

# Campus Sustainability Plan 1.5

## *A Pathway for Success*

### 2010-2013



## UC SANTA CRUZ



“As Chancellor, I am personally committed to sustainability. It is vital for the long-term future of the campus and for the long-term future of planet Earth... Sustainability is really a way of thinking about everything that we do.”

~George Blumenthal, 2008 Annual Campus Earth Summit

# UCSC's Sustainability Vision Statement

**UC Santa Cruz strives to integrate sustainability into every aspect of research, teaching, and public service.**

Sustainability is our way of thinking about everything we do in planning, building design and construction, renovation, purchasing, landscape, energy, water, waste, product consumption, emissions, transportation, etc. Sustainable practices support ecological, human, and economic health and viability. Sustainability means meeting present needs without compromising ecosystems or the prospects of future generations to meet their own needs. Through its historic commitment to the environment, UCSC will be a steward of our community and a leader in advancing global sustainability.



*First Annual End of the Year Sustainability Celebration, Spring 2009*





# Chancellor's Statement

Ten years ago, the UCSC Student Environmental Center hosted the first campus Earth Summit, during which students, staff, and faculty expressed a desire to develop a vision for a sustainable campus. Since then, the campus has completed a Sustainability Vision Statement and partnered with the City and County of Santa Cruz to reduce greenhouse gases through the Climate Action Compact. The UC Policy on Sustainable Practices provides systemwide guidance, and the UC system has signed, along with leaders of higher education across the country, the American College and University Presidents Climate Commitment.

The Campus Sustainability Plan 1.5 is the next step in UCSC's efforts to incorporate sustainability into all aspects of campus operations. It represents the campus's comprehensive effort to build a cohesive, phased strategy for the future. Individuals from across UCSC's administrative and academic divisions helped create this document. By working together, they helped raise awareness about the challenges and opportunities of creating a more sustainable campus. They look forward to your feedback on this plan--and to your engagement on the issues.

At UCSC, our commitment to environmental stewardship dates back to the founding of the campus. We have been recognized as an environmental champion and a leader in advancing global sustainability. In 2009, UCSC placed seventh in Sierra magazine's third annual "honor roll" of the top 10 greenest colleges in the nation. In 2010, Forbes magazine named UCSC one of the most beautiful college campuses in the world. We have won local, statewide, national, and international awards for "green" initiatives in transportation, food and dining, greenhouse gas reduction, and for our programs in sustainability education.

As always, there is more to do. I look forward to further expanding campus sustainability efforts into campus life, as well as the research and teaching aspects of our mission.

UC Santa Cruz is committed to sustainability. Even in times of scarce resources, we are working to improve performance. We recognize that investing in sustainability is an investment in our future. We will continue to integrate sustainability into our management systems, our operations, and our culture. This Campus Sustainability Plan is an important step in fulfilling that promise.

*George Blumenthal, Chancellor  
Spring 2010*



# Acknowledgments

The UCSC's Campus Sustainability Plan became a reality through a collaborative effort involving campus sustainability working groups, committees, and organizations, with engagement from every administrative and academic division.

- Chancellor's Executive Committee on Sustainability and Climate Change, co-chaired by Assistant Chancellor Ashish Sahni and Vice Chancellor Donna Murphy
- Advisory Committee on Campus Planning and Stewardship (ACCPs), chaired by Vice Chancellor Tom Vani
- Planning Work Group
- Committee on Sustainability and Stewardship (CSS)
- Sustainability Working Groups
- Student Environmental Center (SEC)
- Friends of the Sustainability Office (FoSO)

The UCSC Sustainability Office, housed in Business and Administrative Services and financially supported by the Chancellor's Office and Student Affairs, facilitated much of the drafting of this plan.

- Director of Campus Planning, John Barnes
- Sustainability Manager, Aurora Winslade
- Sustainability Plan Project Liaisons, Christopher Kuntzsch and Amelia Gulling
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# Executive Summary

## Introduction

The Campus Sustainability Plan 1.5 proposes ambitious but achievable goals to streamline efforts and improve efficiency. Clear and measurable targets and objectives are identified in eight environmental sustainability topic areas. Each section includes metrics to help gauge progress and a list of collaborators necessary to achieve objectives. This plan points the way to success; it does not mandate specific actions. It is intended to be flexible; it can and will be adjusted as resources, technology, priorities, and opportunities evolve.

By 2020, the campus envisions that sustainability will be well integrated into campus structures, decision-making, learning, and into the daily life of all campus members.

## Purpose

The university's goal to promote sustainability is reflected in the 2005 Long Range Development Plan (LRDP), which describes the campus' sustainability principles: Promote sustainable practices in campus development and operations and encourage broad-based sustainability initiatives.

Building upon these principles – and driven in large part by UCSC's vibrant student sustainability movement – the campus completed its first comprehensive Campus Sustainability Assessment in 2007, began its first Climate Action Plan (CAP) in 2008, and in 2010 finished the first draft of the Campus Sustainability Plan 1.0. This updated plan (1.5) helps the university integrate and improve upon existing efforts.

## How & Why Was the Plan 1.5 Written?

The Vice Chancellor of Business and Administrative Services charged the Committee on Sustainability and Stewardship to create a comprehensive plan to guide implementation of the overlapping policy objectives and campus commitments and to better coordinate campus sustainability efforts. The Plan was generated and refined in a collaborative process involving staff, students, and faculty of UCSC and is representative of the interdisciplinary, campus-wide, and collaborative nature of sustainability. Eight sustainability working groups, one for each topic section of the plan, created initial drafts. Campus staff, administrators, and faculty involved in the three sustainability-related campus committees<sup>1</sup> reviewed each section between fall 2009 and spring 2010. Substantial revisions were made. In May/June 2010 the greater campus community was invited to comment before the final version was released in winter 2011.

## The Campus Sustainability Plan 1.5 is a phased strategic framework that:

- Builds on previous successes and the 2007 Campus Sustainability Assessment,
- Identifies goals and metrics for eight areas of sustainable campus operations,
- Helps the university integrate and coordinate activities, prioritize actions, and track progress,
- Communicates a shared vision; is an educational tool for deepening understanding of what it means to be a sustainable institution,
- Encourages campus-wide engagement, collaboration, and inspiration,
- Adapts to changing circumstances over time, with a planned update every three years,
- Is a living strategic plan that will evolve over time.

<sup>1</sup> Chancellor's Executive Committee on Sustainability and Climate Change, Committee on Planning, and Stewardship (formerly ACF), Committee on Sustainability and Stewardship

# Executive Summary

## 2020 Vision: Summary of Sustainability Topic Section Visions

UCSC will have a comprehensive and holistic approach to greening buildings. Greenhouse gas emissions will be below 1990 levels. 75% of food products will be sustainable. Campus undeveloped lands and sensitive habitats and species will be thriving. UCSC will be a zero-waste community. On-campus travel will be primarily by bicycle or on foot. Campus water demand will be minimized. The campus will be a global leader in modeling sustainability.

## Summary of Goals and Targets

Topics	Summary of Goals	Key Targets for 2013
<b>Buildings &amp; Facilities</b>	Increase sustainability performance of campus buildings and facilities	<ul style="list-style-type: none"> <li>• Achieve LEED “Silver” and strive to achieve LEED “Gold”</li> <li>• Strive to exceed energy efficiency standards in new buildings by 30% and in labs by 20%</li> <li>• Integrate sustainability performance guidelines into conversion of existing campus buildings</li> </ul>
<b>Energy &amp; Greenhouse Gases</b>	Reduce greenhouse gas (GHG) emissions & energy use; increase energy efficiency	<ul style="list-style-type: none"> <li>• Reduce GHGs to 2000 levels (by 2014)</li> <li>• Strive to generate at least 1 MW of on-site renewable energy</li> </ul>
<b>Food</b>	Increase percentage of food that is sustainable; compost food waste; improve water and energy efficiency in dining halls	<ul style="list-style-type: none"> <li>• Reduce meat purchases in dining halls by 10%</li> <li>• Compost 100% of compostable materials</li> <li>• Increase sustainable food to 25%</li> </ul>
<b>Land, Habitat, Watershed</b>	Improve stewardship, protect sensitive species & habitats, increase use of campus lands for education and research	<ul style="list-style-type: none"> <li>• Secure and phase in staff and operational resources to implement critical stewardship programs and initiatives</li> <li>• Increase number of interns working in natural lands by 50%</li> </ul>
<b>Procurement &amp; Business Contracts</b>	Reduce consumption; increase environmentally preferable purchasing	<ul style="list-style-type: none"> <li>• Increase purchases of office supplies with recycled content</li> <li>• Reduce paper use; move toward 100% PCW paper</li> </ul>
<b>Transportation</b>	Reduce UCSC transportation-related environmental impacts	<ul style="list-style-type: none"> <li>• Decrease SOV trips from 40% to 35%</li> <li>• Reduce campus fleet fuel use by 15%</li> </ul>
<b>Waste &amp; Recycling</b>	Reduce waste	<ul style="list-style-type: none"> <li>• Increase diversion rate to 75%</li> </ul>
<b>Water</b>	Reduce water use	<ul style="list-style-type: none"> <li>• Reduce or maintain per capita water use</li> <li>• Reduce amount of potable water used for irrigation purposes</li> </ul>



# Introduction to Campus Sustainability

## Why Sustainability Matters

“The question of reaching sustainability is not about whether we will have the money, or the resources, or the technology to do it - those we have. The question is, will there be enough leaders in time?”  
~Dr. Karl-Henrik Robèrt, M.D., Ph.D.<sup>1</sup> & Dr. Göran Broman, M.Sc., Ph.D.<sup>2</sup>

Though work to improve our interaction with the environment has been ongoing for many years, our global society has only recently become fully aware of how our economic and political systems have discounted the long-term effects of incentive structures that encourage waste, create pollution, and aggravate economic inequities around the world. We now have a brief window of opportunity to turn that around - to make decisions about resource management and allocation that will create conditions for the long-term health and well-being of everyone. If we let this moment pass without taking significant action, we will set the stage for increasing global degradation, poverty, and widespread instability. We do have the technology and creativity to create policies and healthy systems to sustain us over the long term. The stakes are too high not to take action - and take it now, not two or five years from now. To provide the social, economic, and environmental conditions in which our children and future generations will thrive, we must integrate sustainability into everything that we do. At UC Santa Cruz we are perfectly positioned to be at the forefront of this pivotal effort.

## Sustainability in Higher Education

Institutes of higher education play a key role in society today. The U.S. alone boasts approximately 4,352 institutions of higher education with 18,248,000 students<sup>3</sup> and research indicates that workers with a bachelors degree earn on average nearly twice as much as those with a high school diploma alone.<sup>4</sup> The large environmental footprint they have, in addition to their obvious impact on the way we learn, earn, live, and lead, makes such institutions a key focus for sustainability efforts. A growing number of students are reflecting this sentiment, with 23% revealing in a 2008 survey that a college's commitment to the environment would “strongly” or “very much” contribute to their decisions about which schools to apply to or attend.<sup>5</sup> Campuses nationwide have risen to address such environmental demands, with 65% of 1,068 schools responding in a 2008 survey that they had some form of written commitment to address environmental sustainability or stewardship and 51% had “staff or administrators responsible for leading sustainability issues.”<sup>6</sup>

<sup>1</sup> Founder of “the Natural Step” and professor of Blekinge Institute of Technology

<sup>2</sup> Professor of Blekinge Institute of Technology

<sup>3</sup> U.S. National Center for Education Statistics, Digest of Education Statistics, 2007

<sup>4</sup> U.S. Census Bureau, 2005

<sup>5</sup> Princeton Review's 2008 College Hopes & Worries Survey

<sup>6</sup> National Wildlife Federation Campus Ecology Survey

## Selection of Sustainability Awards & Rankings

- *Princeton Review* named UC Santa Cruz one of 18 top scorers in its “Green Honor Roll” (2011).
- UCSC received 1st place in the 2010 Acterra Bay Area Business Environmental Pollution Prevention Award for large organizations.
- The Sierra Club Magazine ranked UCSC the 7th greenest US school in 2009 and 2011.
- UCSC is among “Top 10 Eco-Friendly Colleges and Universities” according to *U.S. News and World Reports* (2010).
- *Plenty Magazine* recognized UCSC's dining halls as the greenest in the nation;
- PETA recognized UCSC as #4 nationwide for being vegetarian friendly (2009).
- Nine campus dining halls and restaurants are certified green businesses under the Monterey Green Business Partnership.
- Forbes.com named UCSC one of the 10 greenest universities in the nation (2008) and one of the most beautiful campuses in the world (2010).
- The National Wildlife Federation named UCSC a national runner up in the 2008 Chill Out competition for reducing GHGs.
- CASFS received the Steward of Sustainability Agriculture Award from the *Ecological Farming Association* in 2007.

