five-year \$4.5 million grant from the National Science Foundation to fund clean energy research and educational programs. * Professor Sue Carter (Physics) has received \$2.4 million for research on photovoltaics and solar energy to develop a PV-powered greenhouse. * John Vesecky (Engineering), Brent Haddad and Tiffany Wise West (Environmental Studies) coordinated the GreenWharf initiative- an academic-public partnership consisting focused on renewable energy and other sustainability efforts at the Santa Cruz Municipal Wharf.

Sierra Institute

Introduces students to outdoor experiences as a venue for learning about the environment. It is a for-credit outdoor learning program that gives students fifteen units per academic quarter of learning, traveling and outdoor activities.

Sustainable Living Center (SLC)

The Sustainable Living Center is a model action education center at UCSC where students apply classroom knowledge in real settings, gain handson experience in sustainable technologies and community food systems, and prepare for becoming environmental educators and leaders.

Zero Waste Programs

Campus-wide collaborative waste reduction initiatives strive to improve campus waste diversion. Highlights include efforts by the student-led Zero Waste Team and Waste Prevention Campaign to increase zero waste events across campus, the successful pilot removal of paper towels from residence halls by Colleges and Housing Educational Services, and Grounds Services' installation of fork scale software on all refuse trucks to track dumpster loads.

Student Fee Measures and Initiatives

Student Fee Measure 24- Transportation

The Student Transit Fee originated in 1972 to fund unlimited "fare-free" ridership by UCSC students on the Santa Cruz Metropolitan Transit District (SCMTD) buses operating within Santa Cruz County. In 1988 use of the fee was extended to include Campus Transit operations. In 2012-13, the fee generated \$6.48 million in revenuewhich funded the transport of 2.32 million UCSC student riders on SCMTD and another 2.36 million passengers on Day, Night, and Night Owl buses operated by TAPS Campus Transit. In 2012-13 SCMTD ridership (and billings) grew by 5.4% due to restoration of service cuts implemented in September 2011. Campus ridership grew by 3.1% during this time.

Student Fee Measure 43-Food, Health and Wellness

Provides funding for programming and educational support related to sustainable food, health and wellness initiatives, for on-campus and off-campus undergraduate students. In 2012-13 the fee generated \$106,000, which supported five large annual events serving over 4,000 students, eight quarterly events serving 400 students, two regular year round dining partnership promotion programs (Meatless Mondays and Farm Fridays) serving between 600-1,000 students weekly, six classes serving over 600 students, and other faculty, staff, and student partnership projects and programs.

Student Fee Measure 44-Carbon Fund

In 2010, UCSC students voted, in record numbers, to pass Measure 44, creating UCSC's Carbon Fund to provide funding for projects that reduce greenhouse gas emissions. During the 2012-2013 academic year the Carbon Fund received an allocation of \$110,783. During Fall 2011, \$68,365.00 was used as seed funding for the campus' first Green Revolving Loan Fund project.

Student Fee Measure 45-Sustainability Internships

Provides funding (\$2.75/student/ quarter) for the Sustainability Office to hire student interns and fund collaborative projects outlined in the Campus Sustainability Plan. In 2012-13 the measure generated \$82,538, which supported 24 internship positions in the Sustainability Office; 9 internships across campus departments and units; and monies not used for internships will be used to establish a Green Revolving Loan Fund for projects that implement sustainable and cost saving technology and practices.

Campus Sustainability Council

The role of the Campus Sustainability Council (CSC) is to provide funding to registered UCSC student organizations for programs and events that create, implement, and monitor environmentally sound practices on campus as established through the protocol outlined in the Blueprint for a Sustainable Campus. In winter and spring 2011, CSC funded projects in 11 organizations in winter and 10 organizations in spring 2011 for a total of \$153,313.20

Blueprint for a Sustainable Campus

The Blueprint for a Sustainable Campus is a multi-use, living document that strives to encompass the current visions of students, faculty, staff, and community members that have come together to share their ideas and goals for the future of UCSC at the annual Campus Earth Summit event. This document is meant to serve as a launching point for students to create meaningful, collaborative projects on campus that inspire lasting change.

Real Food Challenge

Commits UCSC to meet or exceed 40 percent of real food purchases in dining services by 2020. Currently UCSC has exceeded 20 percent by 2020, as mandated by the UCOP Sustainability Practices Policy and is operating at a 29 percent real-food level.

Events

Annual End-of-Year Sustainability Celebration

Annual event where students, staff and faculty across campus come together to celebrate accomplishments. The event includes a poster symposium of student and staff sustainability projects.

