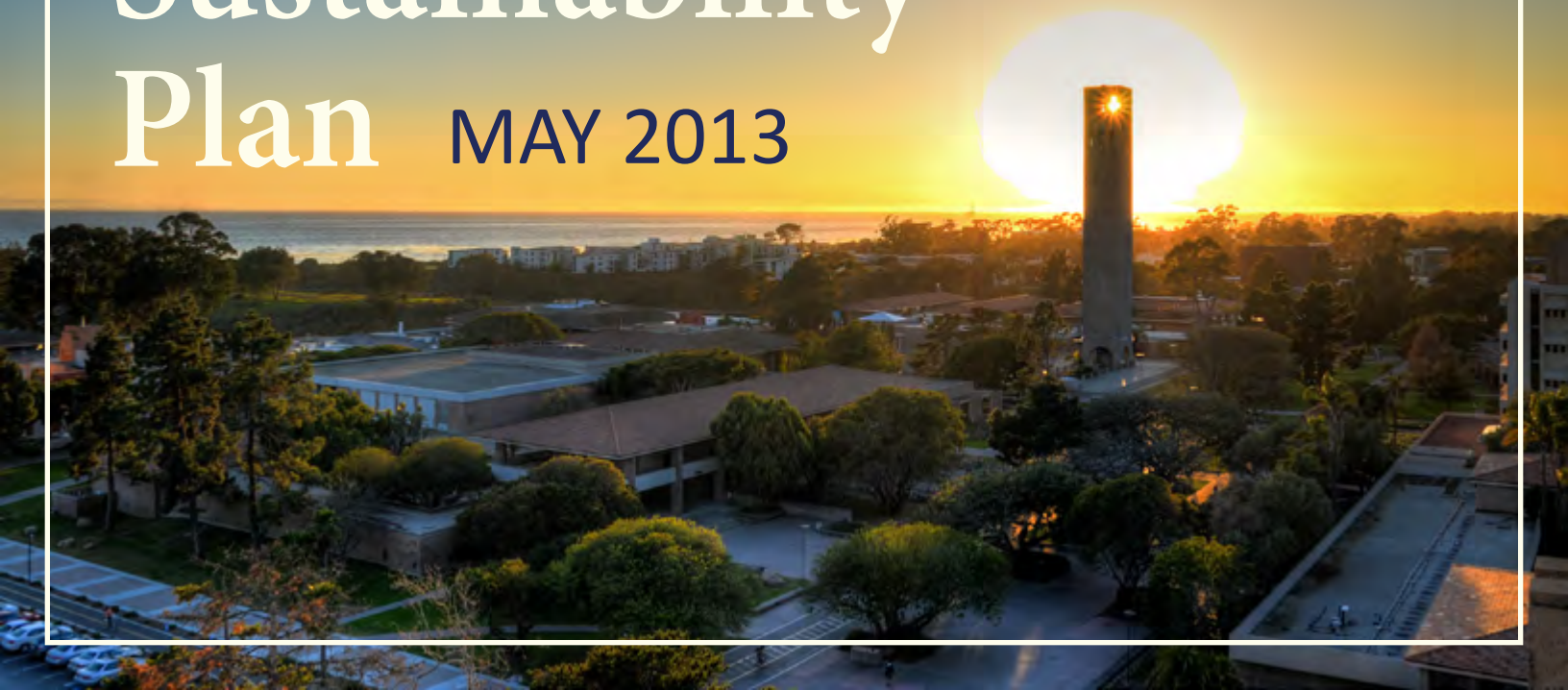
Campus Sustainability Plan

MAY 2013



University of California, Santa Barbara

Campus Sustainability Plan

May 2013

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UCSB
Stadium
Lot 31
Mesa Rd
Ocean Rd
Lot 30
Lot 16
Lot 18 (Mesa)
Lot 14
Lot 12
Mesa Rd
Mesa Rd
Stadium Rd
El Colegio Rd
Robertson Gymnasium
Lot 15
Phelps Hall
Lot 11
Chemistry
Elings Hall
Lot 10
Ocean Rd
El Colegio Rd
Lot 27
Kerr Hall
Lagoon Rd
Lot 22
Lot 29
Broida Hall
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Lot 22
Davidson Library
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Life Science
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University Center (UCen)
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UCSB Lagoon
Lagoon Rd
Pacific Ocean

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Executive Summary

The UCSB Office of Sustainability is the nexus for ensuring sustainable practices and concepts are designed, integrated, and maintained throughout the many aspects of daily academic life. For the update of this plan, we conducted an evaluation of our current practices. The results were used to update the plan to help UCSB identify the next steps in becoming more sustainable. Department leads, with representation of staff, faculty, and students, drafted sections of the plan establishing the time frame, action items, and goals to help provide a vision for long-term comprehensive sustainability through a series of action items designed to meet specified targets in 11 functional areas of campus.

ACADEMICS
Ensure that all graduates of UCSB are literate in the social, economic, and environmental aspects of sustainability and that sustainability research is supported.

BUILT ENVIRONMENT
Create superior places to study, work, and live that enhance the health and performance of occupants through sustainable design, construction, operations, retrofits, and biomimicry.

COMMUNICATIONS
Integrate sustainability into the daily habits of the campus community and encourage active participation with students, faculty, and staff.

ENERGY
Achieve a climate neutral campus through energy efficiency, conservation, on-site generation, and strategic procurement of clean and renewable energy.

FOOD
Provide a local and organic closed loop food system by observing sustainability criteria for all purchasing, preparation and service, cleaning, and waste disposal.

LABS, SHOPS, & STUDIOS
Assist researchers in reducing their impact on the environment while also improving safety, management practices, communication, and resource sharing.

LANDSCAPE & BIOTIC ENVIRONMENT
Protect and maintain the natural campus environment through restoration, preservation, and education while enhancing the campus as a classroom.

PROCUREMENT
Employ efficient procurement strategies, processes, and systems for the acquisition and responsible use of resources in a manner that supports the economy, society, and environment.

TRANSPORTATION
Develop strategies that reduce fuel use, air pollution, and carbon dioxide emissions while providing opportunities for alternative transportation, including bicycle and pedestrian infrastructure.

WASTE
Reduce and ultimately eliminate waste streams on campus with the ultimate goal of a net zero waste campus through implementation of "cradle to cradle" processes and practices.

WATER
Reduce potable water use while conserving all water resources within the campus watershed through implementation of efficiency measures, collection technologies, re-processing and re-use.

The main elements of the Sustainability Plan are the goals created by each of these functional working groups. It emphasizes short-term goals that can achieve positive change within a year or are initial steps that will allow transition into future goals. The process is iterative and will progress over time to transform the campus and advance us closer to achieving a sustainable setting. The amalgamation of each group's ideas and proposals are detailed in the following sections:

MISSION STATEMENT | BACKGROUND | ACCOMPLISHMENTS | SHORT, MID, AND LONG-TERM GOALS | POLICIES/PRACTICES

Introduction

BACKGROUND

In 2005, Chancellor Henry Yang charged the Campus Planning Committee (CPC) to develop a comprehensive sustainability plan. CPC appointed a sub-committee, chaired by the Associate Vice Chancellor of Administrative Services. The Subcommittee retained the services of Brightworks Northwest to lead four full-day workshops. Approximately 75 individual "change agents" comprised of students, staff, and faculty were trained in the sustainability framework known as The Natural Step. Shortly thereafter, an expanded set of sustainability change agents crafted the original Campus Sustainability Plan. It generated a great deal of momentum and increased fundamental awareness of UCSB's sustainability potential.