## Institutionalizing Sustainability

Sustainability is written into job descriptions for Procurement and Business Contracts personnel and is included as an annual objective in performance goals.

The Campus Sustainability Office (est. 2007) includes a Sustainability Manager, Project Liaisons, and student interns. Many staff work on sustainability in various departments (recycling, energy, procurement, residential life, environmental health and safety, facilities, and other units).

Approximately \$240,000 annually from student fees provide grants for campus sustainability projects (since 2004). Student fees also supporting purchasing Renewable Energy Credits, green building, and student transit passes.

Several campus committees provide opportunities for staff, faculty, and students to engage with sustainability.



# Introduction to Campus Sustainability

## The University of California, Santa Cruz

*"In 2009-2010, UCSC will enroll 17,000 students, including 15,000 undergraduates... In addition to the 2,030-acre main campus established in 1965, UC Santa Cruz comprises a number of other regional sites – including administrative and research facilities on an 18.5-acre site at 2300 Delaware (Santa Cruz), the 73-acre Marine Science Campus (about 2.4 miles from the main campus), the 483-acre Monterey Bay Education, Science, and Technology (MBEST) Center (near Monterey), and the 3,600-acre Lick Observatory atop Mount Hamilton (near San Jose)... the campus also manages nearly 5,000 acres of UC Natural Reserve System land, including Ano Nuevo Island Reserve, Fort Ord Natural Reserve, Landels-Hill Big Creek Reserve, and Younger Lagoon Reserve."*

-University of California, Santa Cruz  
2009-2019 Capital Financial Plan

The scope of Plan 1.5 (i.e. which facilities the Plan intends to address) varies by topic, given the unique nature of operations and sustainability practices in each area. This means that the scope for the Energy topic will inherently differ from that of the Transportation topic. To make this clear, the scope for each TARGET within the 2-page topic sections – as well as its associated metric - is indicated in the sidebar or in a footer for each topic section.

UCSC is a perfect living laboratory for teaching and modeling sustainability. The unique natural setting the campus occupies, in addition to the community, infrastructure and resources that comprise and distinguish the university, generate a rare opportunity for research and implementation. UCSC's ability and willingness to pursue sustainability both in the classroom and in campus operations benefits the campus as a whole, the student body, and the greater community.

## Education & Campus Life

Since 1965 the Center for Agroecology and Sustainable Food Systems (CASFS) has been dedicated to increasing ecological sustainability and social justice, operating an on-campus organic farm and apprenticeship program. CASFS received the Steward of Sustainable Agriculture Award from the Ecological Farming Association in 2007.

Environmental Studies, one of the oldest such departments in the country, supports approximately 800 undergraduate majors and over 400 internships annually.

Sustainability is included in Campus Orientation for new students and as part of the Residential Assistants' training.

Innovative educational and student programs abound including the Education for Sustainable Living Program (ESLP), the Program in Community and Agroecology (PICA), Sustainable Engineering and Ecological Design (SEED).

College Eight, a residential college at UC Santa Cruz, received an Outstanding Project Award from the American College Personnel Association for its sustainability education program.

## Leading by Example

Engineering 2 is a LEED Silver certified building and five more projects are in the certification process.

UCSC is the lowest energy user per assignable square foot in the UC system.

UCSC dining halls are green certified, source local, organic food, compost food waste, and have instituted numerous energy and water efficiency measures. UCSC's food and dining service was the template for the UC systemwide sustainable food policy (2009).

55% of campus lands are designated as undeveloped areas.

Daily vehicle trips are below levels in the year 2000 and 60% of commuter trips arrive via alternative modes of transportation.

UCSC diverts over 70% of waste from landfills.

Per capita water consumption is down by 40% since the 1980s.

CruzBuy, our electronic purchasing tool, has nearly eliminated the need to print over 25,000 purchase orders annually; it allows users to search for environmentally preferable products.

# Introduction to Campus Sustainability

## Opportunities for UCSC

While UCSC has made strides to incorporate sustainability as evidenced by the accomplishments highlighted in the previous section, significant opportunities to improve exist. Key work includes:

- Improve integration of social and economic aspects of sustainability into all aspects of UCSC's efforts
- Build bridges for effective collaboration between student life, academics & research, and operations to create a holistic approach to integrating sustainability into all aspects of campus
- Integrate sustainability initiatives into non-sustainability focused campus priorities, plans, and commitments
- Develop funding mechanisms and systems to track and re-invest savings from sustainability efforts

## Moving Forward with Campus Sustainability Planning

### What You Can Do

Sustainability depends on all of us. To succeed, the growing sustainability movement at UCSC needs your help! Support a collaborative project, join a sustainability working group, talk to your friends and colleagues about sustainability! To find out more, please see "Get Involved – Make a Difference!" (page 30), visit [sustainability.ucsc.edu](http://sustainability.ucsc.edu) for simple tips on what you can do in your daily routine, and sign up for the monthly newsletter to stay informed.

### Funding and Implementation

Achieving the objectives in this plan will require everyone on campus working together and funding for new projects. This plan represents UCSC's aspirations; choices will have to be made about how to prioritize action. The campus is actively seeking external funding sources to complement campus funds. This plan is a necessary first step for prioritizing allocation of resources and where to focus efforts to develop additional revenues.

The sustainability working groups will work with the many collaborators identified in the Plan to design implementation strategies to achieve the Plan's objectives. Implementation strategies will consider divisional priorities and commitments, funding needs, and capacity in order to prioritize and sequence next steps.

### Collaborative Project Clearinghouse & Tracking Progress

A web-based project clearinghouse & sustainability metric tracking system is being created. This forum will document completed work, connect those interested in getting involved with ongoing efforts, and provide a menu of project ideas that advance UCSC sustainability and climate goals. It will also track and communicate progress on sustainability metrics.

### Integration into Operations, Campus Life, and Academics

The Campus Sustainability Plan is designed to support UCSC's Sustainability Vision by helping to integrate sustainability into all aspects of operations, teaching and research, and campus life. This iteration, version 1.5, focuses on campus operations. Throughout the 2011-2013 academic years, stakeholders will expand the Plan to integrate sustainability into campus life and co-curricular programs and to build bridges between campus greening and instruction/research. This will include building programs to involve campus members in sustainability projects, greening of offices, labs and residential communities, and increasing the integration of campus sustainability activities with coursework, research, internships, and other learning opportunities.

# Guide to Policies, Commitments & Guidelines

Key Policies that Guide Campus Sustainability		
Policies & Mandates	UC Policy on Sustainable Practices (UC Policy 2009) 2009	The UC Policy 2009 outlines how the entire UC system will improve its environmental performance. <a href="http://www.universityofcalifornia.edu/sustainability">www.universityofcalifornia.edu/sustainability</a>
	Long-Range Development Plan (LRDP) 2005	The LRDP is a comprehensive framework for the physical development of the UCSC main campus and 2300 Delaware through 2020. <a href="http://www.ucsc.edu/lrdp">www.ucsc.edu/lrdp</a>
	Coastal Long Range Development Plan (CLRDP) 2007	The CLRDP is a land-use blueprint for possible future development at the site of UCSC's Long Marine Laboratory.
	Comprehensive Settlement Agreement (CSA) 2008	The CSA is an agreement between the university, city, and county that allows the university to proceed with growth as outlined in the LRDP while identifying enforceable measures to address traffic impacts, conserve water, and provide housing for new students. <a href="http://www.ucsc.edu/lrdp/comprehensive-settlement.shtml">www.ucsc.edu/lrdp/comprehensive-settlement.shtml</a>
Commitments & Pledges	Climate Action Compact (CAC) 2007	The CAC is an agreement between the city, county, and university to collaborate on action to reduce greenhouse gas emissions in response to climate change. <a href="http://www.cityofsantacruz.com/index.aspx?page=1231">www.cityofsantacruz.com/index.aspx?page=1231</a>
	American College & University Presidents' Climate Commitment (ACUPCC) 2007	The ACUPCC is a commitment to take action to protect the climate signed by nearly 700 North American higher education institutions, including the entire University of California system. <a href="http://www.presidentsclimatecommitment.org">www.presidentsclimatecommitment.org</a>
Campus Plans & Strategies	UCSC Climate Action Plan (CAP) 2010	The CAP outlines how we will reach the climate targets and commitments in the UC Policy, the ACUPCC, and the CAC. <a href="http://sustainability.ucsc.edu/actions-planning/climate-action-plan">http://sustainability.ucsc.edu/actions-planning/climate-action-plan</a>
	Blueprint for a Sustainable Campus (Blueprint) Updated Annually	The Blueprint is created by the attendees at the Annual Campus Earth Summit and is a guiding document for several UCSC student organizations, including the Campus Sustainability Council, the Student Environmental Center, and the Education for Sustainable Living Program. <a href="http://sustainability.ucsc.edu/get-involved/students/earth-summit-blue-print">http://sustainability.ucsc.edu/get-involved/students/earth-summit-blue-print</a>

## Glossary of Terms

### Collaborators

- **BAS:** Business & Administrative Services
- **ENG:** Engineering
- **ITS:** Information Technology Services
- **P&B:** Planning & Budget
- **PBSci:** Physical & Biological Sciences
- **SA:** Student Affairs
- **SocSci:** Social Sciences
- **UCOP:** University of California Office of the President
- **UR:** University Relations

### Other Terms

- **ADT:** Average Daily Trips; the number of vehicle trips to and from the main campus
- **BTU:** British Thermal Unit; traditional unit of energy

- **Diversion (of waste):** percentage of the waste stream that does not go to a landfill and is, instead, composted, recycled, or reused
- **EPC:** Environmental Performance Criteria
- **EPP:** Environmentally Preferable Purchasing
- **GHG:** Greenhouse Gas
- **GSF:** Gross Square Feet
- **LEED:** Leadership in Energy & Environmental Design; green building accreditation through the US Green Building Council
- **MGY:** Millions of Gallons (of water used) per Year
- **OGSF:** Outside Gross Square Footage
- **PCW:** Post Consumer Waste
- **Self-Haul:** Waste that is picked up and disposed of by UCSC's Physical Plant
- **SOV:** Single Occupancy Vehicle; a car containing only one person