Earth Summit

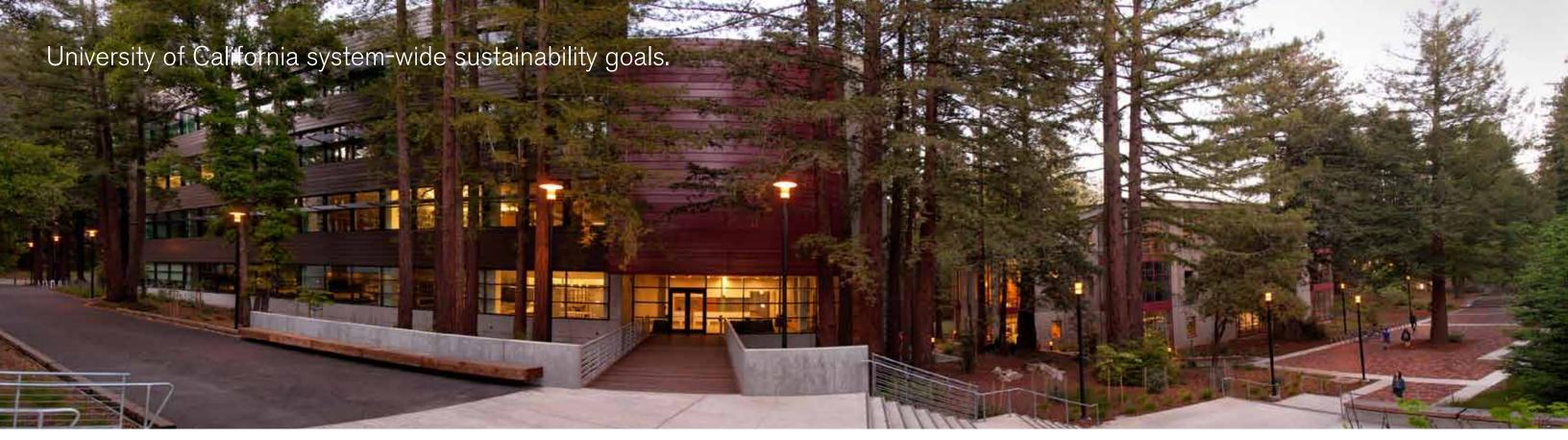
A student-led event organized by the Student Environmental Center (SEC) that is the culmination of an annual planning process to develop the Blueprint for a Sustainable Campus document. It includes educational workshops, guest speakers and information-sharing opportunities.

OPERS Fall Festival

The Office of Physical Education, Recreation and Sports kicks off the school year with the annual Fall Festival, the campus' largest zero waste event. 88% of waste was diverted from the landfill at the 2013 Fall Fest through composting, recycling and waste reduction initiatives. The event included 6000 campus community members, 225 organizations, and over 4400 meals served by Dining Services.

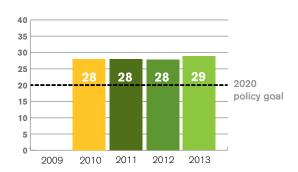
Sustainability Inter-Organizational Retreat

The Sustainability Inter Organizational Retreat brings students and staff together to foster a shared vision of sustainability, share best practices, learn through workshops, and develop collaborations to implement innovative solutions to environmental challenges on campus.



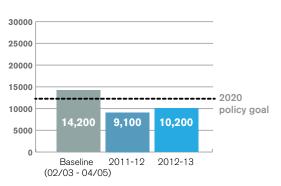
In 2013 the Biomedical Building (pictured above) on the UC Santa Cruz campus was certified LEED Gold, contributing to the campus total of seven LEED certifications.

% Sustainable Food Purchases for Residential Dining Facilities



In FY 2012–13, 29% of the food spend at the Santa Cruz campus was sustainable, an increase of one percentage point from FY 2011–12. The Santa Cruz campus' residential dining program has already surpassed the 2020 Policy goal of 20% sustainable food purchases.

Potable Water Consumption (Gallons per Capita)



In FY 2012–13, the Santa Cruz campus consumed 10,200 gallons of potable water per capita. This is a 28% reduction from its FY 2002–03 to FY 2004–05 baseline, enabling the campus to surpass the 2020 Policy goal of reducing potable water consumption by 20% below the baseline.

% Solid Waste Diverted from Landfill

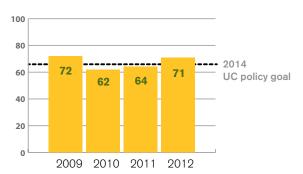


In FY 2012–13, the Santa Cruz campus diverted 72% of its waste from the landfill, an 8 percentage point increase from FY 2010–11.

When construction and demolition is not included, the amount of waste diverted from landfill was 64% in FY 2012–13.

The Santa Cruz campus did not quite meet the 2012 policy goal of 75% waste diversion from landfill.

Greenhouse Gas Emissions (Thousand Metric Tons of CO2eq. measured in calendar years)



Scopes 1-3 emissions are reported here. Greenhouse gas emissions increased by 11%, or 6,900 metrics tons (MT), from 2011 to 2012. 2012 emissions fell short of the 2014 UC policy goal of 66,000 MT by 4,400 MT. UCSC currently remains below the 25,000 MT emissions threshold by California's AB32 Cap and Trade regulation.