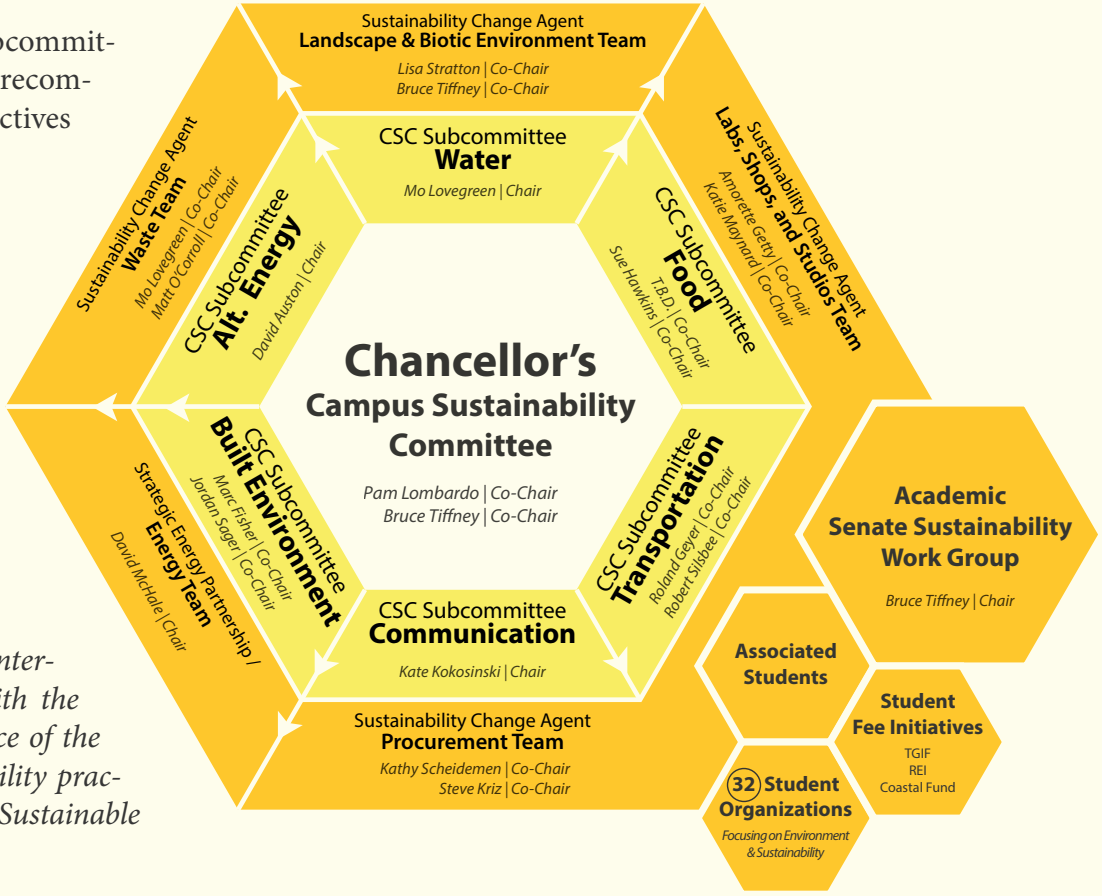
THE PLAN

The Campus Sustainability Plan is a dynamic document intended to provide a roadmap for major steps toward achieving sustainability over the next 15 to 20 years. The Chancellor's Campus Sustainability Committee (CSC) selects priorities each year.

These committees and subcommittees developed a series of recommendations, goals, and objectives for various timeframes:

Short-term
July 2012 – June 2014
Mid-term
July 2014 – June 2020
Long-term
July 2020 – June 2050

The goals developed are interconnected and consistent with the University of California Office of the President (UCOP) sustainability practices identified in the UC Sustainable Practices Policy.



THE VISION

At the University of California, Santa Barbara, we envision a future where we have little to no impact on the environment, and everyone is engaged in sustainability. We are committed to fostering a culture of sustainability through campus-wide sustainability efforts, program development, and promulgating the sustainability work of staff, faculty, and students – our greatest renewable resource. UCSB strives to capitalize on our position as an institution of higher education to ensure that all students understand the interconnectedness of environmental, economic, and social systems and to communicate that we each have a role to play in sustainability.

More specifically, we aim to research, create, and implement solutions for a more sustainable future. We want all students graduating from UCSB to be motivated to integrate sustainability into their future professions, embedding sustainability throughout the workforce. We envision that all members of our campus community will have access to healthy foods and lifestyles and will be able to meet their needs today and in the future with minimal impact on the needs of others. Finally, UC Santa Barbara continues to seek to do business with companies that are integrating sustainability into their strategic planning and operations, as well as assisting their workers in meeting their own needs. Thus, we believe that building sustainable partnerships will result in a stronger local economy.

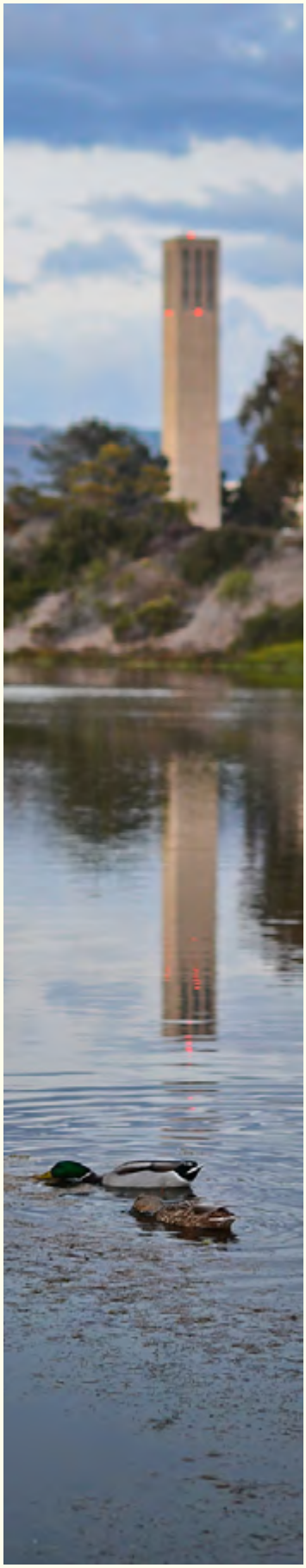
In order to achieve this vision, UC Santa Barbara continues to prioritize and monitor the implementation and progress of its sustainability initiatives. We encourage and coordinate the efforts of our faculty, staff, and students who are the front line of positive change by taking action today for a better tomorrow. By working with all sectors of the campus community, we look forward to helping UCSB maintain its leadership and attain its shared vision of a sustainable future.

UCSB SUSTAINABILITY MISSION STATEMENT

The University of California, Santa Barbara is committed to global leadership for sustainability through education, research, and action. The concept of "sustainability" can be used in many ways, but in the CSP it is defined as: "Meeting the needs of the present generation, without compromising the ability of future generations to meet their own needs."

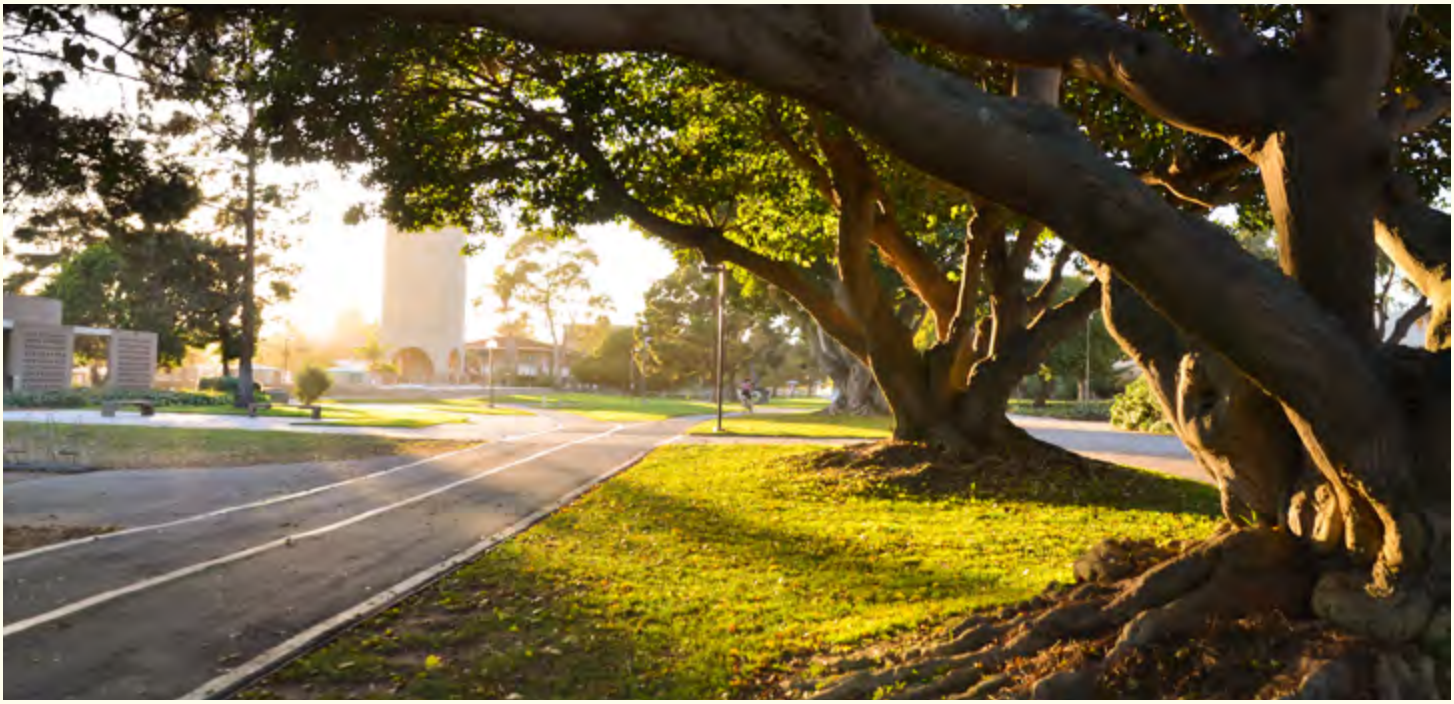
HISTORY

UC Santa Barbara has been a center for environmental movements since the 1969 oil spill in the Santa Barbara Channel. In 1970, a group of faculty calling themselves "The Friends of the Human Habitat" started to develop an environmental education curriculum, which became the genesis for the Environmental Studies Program at UC Santa Barbara. The Program was one of the first undergraduate environmental studies programs in the United States. Today, UC Santa Barbara's Environmental Studies Program is the largest program of its type in the country, with over 700 undergraduates, more than 20 faculty and lecturers, and over 4,000 alumni.