# Annual Sustainability Metrics

Data in fiscal years <sup>1</sup>	1989-90	1999-2000	2006-07	2007-08	2008-09	2009-10	2010-11
<b>BUILDINGS &amp; FACILITIES</b>							
LEED buildings (Outside Gross Square Footage - OGSF)			151,550	151,550	281,908	281,908	316,962
Total Campus OGSF		4,039,003	5,572,548	5,716,202	5,693,255		5,987,311
UCSC Leased Property (Square Footage)			359,324	372,745	408,332	314,202	309,516
<b>ENERGY<sup>2</sup></b>							
Greenhouse gas emissions (MTCO <sub>2</sub> e)	56,512	66,077	77,579	71,903			
MMBTU/MGSF			0.104	0.101	0.096		
Campus Maintained Gross Square Footage (MGSF)			5,434,555	5,434,555	5,462,599	5,545,980	
Electricity (kWh)			41,482,850	34,743,147	36,992,630		
Natural Gas (Therms)			4,185,742	4,243,682	4,013,890		
Propane (Gallons)			44,862	41,499	38,132		
Diesel (Gallons)			8,444	17,272	26,451		
<b>FOOD</b>							
Pounds of Meat purchased per transaction (lbs)				0.21	0.19		0.18 <sup>3</sup>
UC Dining Hall Compost Trucked to the County (tons)					105	300	287 <sup>4</sup>
<b>LAND, HABITAT &amp; WATERSHED</b>							
Annual Interns & Volunteers						Interns: 55 Volunteers: 144	
<b>PROCUREMENT &amp; BUSINESS CONTRACTS</b>							
% of Total Spent - OfficeMax Purchases with Recycled Content				11% <sup>5</sup>	15.7%	35.9%	33% <sup>6</sup>
Paper Purchases in Cases: Virgin/0% PCW 30% PCW 50% PCW 100% PCW				Virgin: 381 30%: 6,162 50%: 08 100%: 34	Virgin: 271 30%: 4,075 50%: 22 100%: 44	Virgin: 263 30%: 3,615 50%: 35 100%: 325	
Ave % of PCW Content of Purchased Paper				28.7%	29%	33.7%	
<b>TRANSPORTATION</b>							
% of UCSC Traffic Stream in Single Occupant Vehicles				41%	40%	35%	
Annual Weekday Average Daily Vehicular Trips (# of trips)	18,517	21,898	22,359	21,904	21,242	22,136	
Campus Fleet Fuel Use Breakdown (Gallons)	Pre-July 2008 fuel data reported in calendar years, and hence excluded from the data set				Diesel: 70,255 Unleaded: 164,847 CNG: 2967	Diesel: 77,886 Unleaded: 139,306 CNG: 3253	
TOTAL Campus Fleet Fuel Usage (Gallons) <sup>7</sup>					238,069	220,445	
<b>WATER</b>							
Water Use Per Student (gallons)		16,801	15,601	13,967	11,138	9,730	
Irrigation Use (Thousands of Gallons)			59,892	60,907	57,246	51,024	
<b>WASTE &amp; RECYCLING</b>							
% Non-Construction Waste Self-Hauled				84%	84%	82%	
% Construction Waste Self-Hauled				59%	62%	65%	
% Non-Construction Waste Diverted				46%	55%	54%	61% <sup>5</sup>
% Construction Waste Diverted				37%	90%	96%	95% <sup>5</sup>
% Total Diverted				45%	73%	84%	
<b>OTHER</b>							
Student Population	10,863	11,735	14,619	15,000	15,823	16,063	16,400 <sup>8</sup>

<sup>1</sup> Fiscal years begin in July of the year indicated and end in June of the following - for example fiscal year 2007-08 is 2007

<sup>2</sup> The Energy section is in calendar years

<sup>6</sup> FY11 as of Q2 (Oct - Dec 2010)

<sup>3</sup> Q1 of Fiscal Year 2011 Only

<sup>7</sup> Fleet Fuel Use is reported in Calendar Years

<sup>4</sup> These data are for July-Feb of the 2009 Fiscal Year only

<sup>8</sup> Estimate

<sup>5</sup> FY11 as of Feb 2011

# Guide to Reading the CSP Topic Sections

CSP 1.0 (2010-2013)

Part One: Sustainability Goals, Targets & Metrics

## SECTION TITLE

Purpose, Vision, Goals

### Introduction



### Purpose

### 2020 Vision

### Overarching Goals

**INTRODUCTION:** Essential information for understanding the context of the topic; may include key milestones, accomplishments, challenges, and opportunities to improve

**PURPOSE:** Purpose statement of the active working group or, if none has formed, the purpose of the sustainability activities within the topic section

**2020 VISION:** Illustrates how the topic's Purpose may be realized in 2020

**GOALS:** The big-picture sustainability goals to be accomplished in the topic area

CSP 1.0 (2010-2013)

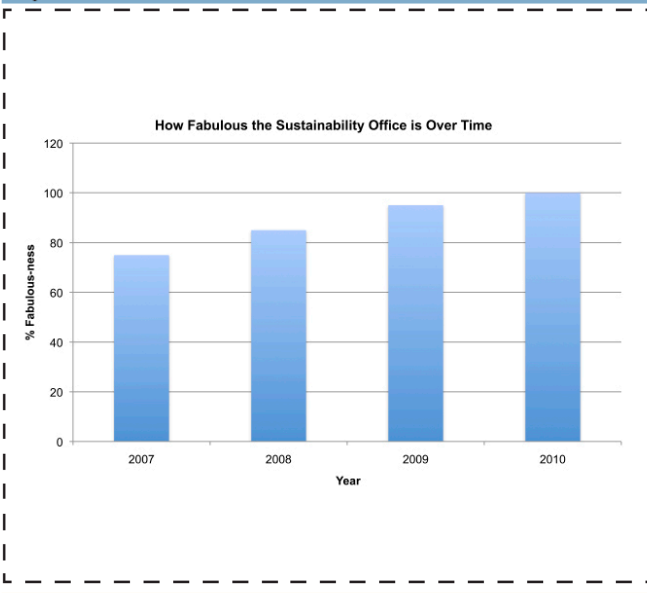
Part One: Sustainability Goals, Targets & Metrics

Targets, Metrics

## SECTION TITLE

Proposed 2010-2013 Objectives	Collaborators

### Key Metrics



**OBJECTIVES & COLLABORATORS:** The first column of this table includes objectives to achieve by 2013. Each target (highlighted in green) works towards an overarching goal outlined on the previous page. Some targets are followed by the relevant policies and guidelines that inform the objective.

The second column lists the associated units, teams, departments, individual positions, and other stakeholders who play a key role in accomplishing the objectives.

**KEY METRICS:** Graphs, charts or other visual tools illustrating key metrics used to track progress on objectives

# Buildings & Facilities

Purpose, Vision, Goals

## Introduction

Described as being one of “the world’s most beautiful college campuses”,<sup>1</sup> UC Santa Cruz has a long history of leadership in sustainable development and operations. With the majority of its buildings and facilities found on its 2,030-acre main campus and a nearby 100-acre Marine Science Campus, UCSC strives to sustain the natural environment into which it is nestled while building, maintaining and operating nearly six million gross square feet of housing, academic, administrative, research, and recreational space at multiple locations.<sup>2</sup>

Based on data from the UC Partnership For Performance, UCSC has been one of the most energy efficient University of California campuses per maintained gross square foot since 1995. Through sustainable building practices, energy efficiency guidelines, State regulations, and partnerships with utility providers, the campus continues to improve its process, resource allocation, performance tracking, and exploration of new and innovative ways to build, maintain and operate the most energy efficient and sustainable campus possible.

With the rate of new construction slowing, UCSC will focus increasingly on assessment of existing buildings for opportunities to increase sustainability as part of the regular facility maintenance and operations. Using the US Green Building Council’s LEED as well as campus-defined sustainability guidelines, UCSC plans to develop a sustainability checklist designed to document improved sustainability performance of facilities across the campus.



## Purpose

Build, operate, and maintain sustainable buildings and other UCSC facilities, to the maximum extent feasible

## 2020 Vision

In 2020, UC Santa Cruz is the model UC campus for its comprehensive and holistic approach to “greening” the processes involved in planning, design, construction, operation, maintenance, reuse, and renewal of its buildings and facilities. As such, the built environment of the campus is an evolving “classroom” of sustainable living.

## Overarching Goals

1. Increase area (Outside Gross Square Feet - OGSF) of campus buildings that are built, operated, and maintained according to sustainable building practices, campus standards, and guidelines<sup>3</sup>
2. Research and explore new and emerging ways to increase, track, manage, and communicate sustainable performance of campus facilities
3. Within the greater campus community, develop effective mechanisms to increase awareness of and engagement in sustainability activities related to facilities construction and operations

<sup>1</sup> Forbes Magazine, March 1, 2010: [http://www.forbes.com/2010/03/01/most-beautiful-campus-lifestyle-college\\_2.html](http://www.forbes.com/2010/03/01/most-beautiful-campus-lifestyle-college_2.html)

<sup>2</sup> This figure includes all of UCSC’s owned and leased buildings and facilities on the Main Campus, at 2300 Delaware Ave, the Marine Sciences Campus, as well as at its various satellite locations, including MBEST, Mt. Hamilton, Silicon Valley Center, etc.

<sup>3</sup> Outside Gross Square Feet (OGSF) of campus buildings in this topic sections includes buildings on the University’s Main Campus (including Housing), 2300 Delaware Ave, and the Marine Sciences Campus



Objectives, Metrics

# Buildings & Facilities

2010-2013 Objectives	Collaborators
<b>TARGET:</b> 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 the California Energy Code (Title 24) by at least 30%, and exceed Labs21 Environmental Performance Criteria (EPC) by 20% or more ( <i>UC Policy 2009</i> )	BAS - Physical Planning & Construction (PP&C), Physical Plant (PP); Real Estate Office (REO); P&B - Capital Planning & Space Management (CPSM); UC Office of the President (UCOP)
Develop internal criteria, guidelines, and credits for sustainability performance of existing buildings; 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	BAS – PP&C, PP, REO; CPSM; SA – Colleges & University Housing Services (CUHS); UCOP; SEC; ESLP; Green Campus; SERC (Santa Cruz Energy and Resource Collaborative)
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 ( <i>UC Policy 2009</i> )	BAS - PP&C, PP, REO; SA - Colleges and University Housing Services (CUHS); UCOP
Define criteria and set targets for implementation of sustainability guidelines for new projects and operation of built spaces and developed outdoor areas ( <i>UC Policy 2009</i> )	BAS - PP&C, PP; SA
Incorporate sustainable measures and achievement of equivalent to LEED-Commercial Interiors rating as a component of site selection criteria for leased space	BAS - REO
Consistently incorporate “green workshops” early in the Detailed Project Program & Project Planning Guide project phases; base design decisions on thorough life cycle cost analyses	BAS - PP&C, PP; P&B - CPSM
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	BAS - PP&C, PP; SA - CUHS; UR

## Key Metrics

The table below shows the current campus buildings that are LEED certified and those under construction to be submitted for LEED certification when construction is complete. The measurement used is outside gross square footage (OGSF), which is the standard measurement for buildings for all UC campuses. This measurement represents the basic gross area of a building plus 50 percent of the covered unenclosed areas.

	Engineering 2 Building	Cowell College Commons Renovation	Porter House B	Cowell Student Health Center	Porter House A	Porter Dining Commons	Biomedical Sciences
<b>Start of Construction</b>	Summer 2003	Summer 2008	Summer 2008	Fall 2008	Summer 2009	Spring 2009	Summer 2009
<b>Construction Complete</b>	Summer 2005	Spring 2009	Summer 2009	Fall 2010	Fall 2010	Fall 2010	Scheduled for Winter 2012
<b>LEED Certification Date / Rating</b>	Summer 2005 / LEED EB Silver	Fall 2010 LEED CI Certified	Fall 2010 LEED NC Silver	Winter 2011 LEED NC Gold	In Process	In Process	To be submitted upon completion
<b>Outside Gross Square Footage</b>	151,550	35,667	94,691	35,054	81,270	28,293	95,759
<b>As of Winter 2011</b>	<b>TOTAL LEED CERTIFIED</b>			<b>316,962 OGSF</b>			
	<b>IN LEED CERTIFICATION PROCESS</b>			<b>109,563 OGSF</b>			
	<b>TOTAL UNDER CONSTRUCTION</b> (to be submitted for certification when complete)			<b>95,759 OGSF</b>			
	<b>TOTAL CAMPUS OGSF</b>			<b>5,987,311 OGSF</b>			
	<b>% of Total Campus OGSF that is LEED CERTIFIED</b>			<b>5.5%</b>			

This table shows the current campus buildings that are LEED certified. The measurement is outside gross square footage, which is the standard measurement for buildings for all UC’s. This measurement represents the basic gross area of a building in addition to 50 percent of the reported covered unenclosed areas.