Annual Sustainability Metrics for UC Santa Cruz

Data in Fiscal Years (unless otherwise noted)	1989-90	1999-2000	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
		uildings & F	acilities					
LEED buildings (Outside Gross Square Footage)			151,550	281,908	281,908	316,942	430,729	528,593
Total Campus Outside Gross Square Footage		3,915,623	5,572,695	5,716,352	5,693,505	5,729,245	5,659,559	5,754,434
UCSC Leased Property (Square Footage)			372,745	408,332	314,202	309,516	165,431	164,248
Enc	ergy ¹ *All ene							
Greenhouse gas emissions (MTCO2e)	56,512	66,077	71,903	64,764	64,584	62,185	70,496	Pending
MMBTU/MGSF			0.101	0.096	0.098	0.099	0.095	Pending
Maintained Gross Square Footage (MGSF)			5,434,555	5,462,599	5,545,980	5,585,634	5,754,434	Pending
Electricity (kWh)			34,743,147	36,992,630	35,960,026	35,780,618	39,022,650	Pending
Natural Gas (Therms)			4,243,682	4,013,890	4,253,414	4,376,251	4,097,690	Pending
Propane (Gallons)			41,499	38,132	24,096	31,362	44,035	Pending
Diesel (Gallons)			17,272	26,451	11,556	19,246	16,311	Pending
		Food						
Pounds of Meat Purchased per transaction (lbs)			0.21	0.19	0.19	0.18	0.20	Pending
Dining Hall Compost Trucked (tons)				105	300	510	494	562
	Lan	d, Habitat, V	Vatershed					
Annual Interns & Volunteers					Interns: 55	Interns: 14	Interns: 41	Interns: 92
					Volunteers: 144	Volunteers: 173	Volunteers: 145	Volunteers: 233
	Procure	ment & Busi	ness Contrac	:ts				
% of Total Spend - OfficeMax Purchases with environmentally preferable content			11.0%1	15.7%	35.9%	31.25%	51.60%	45.10%
Paper Purchases in Cases: ² Virgin/0% PCW 30% PCW 50% PCW 100% PCW			Virgin: 381 30%: 6,162 50%: 8 100%: 34	Virgin: 271 30%: 4,075 50%: 22 100%: 44	Virgin: 263 30%: 3615 50%: 35 100%: 325	Virgin: 195 30%: 2567 50%: 56 100%: 185	Virgin: 346 30%: 2595 50%: 92 100%: 217	Virgin: 518 ³ 30%: 2,171 50%: 120 100%: 237
Ave % PCW Content of Purchased Paper			28.7%	29.0%	33.7%	32.8%	32.0%	31.2%
7. Ve 70 F GW Content of F dichased Faper		Transporta			3311 /1	32.3 /1	32.3 / 1	- · · · - / ·
% of UCSC Traffic in Single Occupant Vehicles			38%	35%	35%	34%	35%	34%
Annual Weekday Average Daily Vehicular Trips	18,517	21,898	21,904	21,242	22,136	21,248	20,201	19,210
Campus Fleet Fuel Use Breakdown (Gallons)	,	,	, ·	Diesel: 70,255 Unleaded: 164,847 CNG: 2967	Diesel: 77,886 Unleaded: 139,306 CNG: 3,741	Diesel: 88,805 Unleaded: 140,660 CNG: 3,302	Diesel: 90,859 Unleaded: 130,659 CNG: 5,671	Diesel: 89,884 Unleaded: 123,512 CNG: 5,994
TOTAL Campus Fleet Fuel Use (Gallons)				238,069	220,933	232,768	227,189	219,390
		Water						
Water Usage (mGal)			216.29	187.54	169.28	178.28	160.49	176.85
Water Use Per Student (Gallons) ⁴		16,810	14,419	11,852	10,365	n/a	n/a	n/a
Per Capita Potable Water Use (Gallons)						14,200	9,100	10,200
Irrigation Use (Thousands of Gallons)			44,705	40,178	33,054	34,835	Pending	Pending
		Waste						
% Non-Construction Waste Diverted			46%	55%	54%	59%	58%	64%
% Construction Waste Diverted			37%	90%	96%	93%	83%	99.6%
% Total Diverted			45%	73%	87%	74%	63.7%	72%
		Other						
On-Campus Students (3-Quarter Ave)	10,863	11,735	15,000	15,823	16,332	16,451	16,704	16,753

¹ FY08 as of Q4 (Apr-Jun 2008)



This is the final report on the progress made towards reaching the 2010-13 Campus Sustainability Plan goals. As you may have noticed, we did not reach every goal—and that is okay. The goals of the 2013–16 Campus Sustainability Plan maintain the areas we still need to work on, but build on what we have accomplished, pushing us to continue setting new limits and striving to always do better—for our campus and our world.

²8.5"x11" white 20 lb. bond paper

³ Data review suggests increase of virgin grade paper in 2013 may be attributed to increase in Sustainable Forestry Initiative paper purchases.

⁴Not tracked after FY 2010, as the metric changed to Per Capita Potable Water Use.