UC Santa Barbara signed the Talloires Declaration to make a public commitment to promote sustainability. The Declaration is a ten-point action plan for incorporating sustainability and environmental literacy in teaching, research, operations, and outreach at colleges and universities. Drafted in 1990 at an international conference in Talloires, France, the Talloires Declaration has been signed by more than 300 university presidents and chancellors in over 40 countries.

In 1996, the Donald Bren School of Environmental Science & Management began an interdisciplinary graduate program and professional school offering both a Masters and a PhD in environmental science and management. In 2002, the Bren School completed its 85,000 sq. ft. building; the first laboratory building in the U.S. to receive a Platinum Leadership in Energy and Environmental Design (LEED) certification awarded for new construction (NC) by the United States Green Building Council (USGBC). UC Santa Barbara adopted a green building practice of its own, requiring that Campus buildings programmed after July 1, 2004 undergo external certification by the USGBC and achieve a minimum of a LEED Silver rating. The LEED minimum rating on campus for new buildings was raised from Silver to Gold for buildings approved after July 1, 2012.



Soon after Bren Hall received a LEED-NC certification, the Central Campus Sustainability Committee was formed, along with the Sustainability Working Team. These groups incorporated senior administrators, faculty, staff, and students to research a campus-wide approach to LEED certification. In 2002, Physical Facilities created a Campus Sustainability Coordinator position to green the campus' building portfolio. In 2005, the Sustainable Purchasing Coordinator was formed to focus on sustainable procurement. A third position was created for a Sustainability Academic Education and Outreach Coordinator. A few years later, The Green Initiative Fund (TGIF) created a half-time position of Grant's Manager. The campus funded the other half of this position to create one FTE that would split its time between managing TGIF and focusing on sustainability communications and coordination. In 2012, the Student Affairs Division created a full-time sustainability coordinator position to address sustainability in their division and to oversee the Renewable Energy Initiative.

Academics

MISSION

UCSB is committed to the creation, dissemination, and assessment of knowledge on sustainable practices through classroom instruction, research, service learning, and visual and performing arts.

BACKGROUND

UCSB is well respected for our scholarly pursuits in the environment and sustainability. Close to half of our academic departments offer courses and/or host faculty who conduct research on sustainability. Further, many of our research institutes and teams, such as the Marine Science Institute, the UCSB working group on Psychology, Environment, and Public Policy (PEPP), the NSF Center for Nanotechnology in Society, the Earth Research Institute, and the Carsey-Wolf Center, focus on technological and social solutions related to the stewardship and protection of our planet and its resources. Many of UCSB's accomplishments reflect the actions of a variety of campus entities. The Academic Senate Sustainability Work Group works to coordinate and publicize these achievements and develop goals for the short and long term.

ACCOMPLISHMENTS

- Established an Academic Senate Sustainability Work Group (SWG) in 2008.
- Offered 296 courses on sustainability and 25 courses related to sustainability, crossing 27 departments. These are outlined on the sustainability website.
- Offered sustainability options through the Education Abroad Program.
- Offered financial incentives to infuse sustainability into courses through the instructional development program's New Leaf Grant program.
- 217 faculty crossing 26 departments engaged in research related to sustainability. These are outlined on the sustainability website.
- Offered financial incentives to student researchers and faculty to address sustainability in research through fellowships and matching funds.
- Established Sustainability Champion Program in 2009, highlighting one faculty member a year to pursue research and teaching related to sustainability.
- Created a variety of programs, which offer or help students find sustainability internships.
- UCSB chose a sustainability-related theme three times (2007, 2008, and 2011) for its UCSB Reads program. The UCSB Reads program is a common reading experience for the UCSB and Santa Barbara-Goleta communities.
- UCSB Early Academic Outreach Program and Sustainability launched the Educating Leaders for the Future Program, which trains at risk high school students in sustainability and exposes them to green academic and career pathways. The program partners with La Cuesta Continuation School and the Santa Barbara Housing Authority. As of June 2013, the program had served approximately 180 youth.
- Launched "Figuring Sea Level Rise," a collaborative project, engaging faculty from a wide range of departments. The campus explored how sea level rise is perceived, projected and pro¬cessed through workshops, seminars, a multi-media website, film screenings and a confer¬ence. The unifying "environmental media" approach considered how research on the rising oceans is conducted through measuring and modeling techniques and represented through media.
- Offer the Chancellor's Sustainability Internship Program which creates a capstone experience for students to develop and actuate the knowledge gained in their coursework.
- Host approximately 30 student interns working on 12-15 different projects at any given time through the UCSB Sustainability Internship Program housed in Geography.
- Offer 7 undergraduate degrees, 1 undergraduate minor, 1 undergraduate specialization, 2 graduate degrees, and 1 graduate emphasis related to sustainability.
- 12 Faculty in the English department offer over two dozen courses, creating seamless, strong coverage in eco-critical coursework from the early Renaissance through the 21st century. This is the basis for the Literature and Environment Program of UCSB which hosts an undergraduate specialization and graduate colloquium.

SHORT-TERM GOALS JUNE 2012 – 2014

1. Launch PhD emphasis in environment/sustainability.
2. Secure $10k/yr from donor sources for the Sustainability Champion.
3. Secure $6k/yr for the Chancellor's Sustainability Internship Program.
4. Develop a UCSB speakers' bureau with faculty experts in sustainability and the environment.
5. Launch a sustainable commons video project, which will collect and disseminate videos of faculty to be infused into courses as supporting media/course modules .
6. Assess all co-curricular sustainability activities.
7. Coordinate UCSB faculty recruitment efforts on the environment and sustainability.
8. Develop an eco-literacy assessment program.
9. Further develop interdisciplinary research collaborations on sustainability and climate change.
10. Set aside funding to encourage development of courses related to climate change, especially in departments that do not typically address this issue.
11. Expand the New Leaf Grant Program infusing environment/sustainability into courses to $10k.
12. Develop a Climate Change Student Peer Educators Program.
13. Develop a Sustainability Fellowship Program.
14. Promote a "learn at lunch" or seminar program to bring together researchers from diverse disciplines working on sustainability and the environment.
15. Develop a program to regularly offer work-study internships in sustainability.
16. Faculty regularly engage in statewide and national sustainability associations.
17. Identify ways to use UCSB as a living laboratory and develop a plan to implement these strategies.
18. Collaborate with other UCs to develop consistent reporting guidelines for sustainability in academics.

MID-TERM GOALS JUNE 2014 – 2020

1. Identify courses on sustainability and climate change in the catalog.
2. Develop a funding source to encourage the development of courses related to climate change, especially in departments that do not typically address this issue.
3. Expand "Infusing sustainability into the curriculum" program
4. Develop a UCSB special subjects general education (GE) requirement in environment/sustainability.
5. Develop 2-3 large-scale demonstration projects that engage campus researchers, link to curriculum, and set UCSB in a leadership position beyond peer institutions.
6. Develop community-based, multi-disciplinary research projects on climate change issues.

LONG-TERM GOALS JUNE 2020 – 2050

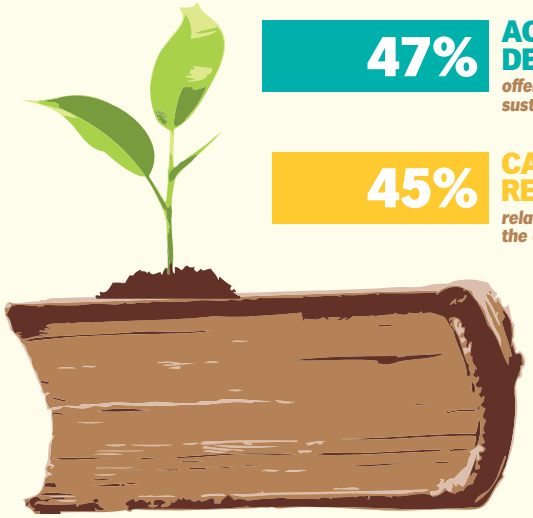
1. Have a center for climate change studies.
2. Initiate long-term strategy to maintain and grow environmental science and climate change faculty.
3. Develop a fellowship program for undergraduate and graduates researching climate change.
4. Create a program to support student-initiated eco-entrepreneurship. This may be an expansion of existing eco-entrepreneurship programs on-campus.
5. Implement demonstration projects developed in mid-term.
6. Involve UCSB faculty in local research on sustainability, through multidisciplinary research teams.
7. Endow the Sustainability Champion and Chancellor's Sustainability Internship Program.

POLICIES/PRACTICES

There are no formal policies for academics, but our Strategic Academic Plan guides us. The Mission Statement of the UCSB Strategic Academic Plan (2007-2025) affirms the campus commitment to sustainability principles as we strive to be stewards of our natural and built environments. The Strategic Plan also identifies the environment as one of four key areas of interdisciplinary teaching and research to be prioritized by the campus.