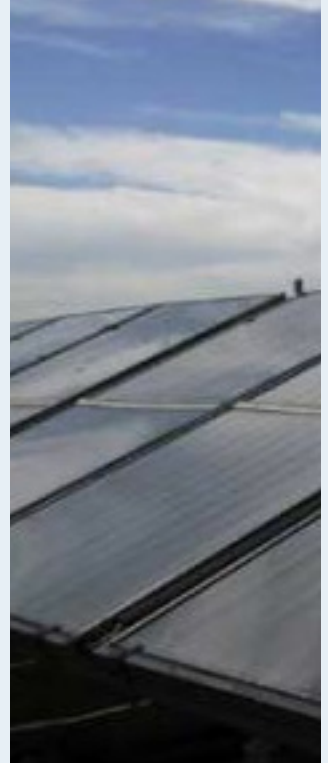
# Energy & Greenhouse Gases

Purpose, Vision, Goals

## Introduction

Due to climate change, energy is one of the most visible and critical factors of sustainability planning. Powered by off-site electricity, natural gas, and an on-campus cogeneration plant, UCSC has made considerable commitments to reduce its impact and move towards carbon neutrality. The UC Policy on Sustainable Practices mandates further progress while the Climate Action Compact, and the American Colleges and Universities Presidents' Climate Commitment are additional commitments the campus has made. To meet these commitments, the campus has a Strategic Energy Plan and a Climate Action Plan that identify energy efficiency targets, conservation projects, and carbon reduction targets. The campus also participates in the Higher Education Energy Efficiency Partnership Project through its utility provider, Pacific Gas and Electric, to implement energy-efficiency projects.

Due in part to the implementation of energy efficient technologies such as the campus cogeneration plant - which provides approximately 1/3 of campus electrical power while simultaneously generating heat for "Science Hill" - and the avoidance of energy intensive technologies (such as air conditioning for comfort), UCSC contributed the lowest Greenhouse Gas (GHG) emissions per Gross Square Foot (GSF) of any UC campus in 2008. Efforts underway or planned to further improve performance include lighting retrofits, building management systems, heating/ventilation/air conditioning (HVAC) efficiency upgrades, on-site renewable energy generation and replacement of the campus cogeneration plant. This section recognizes progress made while identifying specific targets that will help UCSC continue to improve its sustainability performance in the years to come.



## Purpose

Identify and execute innovative, financially sustainable energy conservation and distributive energy generation projects (such as on-site cogeneration and renewable energy generation) that reduce the carbon footprint of campus operations and support the university's academic mission

## 2020 Vision

Aligning with the main goal of the Climate Action Plan, in 2020, UCSC has reduced its GHG emissions to 1990 levels (56,512 tons carbon dioxide equivalent) and is successfully fulfilling the commitments laid out in the [UCSC Climate Action Plan](#).

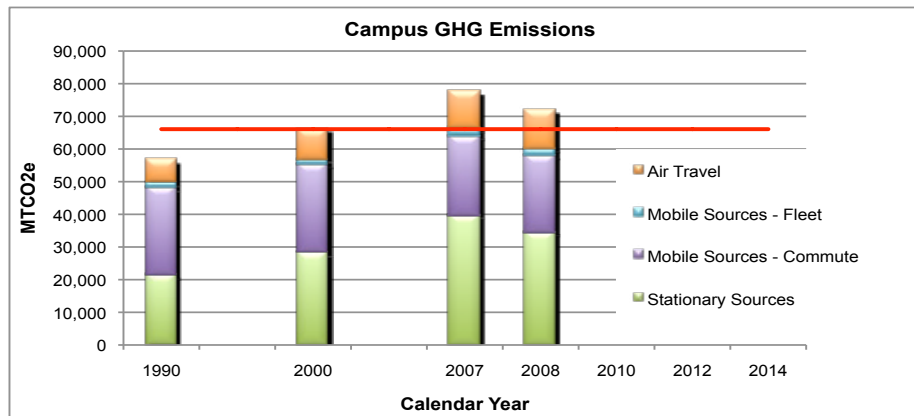
## Overarching Goals

1. Continue to develop effective collaborations between university staff, faculty, student groups, and private companies in support of energy initiatives, research, and implementation of cutting-edge energy technologies (including lighting, HVAC, energy management, and renewable energy generation)
2. Reduce the campus carbon footprint of existing university buildings while maintaining or increasing the comfort of campus occupants
3. Further integrate energy conservation into the design and operations of new buildings
4. Continue participation with the investor owned utility (PG&E), state entities (such as the California Public Utilities Commission (CPUC) and Public Interest Energy Research (PIER), as well as federal government programs
5. Build staff and fiscal capacity to effectively implement energy initiatives

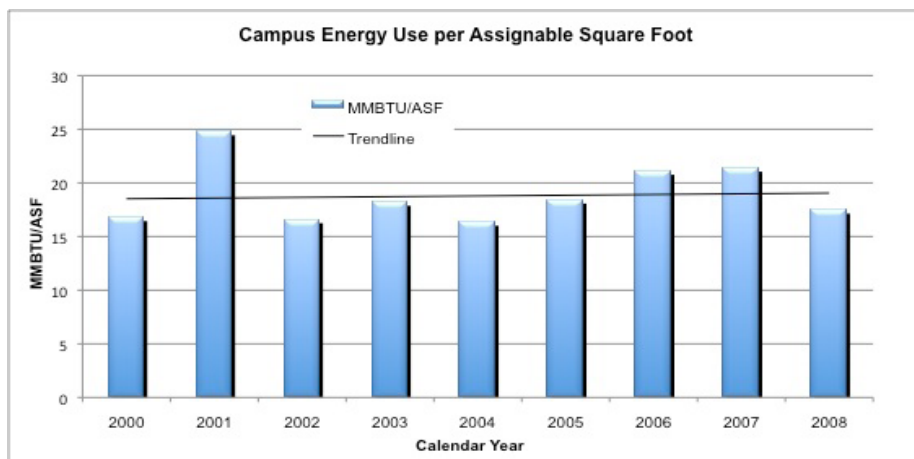
# Objectives, Metrics Energy & Greenhouse Gases

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Reduce GHG emissions to 2000 levels by 2014 to the extent resources permit ( <i>UC Policy 2009, UCSC Climate Action Plan (CAP)</i> )	Chancellor's Executive Committee on Sustainability and Climate Change (Exec. Com.); BAS - Physical Planning & Construction (PP&C), Physical Plant (PP); SA - Colleges & University Housing Services (CUHS); P&B - Capital Planning and Space Management (CPSM)
<b>TARGET:</b> Reduce campus energy use (BTUs per Assignable Square Foot (ASF) by implementing planned energy efficiency projects in the Strategic Energy Plan ( <i>UCSC Strategic Energy Plan</i> )	BAS - PP&C, PP; SA - CUHS; P&B
<b>TARGET:</b> Strive to generate at least 1 Megawatt (MW) of on-site renewable energy ( <i>UC Policy 2009</i> )	Exec. Com.; BAS - PP; P&B
Create a policy on growth-related emissions, and increase integration of energy and sustainability criteria into the design of new buildings and major renovations by emphasizing sustainable features in design team selection and value engineering ( <i>UCSC CAP</i> )	Exec. Com.; BAS - PP&C, PP; P&B
Establish a climate budget by creating a Green Fund for projects, including mechanisms to track and reinvest savings from implemented projects ( <i>UCSC CAP</i> )	Exec. Com.; Sustainability Funding Work Group; BAS - PP

## Key Metrics



This graph shows the total greenhouse gas emissions for UCSC,<sup>1</sup> broken down into their main sources. Some of these data were not tracked before 2007, but estimates were generated for 1990 and 2000. Though emissions reductions took place between 2007 and 2008, the UC Policy on Sustainable Practices mandates further progress, represented in the 2014 target (horizontal line). For more detailed information on GHG emissions, please refer to the UCSC [Climate Action Plan \(CAP\)](#).



This chart shows annual energy use in MMBTU's (Million Metric British Thermal Units) per assignable square foot (ASF) of all UCSC buildings and facilities.<sup>1</sup> UCSC has had a long history of success in energy efficiency, and - according to data from the UC Partnership for Performance - has been one of the most energy efficient UC campuses since 1995. After rising between 2004 and 2007, energy use again declined in 2008, due to energy efficiency projects and other factors. With focus on innovative conservation initiatives and integration of sustainable building practices, UCSC seeks to improve its performance further and reduce energy use.

<sup>1</sup> Both GHG Emissions and Energy Use trends calculated from PG&E records, and include data from the UCSC Main Campus, 2300 Delaware, Marine Sciences Campus, as well as all other UCSC-owned and leased facilities, excluding any buildings with non-UCSC PG&E accounts, such as Student Housing, Faculty Housing, Ranch View Terrace, and Family Student Housing



# Food

## Purpose, Vision, Goals

### Introduction

UC Santa Cruz is a national leader in sustainable food systems education, training, and research. Innovative programs such as the Center for Agroecology and Sustainable Food Systems (CASFS - est. 1967), the Program In Community & Agroecology (PICA - est. 2003), and the Food Systems Working Group (FSWG - est. 2004) have helped integrate sustainable food system issues into campus operations, education, and campus life. The 2004 transition to self-operated dining services offered the opportunity for dining staff and the FSWG to work with students, staff, faculty, farmers, and community members to bring sustainable food to campus and educate the broader community. Many dining halls and cafés are certified green. Food is sourced through a set of sustainable procurement guidelines, including the Monterey Bay Aquarium's Seafood Watch program. UCSC will reach the goals specified by the UCOP Policy on Sustainable Practices and fulfill its commitments to the broader community by increasing use of local, organic, and socially responsible products, increasing composting, reducing food waste, and continuing to educate the campus community about sustainable food.



### Purpose

Increase socially and environmentally responsible practices within dining operations, food vendors, and the campus community through research, education, and engagement in our food system

### 2020 Vision

In 2020, UCSC is a national leader and model in sustainable food systems efforts, integrating research, education, and public service. 75% of goods and products meet UCOP sustainable food services procurement guidelines. All pre- and post-consumer food waste is composted and used onsite. All contracted and self-operated food service facilities are certified green. All staff, students, and faculty are educated on the importance of sustainability. Each college provides a hands-on learning garden site. Students, staff, and faculty collaborate through courses, workshops, and a new undergraduate major to foster critical pedagogy and understanding of our agri-food system.