The plan also identifies the academy and society, and global and international issues as key areas of interdisciplinary pursuit. These are both equally important to sustainability as the nature of sustainability issues is global and solutions will rely on partnerships between the university and the broader society.

TEACHING AND PRACTICING
SUSTAINABILITY ON CAMPUS



47% **ACADEMIC DEPARTMENTS**
offer students at least one sustainability related course

45% **CAMPUS RESEARCH**
related to sustainability or the environment

Built Environment

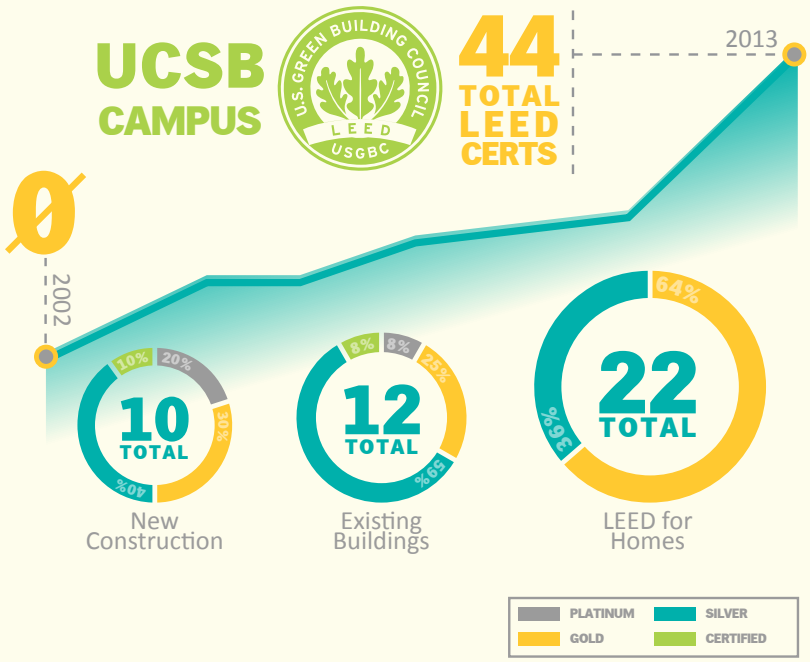
MISSION

To provide education and seek resources to transform the UCSB campus design, development, construction, and modification process to ensure an energy efficient and environmentally responsible built environment.

BACKGROUND

Low-impact design, construction, and facility operations are fundamental to working toward a more sustainable campus. As a method for ensuring sustainability goals are met with each new capital project, UC Santa Barbara utilizes the US Green Building Council's Leadership in Energy & Environmental Design (LEED) rating system as a design guideline and construction process verification tool.

In 2002, UCSB became the first higher education institution to construct a LEED for New Construction (LEED-NC) Platinum building: Bren Hall. Home to the Bren School of Environmental Science & Management and the Environmental Studies Program, Bren Hall became the first building in the nation to have achieved LEED Platinum rating for both New Construction as well as Operations & Maintenance.



The first UC Green Building and Clean Energy policy required all new UC buildings and major renovation projects after July 1, 2004 to achieve LEED certified equivalency and surpass California's Building Energy Efficiency requirements by 20 percent. At that time, UC Santa Barbara enacted a more stringent practice, stating that all new campus construction projects approved after July 1, 2004 must achieve LEED Silver certification. As of July 1, 2012, all new facilities will target LEED Gold certification as a minimum.

Savings by Design is a component of the statewide Utility Energy Partnership leveraged on all new building projects at UCSB. The program provides support to design teams and incentives to building owners to integrate energy efficiency into new building projects.

In the fall of 2008, UCSB began a pilot project with the US Green Building Council called the LEED for Existing Buildings (EB) Portfolio Program, which aims to achieve LEED-EB certification of 25 existing campus buildings. This approach will allow UCSB to gain recognition for the green operations on a campus-wide basis and greatly streamline the assessment and certification process.

ACCOMPLISHMENTS

- Raised Sustainable Infrastructure Practice – Green Building Design for all new construction from LEED Silver to LEED Gold for buildings approved after July 1, 2012.
- Implemented Chancellor's Sustainability Committee (CSC) Subcommittee on the Built Environment.
- Raised the LEED minimum rating on campus for new buildings from Silver to Gold for buildings approved after July 1, 2012.
- Implemented inclusion of one CSC member (or subcommittee member) on each building committee.
- Implemented practices to include LabRATS representation on all building committees for laboratory buildings or buildings that include laboratory space.
- Completed the first LEED for Homes project in the UC System: North Campus Faculty Housing Phase I.
- Completed two LEED-EBOM Gold certifications for San Clemente Villages and Ellison Hall, both under the Portfolio Program, for a total of 12 LEED-EB buildings on campus, more than any college or university in the nation (*UCSB now has 44 LEED certifications in place)*

POLICIES/PRACTICES

The UC Sustainable Practices Policy establishes goals for sustainable practices. The goals for green building design include design of capital building projects to achieve a US Green Building Council (USGBC) LEED Silver certification, at a minimum, for all new buildings (except acute care facilities) and to achieve a LEED Certified rating for renovation projects with a project cost of $5 million or greater. The UCSB Sustainable Infrastructure Practices -Green Building Design for green building can be found at:

http://www.policy.ucsb.edu/policies/policy-docs/sustainable-green-building-practices.pdf

SHORT-TERM GOALS

JUNE 2012 – 2014

1. Add renovation policies to the Campus' Green Building Practice.
2. Have a qualified sustainability representative on each campus committee participating in building design/construction, including the Chancellor's Campus Sustainability Committee and Department buildings committees.

MID-TERM GOALS

JUNE 2014 – 2020

1. Complete the certification of 25 campus buildings as a demonstration of the success of the LEED-EB Portfolio Program.

LONG-TERM GOALS

JUNE 2020 – 2050

1. Design, construct, and operate buildings, using a closed-loop process, calling for no waste in the construction process and building operation. Barriers at this point are knowledge, such as life-cycle data, and technology. Biomimicry is the impetus for this goal.
2. Striving for zero waste, pollution, and net habitat impact.

DETAILS ON CERTIFICATIONS

LEED NC (10):

- 2002 Bren Hall - Platinum
- 2006 Marine Science Research Building - Certified
- 2008 Student Research Building - Silver
- 2009 San Clemente Villages - Gold
- 2010 Education - Silver
- 2010 Social Science & Media Studies - Silver
- 2010 Pollock Theater - Silver
- 2010 Engineering II Addition - Gold
- 2011 Tipton Meeting House - Platinum
- 2013 Santa Rosa Residence Hall – Gold

LEED EB/OM (12):

- 2005 Girvetz Hall - Silver
- 2008 Recreation Center - Silver
- 2008 Recreation Center Pavilion - Silver
- 2008 Multi Activity Center - Silver
- 2009 Bren Hall - Platinum
- 2010 Life Sciences Building - Silver
- 2011 Marine Science Research Building - Gold
- 2011 Harder Stadium Office Annex - Silver
- 2011 Kohn Hall - Silver
- 2011 Materials Research Laboratory - Certified
- 2012 San Clemente Villages - Gold
- 2012 Ellison Hall - Gold

LEED for Homes (22):

- 2011 North Campus Faculty Housing-Phase 1 - 22 certifications (8 Silver and 14 Gold)

Communication

MISSION

Increase visibility and education to our internal and external stakeholders to promote a "culture of sustainability" which integrates sustainability into the daily habits of the campus community and encourages active participation with students, faculty, and staff.

BACKGROUND

The Chancellor's Campus Sustainability Committee (CSC) recognized a need to educate our own campus as well as the local community about UCSB's sustainability accomplishments, so they formed the Communications Subcommittee with the charge of identifying noteworthy campus sustainability information and promoting it to the campus, local community, state, and nation.

ACCOMPLISHMENTS

- The Subcommittee created and printed 5,000 sustainability brochures in 2011-12, highlighting information from our Campus Sustainability Plan, LEED certifications, sustainability student programming and other recognitions.
- Created a set of three posters in spring 2012 for the green message boards around campus primarily geared towards increasing student education and involvement in sustainability.

- The Subcommittee participated in various local events including Earth Day, All Gaucho Reunion and Spring Insight. The Subcommittee also produced reusable bags with UCSB's sustainability logo for the All Gaucho Reunion.
- Created a Public Relations Campaign for 2012-13. Phase I of our image campaign, on-campus, included DigiKnows (rotating slides displayed on digital screens) and posters. Phase II went public in winter 2013 with 15-second videos shown in all local movie theaters, signage on four of the 40ft hybrid buses, a newsletter and blog on the sustainability website, and bi-weekly articles in the campus publication, The Bottom Line.
- UCSB Associated Students (AS) implemented a Green Bill within both the legal and financial codes. Student Boards, Committees, and Commissions in AS now have sustainability policies in place.
- Identified and added sustainability layers (Hydration Stations, recycling and composting locations, and energy use statistics per building) to the Interactive Campus Map (ICM).