### Overarching Goals

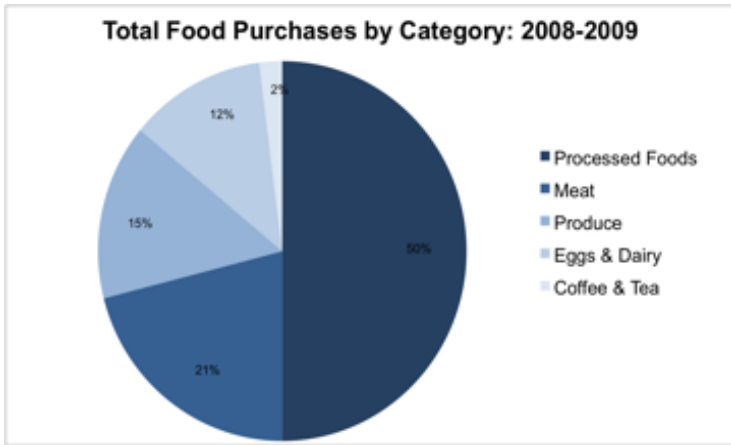
1. Increase the proportion of sustainable food in campus dining and onsite vendors (i.e. local, organic, fair trade, humane, and socially responsible)
2. Enhance the efficiency and minimize the life cycle impact<sup>1</sup> of campus food service equipment and facilities
3. Minimize waste and increase composting to reduce costs and establish greater savings
4. Provide resources and opportunities for the campus community to learn about sustainable agriculture and food systems

<sup>1</sup> "Life cycle impact" is the impact from all stages of a product's development and service life, including production, marketing, use (such as fuel/energy consumption, emissions), and disposal

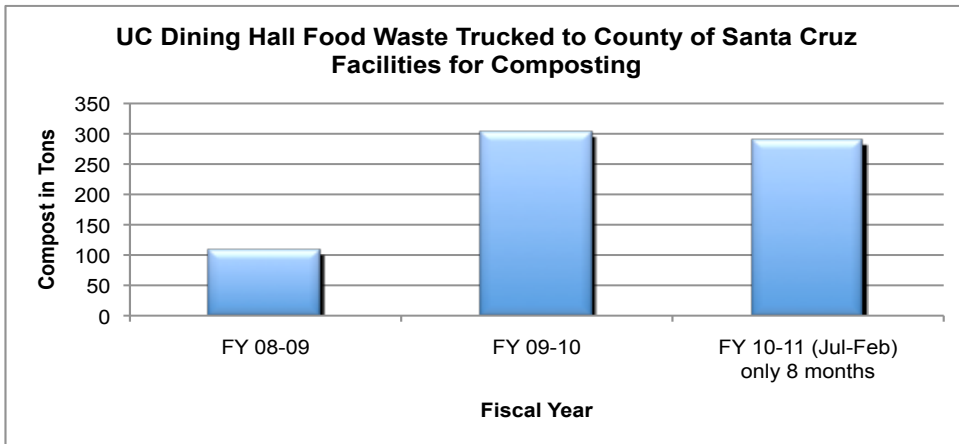
# Objectives, Metrics Food

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Reduce purchases of meat in UC Santa Cruz Dining operations by 10% from 2008 levels to 19% of total food purchases, and evaluate the mitigation impacts of UCSC's carbon footprint	SA - Colleges & University Housing Services (CUHS), UCSC Dining
<b>TARGET:</b> Compost 100% of potentially compostable & biodegradable materials from all UCSC Dining operations ( <i>UC Policy 2009</i> )	SA - CUHS, UCSC Dining; BAS - UCSC Ground Services, County of Santa Cruz
<b>TARGET:</b> Increase the total food purchased for UC Santa Cruz Dining that meet one or more "sustainable" criteria to 25% <sup>1</sup> ( <i>UC Policy 2009</i> )	SA - CUHS, UCSC Dining; Center for Agroecology & Sustainable Food Systems (CASFS)
Complete green certification of all remaining UCSC Dining facilities and encourage certification of vendor- or self-operated coffee shops / café facilities on campus <sup>2</sup> ( <i>UC Policy 2009</i> )	SA - CUHS, UCSC Dining, Colleges, University Housing Services (UHS) Facilities; City of Santa Cruz
Phase in sustainable procurement practices for all remaining campus dining and vendor- or self-operated coffee shops / café facilities ( <i>UC Policy 2009</i> )	SA - CUHS, UCSC Dining, Colleges; BAS - Procurement and Business Contracts; Food Systems Working Group (FSWG)
Strive to establish experiential learning garden sites at all colleges	SA - UCSC Dining, Colleges; FSWG; CASFS

## Key Metrics



Agriculture accounts for about one-fifth of global greenhouse gas emissions, a large majority of water use, and many other impacts on health and the environment. These impacts are disproportionately high for animal products and processed foods. By introducing 'meatless days' and other innovative Dining Services initiatives, UCSC seeks to reduce meat purchases by 10% from FY 2008 levels (down to approx. 19% of total purchases) by 2013.



Efforts at UCSC's Dining Halls have significantly increased the amount of compostable materials diverted from the total campus waste stream, helping the campus move closer towards its goal of composting 100% of these materials, and achieving 75% total diversion by 2012 (also see Waste & Recycling). UCSC Dining Services estimated that 95% of all Dining Hall pre- and post-consumer food waste were captured and composted when the remaining dining hall compost programs came on-line in the Spring 2010.

<sup>1</sup> Target based on 2009 UC Policy guidelines for sustainable food procurement; the 2010 UCSC Sustainable Food Procurement Assessment uses metrics derived from the national 'Real Food Challenge' program  
<sup>2</sup> UCSC Dining facilities green certified through the Monterey Bay Green Business Certification Program as of Spring 2011 include all 5 dining halls, UC catering, the University Center, and two of four UC operated cafes

# Land, Habitat, Watershed

Purpose, Vision, Goals

## Introduction

Ecologically diverse and physically spectacular, the UC Santa Cruz campus comprises over 2,000 acres with approximately 1,400 acres consisting of undeveloped natural areas. The campus supports diverse vegetation communities ranging from coastal terrace prairie grasslands and chaparral to mixed evergreen forest to stands where redwoods predominate, all within four distinct watersheds. The campus is underlain by schist, Santa Margarita formation and a complex karst geology of limestone spires, sink holes and caverns. The location of facilities for research and instruction in close proximity with natural lands provides unparalleled opportunities for students to learn about the environment, implement field projects, obtain hands-on experience, and become actively involved in research and restoration projects. As a result, these natural areas serve as outdoor classrooms and living laboratories for UCSC students and faculty. They have also become an informal recreational resource, highly valued and much used by campus and local community members.

In order to support student engagement and preserve the educational value of campus natural lands, protect sensitive habitats and species, and support community safety, the Land, Habitat and Watershed Work Group has identified the need to increase proactive management, stewardship, education, and research and community awareness of these lesser-developed areas. Without the necessary dedicated staff to monitor and manage lands, coordinate education, research, and restoration activities, and communicate with the campus community, the university will be challenged to balance ecological stability, community safety, and the ability to leverage the educational value of its natural areas long-term.



## Purpose

Increase education, research and conservation activities in the UCSC campus natural areas while supporting sustainable land, habitat and watershed management practices

## 2020 Vision

In 2020, campus natural areas are seen as an important campus resource, carefully managed and regularly used by a multidisciplinary group of UCSC faculty for research and teaching. Lands are monitored, maintained, and restored in accordance with a collaboratively developed and implemented campus landscape management plan that includes fire safety concerns. Faculty, students, staff, and other regional stakeholders are engaged in a multitude of cutting-edge research and stewardship projects, for which capacity and funding are secure and growing. Annually, outreach and education efforts engage more than 500 student interns and volunteers in support of education, research, natural lands management, and restoration efforts - making the campus a model of balance between ecological stability and successful operation of a vibrant university.

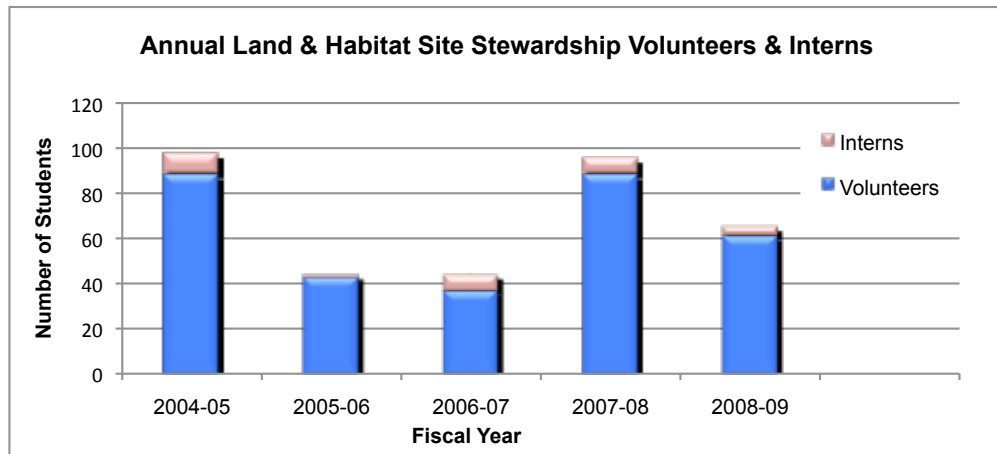
## Overarching Goals

1. Increase student engagement and experiential learning through stewardship and management on campus natural lands
2. Provide access to campus natural areas for instruction and research activities
3. Support public safety and protect sensitive species and habitats on the UCSC campus by engaging effective and proactive management and maintenance practices for all undeveloped lands (including lands that may be developed in the future)
4. Increase the community's appreciation and understanding of campus natural lands, as well as engagement in sustainability activities in land management, stewardship and recreation on campus

# Objectives, Metrics Land, Habitat, Watershed

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Increase numbers of student interns and volunteers actively engaged with land and habitat stewardship projects on the main campus by 50%	BAS - Physical Plant, Site Stewardship Program; CNR; Natural History Museum (NHM); Arboretum; Greenhouses; SocSci; ENVIS
Secure and phase in staff (Campus Resource Ecologist, CRE Assistant, Site Stewardship) to implement critical stewardship programs and initiatives that 1) support instruction and research, 2) support environmental compliance and protect sensitive species and habitats, and 3) enhance community safety and enjoyment of campus natural areas ( <i>See Appendix</i> )	BAS – Physical Planning & Construction (PP&C), Physical Plant (PP); UCSC Campus Natural Reserve (CNR); Other entities
Initiate a Landscape Management Plan for UCSC’s main campus that includes a Fire and Vegetation Management Plan (FVMP) and provides strategies for effective habitat and sensitive species management	BAS - Physical Planning & Construction (PP&C), PP; CNR; NHM; Other Entities
Develop a Collaborative Plan for increasing the use of campus lands for education and research	BAS - PP, Site Stewardship Program; CNR; NHM; Arboretum, SocSci; ENVIS; PBSci; SA; Other Entities

## Key Metrics



The campus seeks to increase the number of student volunteers and interns active in the Site Stewardship Program by increasing capacity and coordination, further integrating Site Stewardship initiatives with academic programs, and reaching out to student groups. This benefits student learning, increases effectiveness of stewardship practices in natural areas, and spreads awareness and appreciation of the natural world throughout the campus community.

Progress on Land, Habitat, Watershed Plan Development (as of March 2010)	To be initiated	Draft in development	Draft complete, in review	Plan approved
Storm Water Management Plan (2009)	[Progress bar]			
Landscape Management Planning	[Progress bar]			
Collaboration Plan to increase research and education on campus natural lands	[Progress bar]			

The campus completed its most recent Storm Water Management Plan in 2009. To better protect biodiversity, enhance ecological health, and comply with state and federal regulations, UCSC seeks to develop a comprehensive Landscape Management Plan, including topics such as fire, vegetation, habitat, and management of sensitive species. A Collaborative Plan to increase research and educational activities on campus natural lands is intended to help the campus community connect more effectively with this unique local resource. <sup>2</sup>

<sup>1</sup> As of Spring Quarter of FY 2009, the Site Stewardship Program is active on UCSC’s main campus and at 2300 Delaware Ave.

<sup>2</sup> The “Landscape Management Plan” and “Collaborative Plan” described above will cover UCSC’s Main Campus, 2300 Delaware Ave, as well as areas of land belonging to the Marine Sciences Campus that are not part of the UC Reserve System.



# Procurement & Business Contracts Purpose, Vision, Goals

## Introduction

Procurement and Business Contracts (P&BC) at UCSC supports the teaching, research and public service missions of the University by ensuring adherence to UC policy and procedures for procurement of goods and services. These policies include the UC President's Policy on Sustainable Purchasing Practices. P&BC leadership supports the advancement of sustainable purchasing practices and the activities of the Green Purchasing Working Group (GPWeG).

Directed by Committee on Sustainability & Stewardship, this working group -in collaboration with students and other staff- has launched an initiative to move the campus from 30% Post Consumer Waste paper (PCW) to 100% PCW paper by the end of 2010. Projects such as the PCW initiative involve P&BC managed activity, systems, and information such as data from UCSC's electronic procurement system, CruzBuy, quality product sourcing, and campus-wide education. The ultimate success of GPWeG initiatives relies on support at the highest level of campus administration.



## Purpose

Reduce, reuse, and recycle; provide and promote sustainable alternatives in the procurement of goods and services, leverage UCSC's market influence to realize the university's vision for sustainability

## 2020 Vision

In 2020, UCSC is a 'zero-waste' community. New goods are purchased only when necessary, and existing materials are reused when possible. UCSC considers life-cycle impacts and costs (recycling, carbon footprint, and other sustainability criteria) when making purchasing decisions. The campus relies primarily on electronic document management and business processes, integrates sustainable procurement criteria into all aspects of campus operations, and enjoys the ongoing support of campus administration to execute relevant sustainability initiatives.

## Overarching Goals

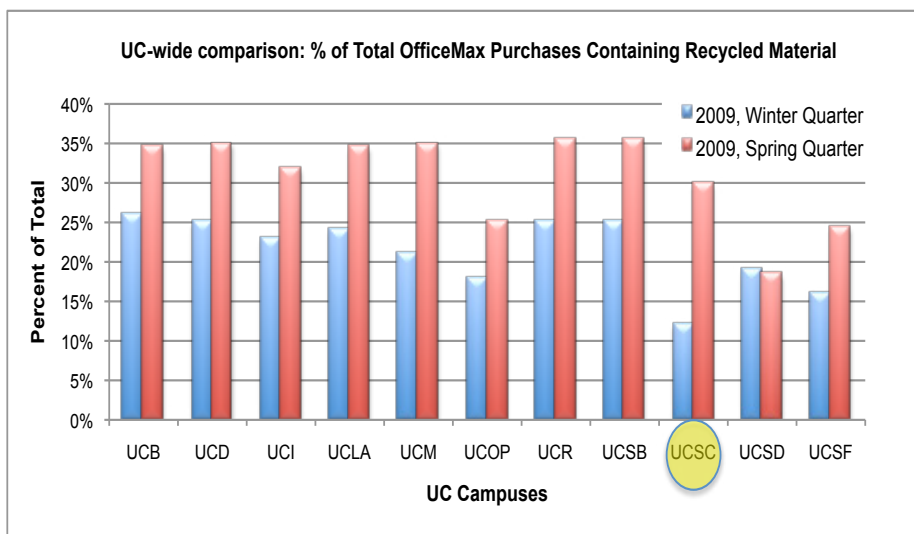
1. Increase Environmentally Preferable Purchasing (EPP) practices of goods including office supplies, appliances, electronics, and cleaning supplies
2. Work to institutionalize sustainability through effective outreach and collaboration with the greater campus
3. Reduce purchases of goods and services to improve campus sustainability performance

Targets, Metrics

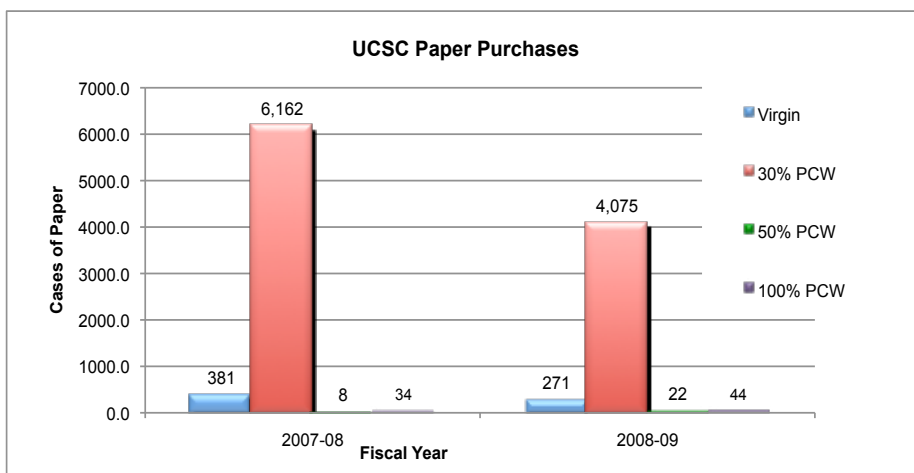
# Procurement & Business Contracts

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Increase % of total spend for purchases of office supplies with recycled content using the CruzBuy e-procurement tool <sup>1</sup> (UC Policy 2009)	BAS - Procurement & Business Contracts (PB&C); UR
<b>TARGET:</b> Reduce print and copy paper use and move towards adopting 100% PCW office paper standard <sup>2</sup> (UC Policy 2009)	BAS - P&BC; Printing Services
Review campus printing and copying requirements and match requirements with appropriate Energy Star-rated, networked equipment (UC Policy 2009)	BAS - P&BC, Printing Services; ITS
Develop appliance replacement plan based on cost-avoidance study and facility renovation schedule, and identify funding sources required to implement	BAS - P&BC, Physical Plant (PP); Funding Work Group
Develop, publish, and distribute a Sustainable Purchasing Guide for the UCSC Campus	BAS - P&BC; UR

## Key Metrics



This figure shows the Environmentally Preferable Purchasing (EPP) trends of office supplies sourced by all UC campuses from OfficeMax in Winter and Spring 2009. Included are supplies such as pens, paper, file folders, binders, etc. containing recycled content as a percentage of total office supply purchases. The chart reveals a substantial increase in EPP sourcing for UCSC in the last half of the 08/09 academic year – driven in part by the fact that Printing Services began purchasing 30% PCW paper through OfficeMax during Spring 2009 (previously purchased from other vendors). Even so, UCSC’s EPP trends in this category remain short of several other UC campuses.



The chart to the left was created from procurement records accounting for at least 95% of UCSC’s 8.5x11”, 20#, white paper and copy paper purchases during the last two fiscal years. Data reveals a significant decline in cases containing 30% PCW. The overall average PCW content is around 29%. Efforts are underway to continue reducing print and copy paper use and increase purchases of 100% PCW paper to lessen UCSC’s environmental impact.

<sup>1</sup> As of Spring 2010, UCSC relies on its vendors to supply EPP data. Currently, OfficeMax is the only office product vendor able to do so. UCSC is expanding the CruzBuy tool to facilitate and increase EPP data collection.

<sup>2</sup> UC Policy requires min. standard of 30% PCW content, State of California Department of General Services (DGS) Administrative Order 06-04 suggests 100% PCW content as the standard.

# Transportation

Purpose, Vision, Goals

## Introduction



UC Santa Cruz's geographic size, topography, and limited roadways present daily challenges for a campus community in constant motion. The University's challenge is to provide access while addressing the resulting environmental impacts of transporting people and materials from place to place.

Through sustained efforts by the campus community, 60% of all person-trips currently made to and from campus employ sustainable transportation practices<sup>1</sup>, and 2008-09 counts show a reduction in traffic to 2000 levels<sup>2</sup>. UCSC Transportation and Parking Services (TAPS) has actively promoted sustainable transportation practices for decades, and its efforts have successfully reduced single-occupancy vehicle use. Even though student enrollment has increased, sustainable transportation initiatives at UCSC have resulted in an approx. decrease in overall fuel use of 4.8%, resulting in a 6.7% reduction in GHG emissions between FY 2000 and FY 2010<sup>3</sup>. To continue addressing climate-related emissions, the campus also regularly participates in UC system-wide efforts to develop tracking systems and targets to address impacts of business air travel (also see Energy Topic Section).

Despite the above achievements, the campus remains over-reliant on fossil-fueled transportation and therefore must expand the efforts to reduce transportation-related greenhouse gases. Current funding models are inadequate to sustain both existing commuter access programs and on-campus transit services, and do not support major transportation infrastructure improvements. To achieve the vision of a truly sustainable and fuel-efficient transportation system for UCSC, it is necessary to establish an effective funding model for UCSC transportation and integrate large-scale planning, other public and private investments, and an extensive educational outreach campaign to affect changes in individual behavior.

## Purpose

Provide and promote effective, equitable, and sustainable access to and around UCSC campus facilities

## 2020 Vision

In 2020, human-powered modes are predominant for on-campus travel, 75% of commuter person-trips are by non-Single Occupant Vehicle (SOV) modes, the campus fleet is optimized, and fossil fuel use is reduced 50% from 2008 levels.

## Overarching Goals

1. Reduce UCSC-related transportation and associated greenhouse gas (GHG) emissions
2. Develop a new funding model and sources to support sustainable transportation efforts
3. Reduce campus transportation's reliance on fossil fuels
4. Continue to promote and increase reliance on human-powered and non-SOV transportation modes

<sup>1</sup> as defined by UCSC Transportation and Parking Services - see Glossary for full definition; data sourced from transportation mode split studies.

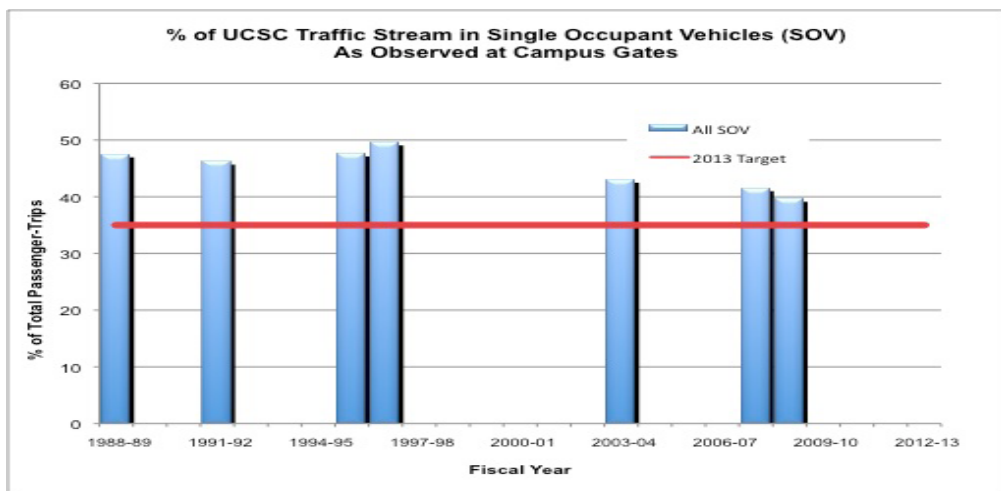
<sup>2</sup> UCSC Transportation and Parking Services traffic counts