SHORT-TERM GOALS JUNE 2012 – 2014

1. Modify and develop the Public Relations Campaign by advertising on the UCSB Vanpools. The 2012/13 campaign was developed around water, waste, and climate. The 2013/14 plan includes research, food, and built environment.
2. Continue development of sustainability layers in the ICM, and create mobile applications.
3. Create a thorough brochure/annual report that discusses UCSB's Sustainability achievements and goals to distribute at the CHESC in June 2013.
4. Develop a rotating set of posters for the green boards and for the BigBelly units.
5. Continue tracking website traffic and analytics to determine trends that emerge as a result of the Sustainability Public Relations Campaign. This will create a 2012/13 academic year baseline for comparison with future campaigns.
6. Collect data for impressions of the public relations campaign.

MID-TERM GOALS JUNE 2014 – 2020

1. Have dedicated media/publicity personnel established in Office of Sustainability.
2. Increase impressions imparted to our target audience by 10% from our baseline established at the end of 2012/13 academic year. We can achieve this by:
   - *Increasing the number of buses/shuttles that carry our advertisements – right now we only advertise on 4 out of 106 buses.*
   - *Advertising in off-campus Santa Barbara publications.*
   - *Advertising on Facebook and Twitter pages in addition to posting messages and events on our own profile pages.*
   - *Showing 15-second video trailers at the Santa Barbara International Film Festival screenings. This would reach an audience beyond the local movie-goers in Santa Barbara and may include potential donors.*

LONG-TERM GOALS JUNE 2020 – 2050

1. Increase impressions imparted to our target audience by 20% from our baseline established at the end of academic year 2012/13.

UCSB Sustainability hosted key events:

- The 2nd Annual Central Coast Sustainability Summit took place at UCSB in fall 2012 – The Summit is an annual conference with the goal of sharing best practices and building collaborations to address complex environmental issues in our region.
- The California Higher Education Sustainability Conference (CHESC) – UCSB hosted the 2013 conference. CHESC is designed by and for campuses from each of the four systems of higher education in California.

Formed several partnerships with:

- Santa Barbara County on membership to ICLEI – Local Governments for Sustainability and Climate Action Plan (CAP) projection software.
- Plug in Central Coast (PCC), led by the Air Pollution Control Districts of Ventura, Santa Barbara, and San Luis Obispo Counties, the Central Coast Clean Cities Coalition, and the Community Environmental Council, with collaboration from local governments, businesses and utilities.
- UCSB Plastics Pollution Coalition, a student-led coalition of 19 organizations on- and off-campus that received a best practice award from the California Higher Education Sustainability Conference.

Energy

MISSION

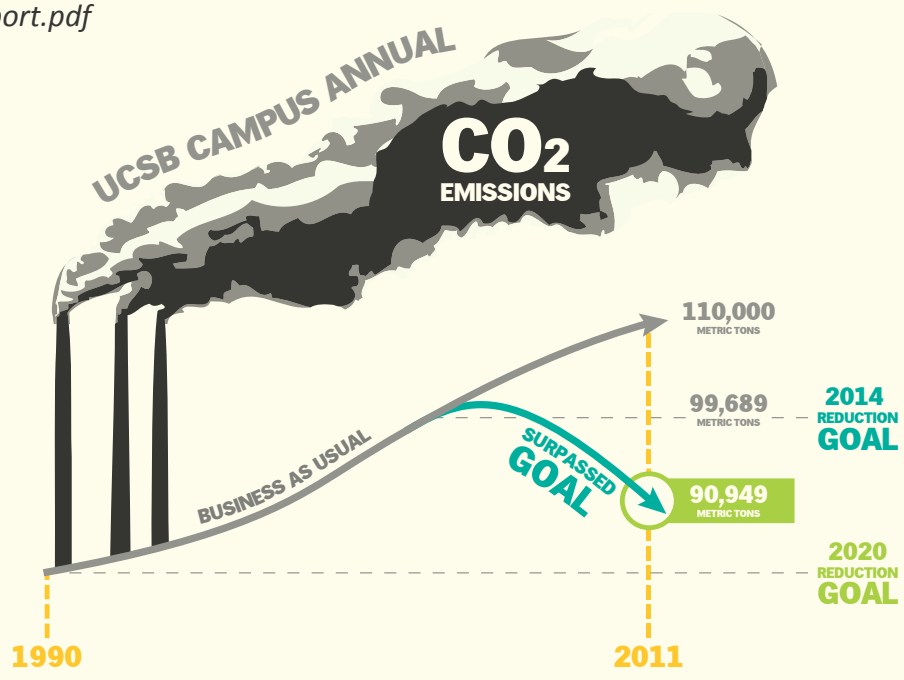
Reduce non-renewable energy consumption through efficiency, conservation and strategic procurement of energy resources.

1. Planning, development, and implementation of energy conservation measures
2. Reviewing plans for new construction to ensure that energy-efficient design strategies are incorporated into all new building and renovation projects
3. Investigating and employing new renewable and energy-efficient technologies
4. Providing information to campus constituents about UCSB's energy use and its global environmental impact

BACKGROUND

UCSB Utility & Energy Services implements energy efficiency projects such as equipment retrofits, monitoring-based commissioning, and building controls optimization. The UC and CA Investor Owned Utilities have established the Strategic Energy Partnership, which, through incentivizing efficiency, facilitates energy conservation and installation of emerging technologies at UCSB. The Program's initial cycle ran from 2009-2012 and was extremely successful in achieving its stated reduction goals. In early 2013, the program was renewed through 2014. The annual energy savings from this program are reflected in UCSB's Annual Utility & Energy Report.

http://energy.ucsb.edu/_client/pdf/Report.pdf



ACCOMPLISHMENTS

- Reduced GHG emissions to 2000 levels on an absolute basis.
- Achieved 2014 GHG Reduction Target ahead of schedule; 4 percent absolute reduction in total main campus electricity consumption over the past two years.
- SEP highlights - $12.5M invested in energy projects during the initial Program cycle:
  - *Projected 9% absolute reduction in electricity usage achieved by current Program cycle energy projects*
  - *Projected 7% absolute reduction in natural gas usage achieved by current Program cycle energy projects*
  - *Over $1 million annual utility savings*
  - *Four percent reduction in GHG emissions achieved by initial Program cycle project*
- Achieved an average of 1.6% reduction in total campus average energy use intensity (kBtu/sq ft/yr) over the past 10 years.
- Each year, students fund over $150,000 in environmental improvement projects on campus through The Green Initiative Fund (TGIF), including energy efficiency and renewable energy projects.
- The Renewable Energy Initiative (REI), passed in 2010, will generate nearly $3.4 million dollars through student lock in fees by the time it sunsets in 2020.

SHORT-TERM GOALS

JUNE 2012 – 2014

1. Establish a separate budget or funding source to be used for energy efficiency projects and renewable energy procurement to meet critical campus emissions targets and objectives, as well as improve economic efficiency.
2. Develop criteria that will be used to determine which projects will be funded through the new budget.
3. Suggest different sources for the new funding in addition to ways the fund can be structured.
4. Alternative Energy Subcommittee to investigate and prioritize the top alternative energy strategies to be implemented (on- or off- campus).
5. Continue working with the Multi-jurisdictional Renewable Energy Taskforce to identify opportunities for regional partnerships on renewable energy projects.

MID-TERM GOALS

JUNE 2014 – 2020

1. Strive for total campus average energy use intensity (kBtu/sq ft/yr) reduction of 1.5% per year between now and 2020.
2. Begin implementation of alternative energy strategies developed by Alternative Energy Subcommittee and/or community partnership projects identified by the Multi-jurisdictional Renewable Energy Taskforce.
3. Garner our energy consumption from alternative energy sources for a minimum of 43% of the campus total electricity consumption before 2020.
4. Before 2020, reduce greenhouse gas emissions to 1990 levels.

LONG-TERM GOALS

JUNE 2020 – 2050

1. Achieve net climate neutrality before 2050.

ALTERNATIVE ENERGY SUBCOMMITTEE

This subcommittee allows the CSC to engage a broader campus expertise, including faculty and student representatives, in addressing the issue of alternative energy. The Subcommittee discusses the question of alternative energy generation on- and off- campus. Ultimately, campus solutions to energy will be multi-pronged, involving on- and off-site generation, conservation, and a degree of reliance on fossil sources until new technologies become practical. Planning for these advances requires coordination between multiple internal and external stakeholders. Most recently, the Alternative Energy Subcommittee has recognized the need to identify a funding source for energy efficiency and alternative energy projects that is separate from the campus Purchased Utilities Account. As time goes on and the campus grows, it will be more difficult to realize important energy reductions. This new budget will allow the campus to invest the upfront capital that is needed to fund energy projects that have an acceptable rate of return, and ultimately, save the campus money.