Objectives, Metrics

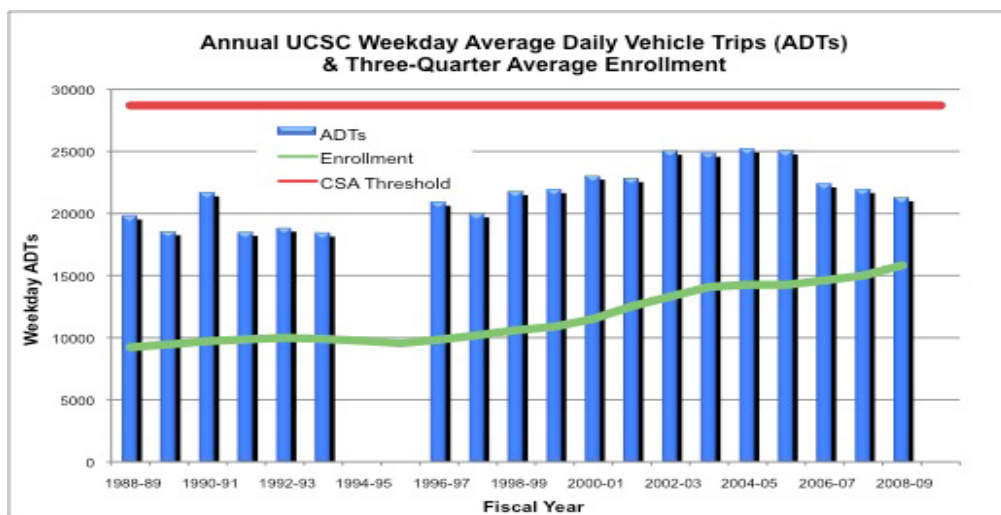
# Transportation

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Decrease % of person-trips to and from UCSC's main campus using SOV modes of transportation from 40% to 35% ( <i>LRDP, Comprehensive Settlement Agreement, UCSC CAP</i> )	BAS - Transportation and Parking Services (TAPS)
<b>TARGET:</b> Maintain average daily trips (ADT) to UCSC's main campus below levels defined by the Comprehensive Settlement agreement (28,700 ADT's) ( <i>Comprehensive Settlement Agreement</i> )	BAS - TAPS; City of Santa Cruz
<b>TARGET:</b> Reduce campus fleet fuel use by 15% (please see topic metrics and appendix for detailed break-down of fuel use data by transit and non-transit fleet vehicles) (UC Policy 2009)	BAS - Fleet Services
Create and implement policy that integrates sustainability criteria and Fleet Services review into the approval process of all UCSC fleet vehicle purchases ( <i>UC Policy 2009</i> )	BAS - Fleet Services, Procurement & Business Contracts (P&BC)
Develop UC system-wide alternative funding mechanisms for sustainable transportation initiatives	UCOP Sustainable Transportation Work Group, BAS

## Key Metrics



The percentage of passenger-trips made by Single Occupant Vehicles (SOV)—including delivery, service and construction vehicles, as well as private cars and motorcycles—has declined from a high of 49.5% in 1996-97 to a low of 39.6% in 2008-09 (please note that data are not available for all years). UCSC seeks to reach 35% by 2013.



This figure shows declining traffic volumes in recent years - despite growing enrollment - and remains well below the threshold set in the Comprehensive Settlement Agreement (CSA). No data are available for 1994-1995.<sup>1</sup>

<sup>1</sup> "Three Quarter Ave. Enrollment" represents the average enrollment of total on-campus students (incl. undergraduates and graduates) of the Winter, Spring, and Fall academic quarters in a given year (excluding the Summer term). It represents the standard enrollment measurement for UCSC and appears in the Comprehensive Settlement Agreement with the City of Santa Cruz.



# Waste & Recycling

Purpose, Vision, Goals

## Introduction

Beginning with pilot programs in 1989 and continuing with the centralization of Campus Recycling within Ground Services seven years later, UCSC has developed a variety of reuse, recycling, and composting systems to save energy, natural resources, and landfill space. Such efforts have resulted in a gradual increase in annual diversion rates<sup>1</sup>, with the goal of achieving “zero waste” - 100% diversion from landfills. Having achieved 50% diversion in 2008, the campus aims to achieve 75% diversion of the campus waste stream by 2012 and “zero waste” by 2020, as set forth by the UC Policy on Sustainable Practices.

To help these ambitious goals, the Executive Vice Chancellor established the Landfill and Solid Waste Diversion Task Force in Spring 2011. The Task Force will leverage existing programs and recommend relevant waste stream assessments, critical infrastructure enhancements improvements in campus waste management processes, and implementation of behavioral change initiatives. This will create consistency, expand participation by the broader campus community, and deepen institutionalization of zero waste practices at UCSC.

Self-hauling of waste and recycling offers significant financial and resource conservation benefits. For example, through increased diversion and self-haul operations, the campus realized over one million dollars in cost avoidance in FY08-09 and helps divert recyclable materials back into the production cycle<sup>1</sup>. By accounting for the full cost of operation, adequate investment in infrastructure and equipment could maintain cost savings and ensure long-term viability of the benefits the campus currently derives from in-house waste management efficiencies and capacity.



## Purpose

Create, develop, and implement programs and strategies to reduce waste on the UCSC Campus

## 2020 Vision

In 2020, UCSC is a “zero waste” campus. Waste avoidance is mandated by campus policy and integrated into the daily practices of all campus members. Material life cycles are considered during all stages of planning, procurement, and operations. In addition to using only compostable, reusable, or recyclable materials, overall levels of consumption are substantially reduced.

## Overarching Goals

1. Achieve 75% waste diversion by June 30, 2012, and 100% diversion by 2020
2. Research and implement improvements to waste reduction practices and performance tracking systems
3. Provide infrastructure in facilitate increased waste diversion practices
4. Develop and implement collaborative, campus-wide outreach and education activities to affect behavioral change that increases waste diversion

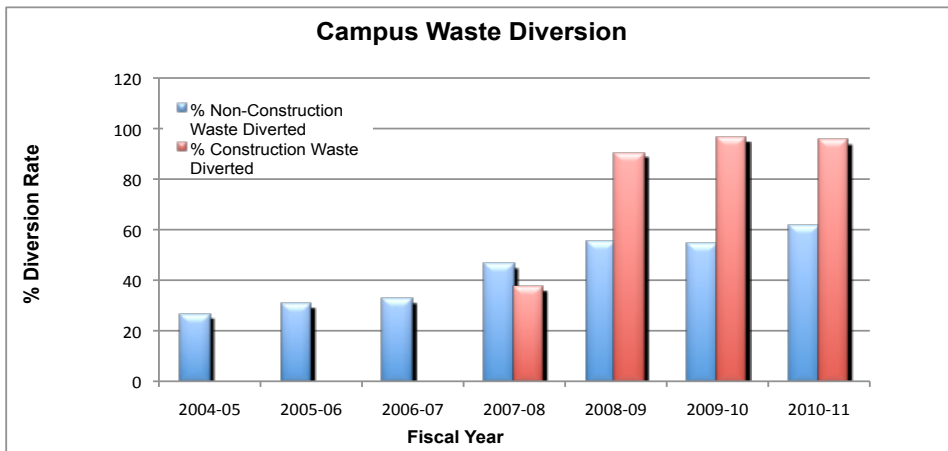
<sup>1</sup> “Diverted waste” is the portion of the waste stream that is recycled or composted and thus does not end up in a landfill.

Objectives, Metrics

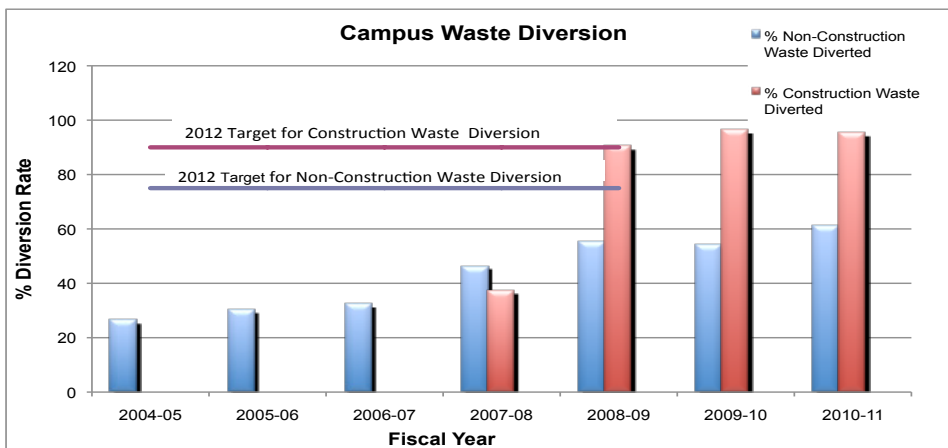
# Waste & Recycling

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Increase % 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	BAS - Physical Planning & Construction (PP&C), Physical Plant (PP)
<b>TARGET:</b> Increase non-construction waste diversion to 75% ( <i>UC Policy 2009, LRDP, State and local Integrated Waste Management Plans</i> )	This target requires campus-wide collaboration <u>Some key stakeholders include:</u> BAS - PP, Ground Services, Custodial Services, Procurement & Business Contracts; SA - Colleges & University Housing Services (CUHS), Residential Life Staff, UCSC Dining; UR
<b>TARGET:</b> Compost 100% of potentially compostable & biodegradable materials from all UCSC Dining operations ( <i>UC Policy 2009</i> )	BAS - PP; SA - UCSC Dining; Food Systems Working Group (FSWG), Santa Cruz County
Conduct baseline campus-wide audit to effectively identify, prioritize, and engage waste reduction/diversion strategies ( <i>UC Policy 2009, State and local Integrated Waste Management Plans</i> )	BAS - PP; SA - CUHS
Develop a sustainable recharge rate to support long-term viability of waste diversion activities and strategies	BAS - PP

## Key Metrics



Self-haul operations by campus units secured over one million dollars in cost savings in FY08-09 – a function otherwise performed by outside vendors. This figure illustrates the University’s success in its efforts to ‘self-haul’ general campus waste (non-construction waste), and highlights the opportunity to increase self-haul of construction waste. The target for 2013 is to increase self-haul for construction waste to 65%. An increase of Physical Plant’s capacity to serve the campus through self-haul could generate additional cost savings and provide more accurate records of the campus waste stream.



The campus has significantly increased the percentage of its waste stream which is diverted from the landfill (“diverted waste” is recycled in some way or composted, and thus does not end up in a landfill). Though diversion of construction waste successfully exceeded the 75% diversion target in FY08-09, the campus needs to increase diversion of non-construction waste to meet the requirements specified within the UC Policy on Sustainable Practices.<sup>1</sup> This is an ambitious objective, which will require increased collaboration and participation by the entire community.

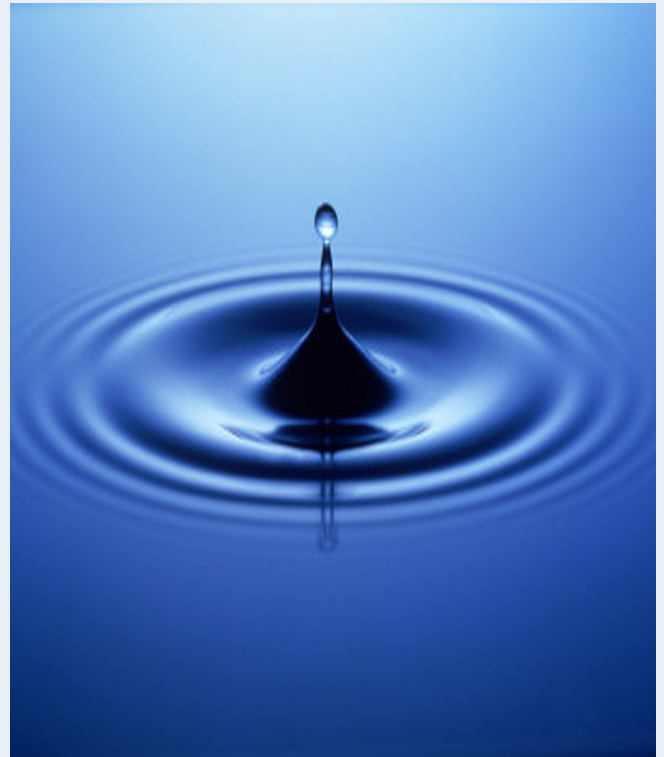
<sup>1</sup> Data for self-haul operations and diversion rates in this plan are calculated using the scope of service for UCSC’s Physical Plant, which includes the University’s Main Campus, as well as UCSC facilities at 2300 Delaware Ave and the Marine Sciences Campus, but excludes some Housing Facilities, such as Cardiff Terrace and Ranch View Terrace, as well as the off-campus Laureate Court, the University’s Town Center and University Inn - all of which are serviced by the City of Santa Cruz.