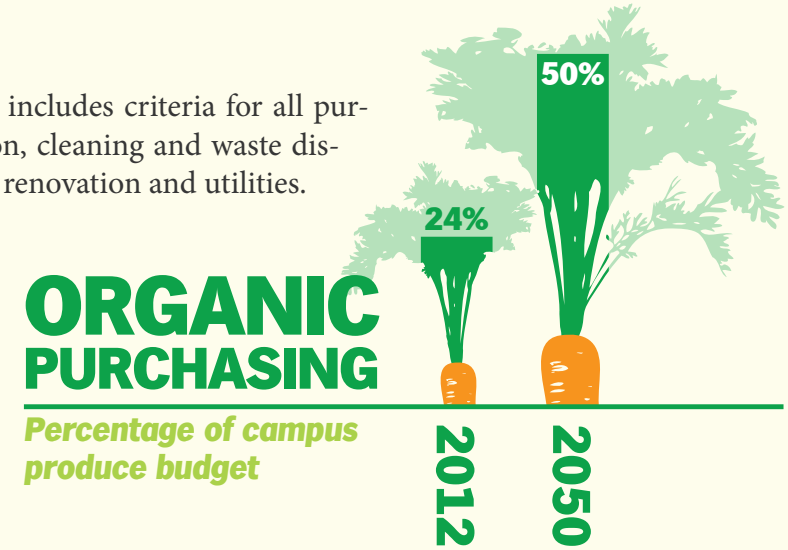
Food

The working area for food is divided into two groups:
Housing & Residential Services Dining (H&RS) and The University Center (UCen)
These areas cover food production on the entire campus.

Housing & Residential Services — Dining Services

MISSION

To create a regional closed loop food system that includes criteria for all purchasing, food preparation and service, presentation, cleaning and waste disposal, equipment and supplies, facility design, and renovation and utilities.



BACKGROUND

H&RS Dining Services aims to provide a variety of healthy and sustainable food for the campus community, including students, staff, faculty, and guests. Dining Services promotes the academic mission of UCSB and creates a sense of community through support services and developmental programs. We strive to:

- *Protect, preserve, and regenerate our environmental resources for the future.*
- *Provide the highest quality healthy and nutritious food without additives, pesticides, or preservatives.*
- *Reduce food and waste generation.*
- *Use waste products to generate other sources of energy.*
- *Reduce use of energy sources: gas, electricity, water.*
- *Reduce transportation of goods, thus reducing greenhouse gas emissions*

ACCOMPLISHMENTS

- Created seasonal menu offering.
- Provided 24% organic and sustainable/local produce.
- Provided 100% sustainable seafood – Seafood Watch standard.
- Converted to using disposables that are 99% compostable.
- Composted all food waste and disposables.
- Recycled all paper, cardboard, tin, glass, plastic, and cooking oil.
- Installed compacters at all dining commons.
- Provided education for students through Sustainability Week, Nutrition Week, Earth Day, and Sustainable Fish Day.
- Cooked meals from scratch with fresh ingredients and 'just in time,' 'made-to-order' foods to reduce waste.
- Donated leftover food products to local food banks during shutdowns.

SHORT-TERM GOALS JUNE 2012 – 2014

1. Increase Green cleaning and decrease toxic chemical use.
2. Increase organic, sustainable, and locally grown seasonal food selections by 50% and meat, poultry, and dairy by 5%.
3. Work with campus and waste disposal company for solution to reuse all waste materials on campus.
4. Assure all disposables are certified compostable and non-toxic.
5. Purchase Energy Star equipment where available.
6. Develop a framework to sustain student involvement in the Food Working Group (through AS, RHA, EAB, ESLP, etc.).
7. Establish a 'Leadership Group' to develop and implement goals.
8. Complete green certifications for all four dining commons.

MID-TERM GOALS JUNE 2014 – 2020

1. Vendor Blanket PO's – increase sustainability criteria on RFQ's.
2. Increase certified organic local produce by 25%.
3. Work in conjunction with campus and waste disposal to find sites and vessels for composting all disposable products and post-consumer waste.
4. Purchase Energy Star dish washing machines.
5. Communicate and share our framework for creating a sustainable food system with other schools, universities, and communities.
6. Influence manufacturers and distributors of natural and organic food products to provide more bulk, recyclable packaging materials.
7. Renovate dining facilities to become LEED certified.

LONG-TERM GOALS JUNE 2020 – 2050

1. Expanding Organic and Locally Grown Produce Options (25-50%).
2. Expanding organic and sustainable dairy, poultry, meat, and fish (15%-25%).

POLICIES/PRACTICES

NetNutrition is an online dietary tool that allows customers to make educated food choices, by providing information on healthy eating habits and portions. This service allows visitors to view nutrition information for individual items or entire meals. The suggestions for appropriate portion sizes will also aid in reducing waste. This program eliminated paper copies of nutritional information, provided in the past.

Food

The working area for food is divided into two groups:
Housing & Residential Services Dining (H&RS) and The University Center (UCen)
These areas cover food production on the entire campus.

The University Center

MISSION

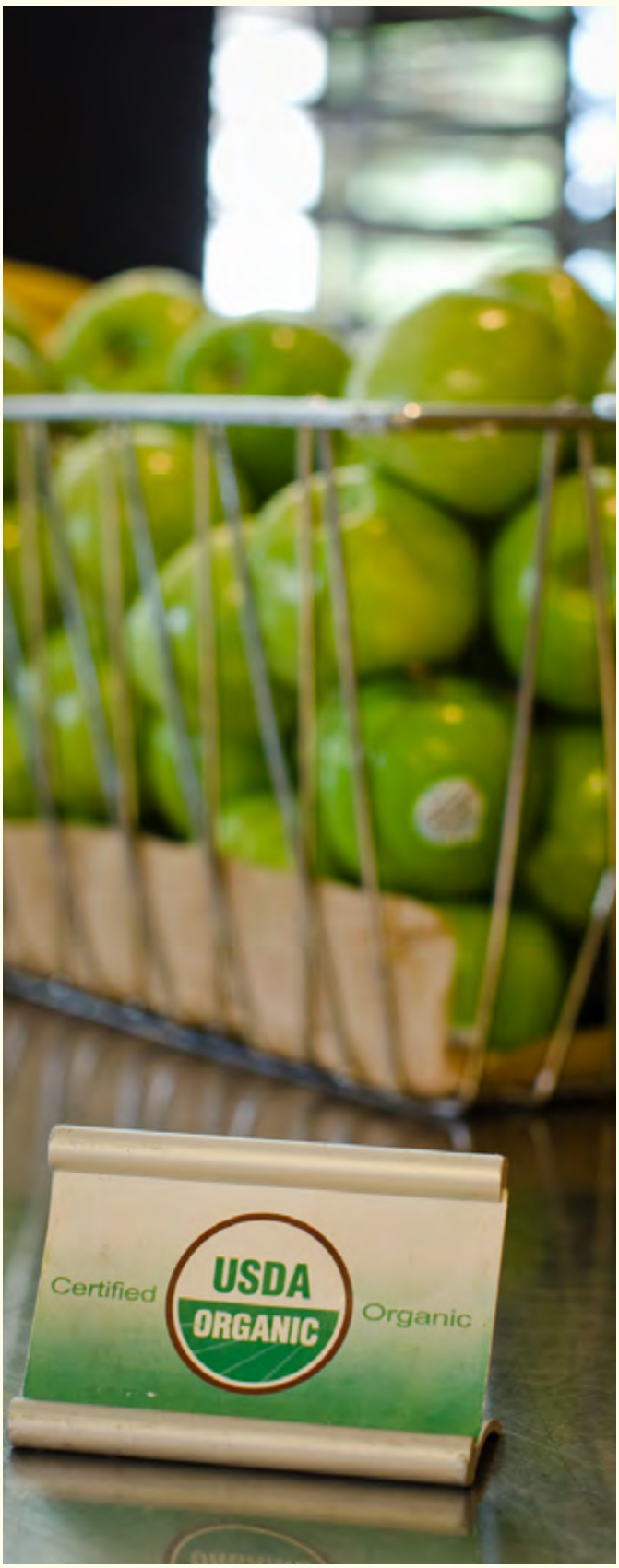
To provide sustainable and healthy food options for the campus community, while maintaining financial sustainability for the university.

BACKGROUND

UCen Dining was one of the original members of the campus sustainability group, which was created in 2005. Select campus members were trained in the Natural Step process of sustainability. Where financially feasible, the UCen has incorporated sustainable practices and purchases since the start of the campus program.

ACCOMPLISHMENTS

- Achieved 35% sustainable purchases in 2012.
- Opened Root 217, the first retail sustainable dining unit on campus.
- Awarded 'Best Practices' in 2012 by the California Higher Education on Sustainability conference committee.
- Diverted 150 tons of pre-consumer waste from landfill and composting per month.
- Achieved Santa Barbara Green Business Certification for all 10 of the UCen's dining or kitchen units
- Partnered with Facilities on the Grounds to Grounds program, diverting 90% of our coffee grounds to the campus landscape.



SHORT-TERM GOALS
JUNE 2012 – 2014

1. Eliminate styrofoam and all consumer non-compostable packaging.
2. Increase usage of Green cleaning products.
3. Add Sustainability language to Leased Tenant RFPs and Contracts as they expire.

MID-TERM GOALS
JUNE 2014 – 2020

1. Coordinate efforts with campus to designate 'compostable' trashcans for diverting our compostable paper products to satellite areas of campus and that waste from the landfill.

LONG-TERM GOALS
JUNE 2020 – 2050

1. Replace aging equipment as needed with energy-efficient Energy Star models.
2. Continue to increase sustainable food and non-food purchases.
3. Continue to write sustainability language in Leased Tenant Contracts.

POLICIES/PRACTICES

The UCen will continue to collaborate with student groups dealing with waste, the UCSB Plastic Pollution Coalition, and AS Foodbank. The Ucen will also continue to work with other campus departments to achieve sustainability goals and to participate in campus sustainability meetings.

Labs, Shops, and Studios

MISSION

To reduce the environmental impact of laboratories, medical facilities, shops, and art studios while also improving safety, management practices, communication, and resource sharing.

BACKGROUND

The Laboratory Resources, Advocates, and Teamwork for Sustainability (LabRATS) Program at UCSB assists researchers on campus in reducing their impact on the environment while also improving safety, encouraging good laboratory management practices, and promoting communication and resource sharing.

Laboratories on campus are the most intensive building spaces in terms of energy, water, and resource use, and the complex nature of lab research means every lab's needs are different. The Labs, Shops, and Studios Change Agent Team embraces the unique opportunities and challenges of reducing the campus' environmental impact in spaces where sustainability had previously been overlooked. The team recognizes that the issues of safety and sustainability are fully entwined in such spaces and that any measures that we develop must result in positive outcomes for both issues. We see this as a great opportunity to achieve multiple campus goals through integrated programs.

Many of the programs of the Labs, Shops, and Studios Change Agent Team are facilitated by the LabRATS Program. LabRATS was established in 2006 as one of the first campus laboratory sustainabil¬ity programs focused on behavioral change comprehensively across areas of energy, waste, water, and materials. The program was founded in coalition between research staff, building managers, graduate and undergraduate students, and administrative staff. LabRATS contin¬ues to merge the creativity and idealism of students with the practical advice of staff to provide support and resources to researchers.

ACCOMPLISHMENTS

- Secured stakeholder approval and launched a new laboratory recycling program in collaboration with Environmental Health & Safety, Marborg, LabRATS, Custodial Services, and more than 15 lab and building managers.
- In partnership with other campuses, increased growth of activity on the GreenLabsPlanning group with 126 total members, representing universities globally.
- Have an operating Surplus Chemical Program. As of Spring 2013, this program was able to divert 370 bottles of chemicals from waste to laboratory use.
- Re-launched the Environmental Assessment Program hosted by LabRATS, as LabSYNC, with four new levels of certification and added more options and resources for implementing new changes throughout and after the assessment.
- Hosted a demonstration of a motion activated fume hood sash closing system. Attendees included campus stakeholders in Facilities Management, as well asresearchers, lab managers, and building managers from 5 science/engineering departments, and the College of Letters and Sciences.
- Presented for numerous conferences and webinars. Recent presentations include: Labs21 Conference in Oct 2011 ("Eliminating the Vicious Cycle of Uneducated Occupants") and a special waste webinar, "Special Concerns in Recycling – Lab & Hospital Waste"
- Replaced boiler in the Marine BioTech building, following a LabRATS assessment of the Waite lab.

SHORT-TERM GOALS JUNE 2012 – 2014

1. Influence the design of Henley Hall through participation on the building committee.
2. Launch national best practice/case study website – roll out Summer 2013.
3. Identify a way to recycle, reuse, or eliminate at least two laboratory specific waste streams that we are not currently recycling.
4. Develop initiatives to better address shops and studios in the work of the Labs, Shops, Studios change agent team.
5. Develop a course module in partnership with Art Studio faculty on designing for deconstruction and recycling to be offered in three dimensional design courses.
6. Offer a workshop or seminar on good laboratory management practices.
7. Maintain a regularly updated website that is a resource to other campuses.
8. Finalize text for integrating LabRATS program into national granting agency submittals.
9. Establish a venue where researchers come together to regularly communicate, "Lab Manager's Tea Team."
10. Develop guidelines for standard laboratory practices.
11. Pilot a composting program for laboratory specific compost such as kelp and animal bedding.
12. Launch a program to support the sharing of laboratory equipment.
13. Host an event regarding sustainability efforts in student health facilities and clinics.

MID-TERM GOALS JUNE 2014 – 2020

1. Develop a regular series of laboratory management classes.
2. Expand recycling infrastructure in laboratory buildings.
3. Launch a composting program for laboratory specific compost.
4. 10% of campus laboratories have participated in the laboratory equipment sharing program.
5. 15% of laboratory groups at UCSB have had a LabSYNC assess.

LONG-TERM GOALS JUNE 2020 – 2050

1. Develop a full laboratory management training program.
2. Develop an outstanding Green Chemistry Program.
3. 50% of laboratory groups at UCSB have had a LabSYNC assessment.

- Organized a 1.5-day national lab management workshop in concert with the National Science Foundation, including more than 30 institutions.
- Developed a course module which introduces young and future researchers to how laboratory buildings work and have presented this lecture and related material to Physics, Mechanical Engineering, Materials, Electrical Engineering, and Writing Program classes.
- Eliminated the majority of mercury thermometers on the campus. Now there are less than five labs that use mercury thermometers in some situations.
- Regularly featured in case studies on laboratory sustainability and noted by other researchers, examples include an article on surplus chemical programs in the Journal of Chemical Health and Safety, Volume 19, Issue 1, January–February 2012, Pages 12–22; "Secrets revealed: Chemical surplus sharing at colleges and universities" and References in an Article in the Scientist Magazine July 2011: "How Green Is My Lab?"
- Published paper in collaboration with The Department of Energy, Lawrence Berkeley National Laboratory, and Davis on fume hood sash closure stickers: "Fume Hood Sash Stickers Increases Laboratory Safety and Efficiency at Minimal Cost: Success at two University of California Campuses"

POLICIES/PRACTICES

Green Building Practice includes language regarding Labs21 EPC guidelines and a commitment that Labs, Shops, and Studios will participate in the building committees of new laboratory buildings and renovations.

Landscape

MISSION

To increase biodiversity of the campus flora, maintain it as a living collection, and raise awareness about sustainable practices and self-sustaining systems, while reducing dependency on fossil fuels, extracted minerals, pesticides, and potable water.

BACKGROUND

UCSB is blessed by its physical location and climate, permitting the growth of both native and non-native plants on and in proximity to campus. We have developed the campus landscape as a living laboratory and classroom. We seek to preserve and extend the non-native plant diversity of the core campus, while enhancing the native habitats at its periphery.

ACCOMPLISHMENTS

- Enhanced native species on the campus periphery through ecological restoration.
- Created a wildlife habitat for native species on the campus periphery.
- Completed monthly water audits on Storke field to ensure the 164 heads are operating efficiently.
- Developed an effective composting program for all campus clippings, shredded trees, etc., returning nutrients to the soil.
- Added stronger sandbags, ensuring better water quality by eliminating the possibility of sand in runoff.

- Renewed campus storm water infrastructure, passing central campus drainage through a centrifugal trash and sediment separator before discharging filtered water into campus wetlands (Faculty Club and Library corridor).
- Developed bioswales and treatment wetlands in several areas on campus (Manzanita, San Clemente, Library corridor) to percolate water back into the soil.
- Established the first permeable pavement on main campus walkways (Library corridor).
- Reduced the use of annuals for color on campus, selecting water-efficient perennials instead, and reducing the maintenance-intensive hedges
- Upgraded our two weather stations; The Rainmaster weather station irrigation system continuously collects rainfall, humidity, wind, and temperature data, altering the irrigation and modifying the amount of water pumped. Currently, we have 60% of turf area controlled.
- Brought attention to restored natural areas and restoration projects on campus through awards from Goleta Valley Beautiful and Higher Education Sustainability Awards and through offering tours for the California Native Plant Society, Creek Week, and Santa Barbara Botanic Garden.

SHORT-TERM GOALS JUNE 2012 – 2014

1. Establish membership as a tree campus USA.
2. Raise student awareness about sustainability in the landscape through programs in Housing & Residential Services, which already has similar programs on water, energy, and food within buildings.
3. Identify campus landscape areas that we want to retain on potable irrigation for support of teaching specimens (cannot tolerate recycled water).
4. Change fossil filters in parking lots to clean and catch. The nylon bag is reusable making maintenance more efficient. A tri-mix media filtration pillow is custom blended to trap UCSB specific pollutants.
5. Train staff on cleanout technique; improve storm water efficacy in 2.8 million sqft of parking lots.

MID-TERM GOALS JUNE 2014 – 2020

1. Move to a fully computer-controlled and sensor-monitored irrigation system.
2. Map campus run-off points and develop priorities for repair and replacement, then moving to identifying funding for projects. Additionally, attempt to capture runoff from storm water and channel it to the lagoon, reducing coastal erosion.
3. Replace all irrigation heads on the main campus with water-efficient emitters.
4. Identify invasive plant infestations on campus property and seek removal.
5. Enhance the campus map of the flora to identify areas in terms of educational value and maintenance requirements.