# Water

## Purpose, Vision, Goals

### Introduction

UCSC's water consumption represents 5% of the water demand for the City of Santa Cruz water service area. As a limited resource that can have wide-ranging environmental and social impacts - and with cost impacts for water and sewer service of approximately \$2.1 million annually - water conservation has become a key target for both increased sustainability and significant cost savings for UCSC. To meet the demands of the campus community while operating within a constrained water supply, UCSC has launched a variety of programs that have successfully lowered water use since the early nineties. A multitude of water conservation studies and projects have marked UCSC's successes and leadership in this area, including an extensive water efficiency survey in 2007 and the UCSC Water Shortage Plan completed in 2009 by the Water Use Curtailment Task Force. As this section focuses specifically on sustainable ways of approaching water supply and demand, please refer to the Land, Habitat, Watershed and the Building and Facilities sections for a discussion of storm water management and water quality.



### Purpose

To research, develop, and implement programs and strategies that minimize potable water use on the UCSC campus

### 2020 Vision

In 2020, UCSC's campus water demand is no more than 206 MGY (million gallons/year)<sup>1</sup>. Exploration, testing, and implementation of non-potable sources, e.g., groundwater, rainwater, and reclaimed water, is supplying non-potable water campus-wide, and large scale outreach campaigns have effectively reduced personal water consumption.

### Overarching Goals

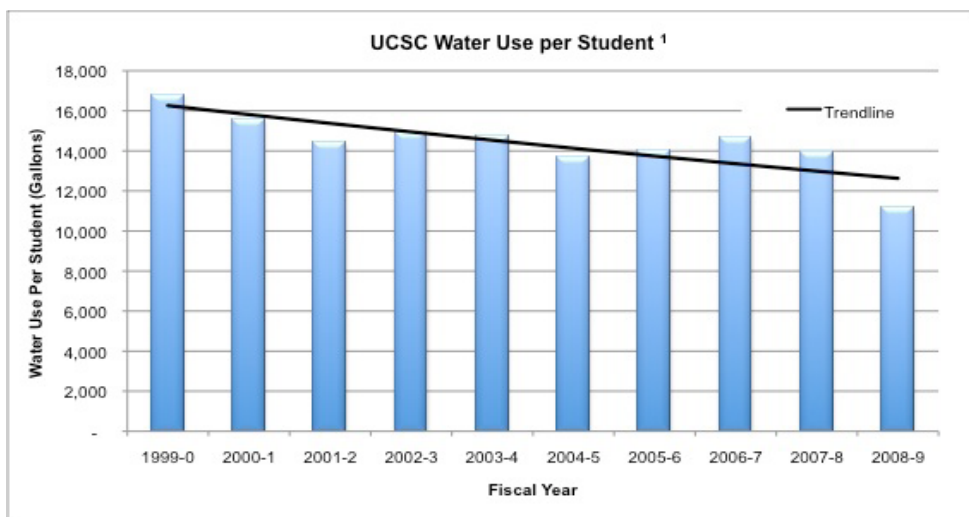
1. Research, identify and apply new technologies and improvements that reduce campus water consumption and/or increase efficiency
2. Maintain the campus potable water demand at levels equivalent to or lower than 206 MGY <sup>1</sup>
3. Implement effective educational campaigns to effect behavioral change and reduce water consumption.

<sup>1</sup> This figure is based on a calculated average from the years 2002-2007 and uses the term "UCSC campus" to include UCSC's main campus, the Marine Science Campus, and facilities at 2300 Delaware Avenue. Because of significant campus growth, maintaining potable water consumption at or below this level entails significant water conservation.

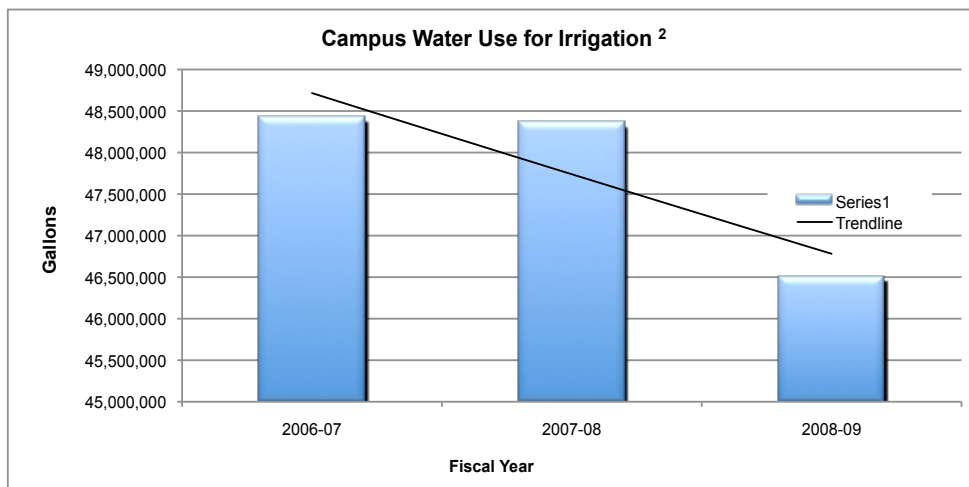
Objectives, Metrics Water

2010-2013 Objectives	Collaborators
<b>TARGET:</b> Maintain or decrease student per capita water use	BAS - Physical Planning & Construction (PP&C), Physical Plant (PP)
<b>TARGET:</b> Maintain or decrease campus water irrigation	BAS - PP&C, PP
Reduce water use in non-residential areas by implementing programs that provide incentives for conservation	BAS - PP; Green Campus Program
Create mechanisms for tracking cost savings resulting from reduced water use and redirecting said savings to future water conservation measures	P&B; SA - Colleges and University Housing Services (CUHS)
Complete the 19 high-priority water conservation projects identified in the Water Efficiency Survey (Comprehensive Settlement Agreement)	BAS - PP; SA - CUHS
Install metering on unmetered irrigation points identified by The Water Curtailment Task Force	BAS - PP&C, PP; SA - CUHS

Key Metrics



This figure shows a decreasing trend for UCSC's annual water use per student since the early 1990's<sup>1</sup>. In recent years, an extensive water conservation study (2007) and the subsequent development of the Water Use Curtailment Task Force have helped further improve conservation efforts to reduce UCSC's water demand.



Data reveal a significant reduction in water used for irrigation between fiscal year 2007-08 and 2008-09<sup>2</sup>. By continuing the use of drought-resistant plants in campus landscape design, exploring use of reclaimed water, and implementing innovative water conservation technologies, UCSC seeks to maintain or further reduce potable water used for irrigation of campus landscapes in the coming years.

<sup>1</sup> "Campus Water use" includes data from UCSC's main campus, facilities at 2300 Delaware Avenue, and the Marine Sciences Campus, including Housing. "Student" is calculated using the three-quarter average of on-campus students, including graduates and undergraduates, according to UCSC's Office of Planning & Budget Winter 2010 Headcount Enrollment Report.  
<sup>2</sup> "Campus" here refers to the main UCSC campus and facilities at 2300 Delaware Avenue only. More data will become available as further irrigation points are metered.



# Get Involved – Make a Difference!

**Please join us in making the campus more sustainable – we can't do it without your support!**

There are numerous ways to get involved. Please visit <http://sustainability.ucsc.edu> for additional information and supporting materials for all the following items or to find out more about Sustainability Working Groups, student organizations, collaborative projects, and other programs to green your office, your dorm, and your campus.

## Working Groups:

All campus members are eligible to join campus-based Sustainability Working Groups that focus on specific sustainability topics, work to implement the Campus Sustainability Plan, and strive to realize the campus sustainability vision.

## Collaborative Projects:

The Sustainability Office is supporting the development of a project clearinghouse and database to track ongoing projects and create a menu of projects that would help advance the goals of the Campus Sustainability and Climate Action Plans. Examples of such projects include:

- Developing an onsite, in-vessel composting system
- Completing a campus-wide Energy Star audit to identify opportunities for energy efficiency and cost savings
- Join the Garden Alliance to help grow gardens and train the next generation of gardeners

## Student Organizations

Numerous student organizations on campus offer the opportunity to gain leadership skills, hands-on experience, and effect change. The Student Environmental Center (SEC) holds a General Gathering every week, where students can come together to work on projects, learn more about sustainability and share a free meal! Some of the many student orgs include the Program in Community Agriculture (PICA), the Green Campus Program (GCP), and the Education for Sustainable Living Program. Please visit <http://sustainability.ucsc.edu> to find a more complete list and contact information.

Student organizations are eligible to apply for funding for campus sustainability projects through the Campus Sustainability Council (CSC) – visit <http://sua.ucsc.edu/csc>.

## Educational Opportunities

To find information on some of the sustainability-related educational opportunities at UCSC, please download the Curriculum section of the 2007 Campus Sustainability Assessment: <http://sustainability.ucsc.edu/actions-planning/campus-assessment>

## Annual Campus Earth Summit

Since 2002, the campus community has gathered at this annual event, hosted by the Student Environmental Center, to envision a more sustainable campus. All community members are invited to attend this free event.

# Appendix A:

## Land, Habitat, Watershed

### Staffing Needs

The table below outlines the possible break-down of staffing needed to provide leadership and management for critical stewardship and land management activities.



Position Needed:	Reports to:	Key Responsibility areas:
Campus Resource Ecologist (1 FTE)	BAS- Physical Plant or Chancellors Office	<ul style="list-style-type: none"> <li>Support increased student engagement in stewardship programs and activities</li> <li>Raises funds to secure future projects and staffing support</li> <li>Manages implementation of critical stewardship initiatives to help the university remain in compliance and responsibility manage natural lands</li> <li>In collaboration with PP &amp; C and other appropriate campus entities, coordinates implementation of required environmental monitoring and reporting</li> <li>Serves as liaison between campus and community on issues of sustainable development and land stewardship</li> </ul>
Campus Resource Ecologist Assistant (0.5-1.0 FTE)	Campus Resource Ecologist	<ul style="list-style-type: none"> <li>Assists resource ecologist in implementing projects and managing students</li> </ul>
Site Stewardship (0.5-1.0 FTE)	Physical Plant (PP), Ground Services	<ul style="list-style-type: none"> <li>Manages the Site Stewardship Program through Ground Services to provide ecological restoration of undeveloped campus land</li> <li>Organizes and conducts SSP volunteer field restoration days</li> <li>Manages outreach efforts to increase student awareness and participation of campus stewardship</li> <li>Collaborates with campus faculty to recruit, supervise, and evaluate student interns for participation in site stewardship activities for academic credit</li> <li>Works in collaboration with other campus units to fulfill compliance requirements by university, local, state, and federal agencies</li> <li>Manages undeveloped natural campus lands by collaborating volunteer and intern restoration activities with CNR, UCSC greenhouses, the campus Historic District and other campus units</li> </ul>

### Position(s) Filled

- Campus Natural Reserve (1.0 FTE)