LONG-TERM GOALS JUNE 2020 – 2050

1. Irrigate as much of the campus landscape as is feasible with reclaimed water.
2. Assess the feasibility of green roofs for use on campus.
3. Fuel the campus fleet and equipment used by grounds personnel (H&RS, FM, CCBER) sustainably with naturally-generated fuels.
4. Manage storm water through wetlands and biofiltration, using native plant species, and storage and reuse where applicable at the University.

Procurement

MISSION

To facilitate the acquisition of resources in an environmentally conscientious and socially responsible manner, while supporting the UC education, research, and public service mission.

BACKGROUND

Purchasing supports UC research, innovation, and invention of environmentally preferable systems and processes. As a research and educational institution committed to higher learning and public service, we are in a unique position to set an example and lead others toward a more sustainable future. UCSB wields a purchasing power that exceeds that of entire nations – a position that demands a high level of responsibility and stewardship.

ACCOMPLISHMENTS

- Required use of environmentally preferable modular carpet tiles.
- Established clear E-waste standards for UCSB and system-wide application across entire spectrum of contracts for electronic commodities.
- Enacted interim Sustainable Furniture policy that requires green options be selected for all furniture purchases. http://www.policy.ucsb.edu/policies/policy-docs/sustainable-procurement.pdf
- Expanded organic and locally produced food options - currently residential dining has incorporated 50.3% organics in their offerings.
- Added a 1.0 FTE Strategic Sourcing Manager position to the Purchasing staff, plus one other staffer dedicated to sustainability efforts.
- Physical Facilities and Housing & Residential Services use Green Seal certified chemicals and 100% recycled content paper in all restrooms and kitchens.
- Made Energy Star features mandatory with all new contracts for appliances, printers, copiers, fax machines, and personal computers.
- Began implementing an e-Procurement system, the UCSB Procurement Gateway (Gateway).
- Created two surplus sites to decrease purchase of new materials: chemical and equipment.

DEPARTMENT PROCUREMENT

35%

SUSTAINABLE PURCHASES

SHORT-TERM GOALS
JUNE 2012 – 2014

1. Research and implement optimization of last mile delivery for route efficiency and packaging reductions.
2. Partner with UC Santa Cruz and UC San Diego procurement teams to: 1) identify green products and services, 2) have strategic sourcing/green vendors display priority purchase options, and 3) increase the EPP reporting options.

MID-TERM GOALS
JUNE 2014 – 2020

1. Achieve a zero-waste, closed loop systems where all inputs are either recycled, composted, or reused/reprocessed/remanufactured locally.
2. Fully eliminate decentralized hard-copy catalogs – Electronic Commerce.
3. Institute E-signatures for all campus forms.
4. Continually improve and utilize matrix, criteria, and guidelines for more sustainable procurement with an emphasis on vendor selection/qualification, and increase quality points weighting for sustainability by a minimum of 15%.

LONG-TERM GOALS
JUNE 2020 – 2050

1. Be carbon neutral and generate zero emissions through travel/transport/distribution of goods.
2. Create a tier rating system, perhaps based on the U.S. Green Building Council's LEED model that includes scientifically based, neutral oversight of standards development and effective controls for validity of environmental criteria.
3. Implement UC-wide sustainability practices in 100% of UC business and investment strategies.

POLICIES/PRACTICES

BUS-43 is the UC system-wide policy for materials management, which references sustainability. UC Santa Barbara has incorporated principles of sustainable design into the procurement process and is looking to expand the scope of this effort

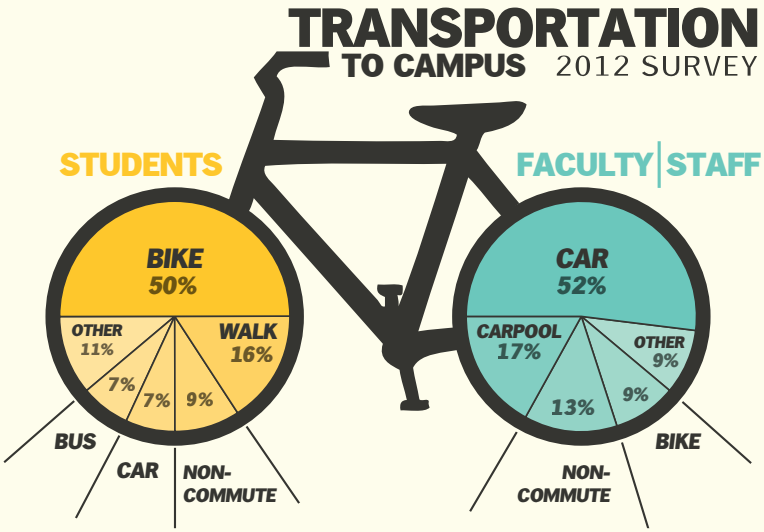
Transportation

MISSION

To reduce both consumption of natural resources and production of greenhouse gases as related to transportation, using appropriate technological, management, and behavioral solutions.

BACKGROUND

The UC Santa Barbara Transportation Department is responsible for maintaining the entire campus fleet and strives to conserve energy, reduce campus parking demand, ease traffic congestion, reduce air pollution, and reduce the campus community's contributions to global warming.



ACCOMPLISHMENTS

- Pre-tax payroll deduction for vanpool subscriptions and carpool permits
- Access to the Carpool Match Service twenty-four hours per day
- Subsidized MTD bus passes - unlimited access for all students
- Subsidized regional transit bus program for faculty and staff
- Subsidized van pools and carpools
- Access to In-Vehicle Parking Meter Technology tailored to allow the use and accumulation of 57 courtesy hours of parking per quarter
- Automatic enrollment in the "Emergency Ride Home Program"
- Access to bike lockers
- Students living farther than two miles away from campus that commute to campus by bike, bus, vanpool or carpool are entitled to six courtesy days of parking per quarter
- Formalized a bicycle path/parking improvements policy that went into effect as an interim policy on 7/1/11, and was approved as a formal policy on 7/1/12

  http://www.policy.ucsb.edu/policies/policy-docs/sustainable-bicycle-path-parking.pdf

- Formalized an alternative fuels and ultra efficient vehicle purchasing policy that went into effect 7/1/12

  http://www.policy.ucsb.edu/policies/policy-docs/sustainable-procurement.pdf

- Established an off-road diesel powered equipment idling standard operating procedure

  http://www.ehs.ucsb.edu/units/envhlth/envirhealthpdf/UCSB_Off_Road_Idling.pdf

- Tire Retread Program re-treads heavy-duty tires to conserve resources
- Car share program – free sign-up and waiver of annual fees for all members of TAP
- Fleet Services division became recognized as a Model Pollution Prevention Vehicle Service and Repair Facility by the California EPA
- Transportation Services brought together Biodiesel Industries and the Dining Commons for a program where all used cooking oil is converted into biodiesel
- Tracking and reporting of scope 3 emissions

- Tracking and reporting of Average Vehicle Ridership
- Expansion of Clean Cities C5 to the Ventura County line
- Installed twelve level 2 car charging stations
- Formalized an alternative fuels and ultra-efficient vehicle purchasing policy

ALTERNATIVE FUEL

- Campus owns 329 vehicles, of which 31% are alternatively fueled
- 16 CNG vehicles, lowering dependency on foreign oil and reducing air pollution
- 44 low-speed electric vehicles
- 16 Hybrid vehicles (Toyota Prius: 11; Chevrolet Malibu, 3; Ford Escape: 2)

CURRENT MODE SPLIT

- The 2012 campus survey of UC Santa Barbara's transportation resulted in the following breakdown:
- Staff/faculty: On average, 52% use single occupant vehicles; 17% used a carpool; 6% bus; 9% a bike; 1% used a motorcycle; 1% walk; 13% don't commute
- Student: On average, 7% use a single occupant vehicle; 3% carpool; 7% bus; 50% bike; 16% walk; 8% other/skateboard; 9% don't commute

POLICIES/PRACTICES

Data is collected on Average Vehicle Ridership (AVR) of commuters, defined as the number of trips to campus divided by the number of automobiles used for those trips (AVR = trips/# automobiles), to set goals for reduction of fuel consumption. The department reports fuel consumption annually to the Office of the President to measure fuel consumption reductions for their vehicular fleets as well as promotes student involvement to achieve sustainable transportation policies on campus through internships and/or scholarships for relevant conference attendance.

SHORT-TERM GOALS
JUNE 2012 – 2014

1. Install two additional level 2 car charging stations.
2. Install a number (to be established) of level 1 car charging stations.
3. Develop a protocol for flexible schedules that permit telecommuting.
4. Improve scope 3 emissions tracking: identify and implement a method for tracking of air miles.
5. Develop a program for campus site licenses to be shared/disseminated to users for web-based/desktop-based software to discourage air travel.
6. Establish and track the effects of a teleconferencing system for campus use.
7. Develop a calculator for parking permit holders to estimate the carbon offset their monthly commute would generate.
8. Partner with other agencies/groups to develop a local Natural Gas fueling station.
9. Ensure policy is maintained for minimum mandatory bicycle parking access in all capital improvement projects to improve bike network and encourage added bike riders.
10. Review data and establish baselines for mode splits by faculty, staff, and students and fuel consumption by fleet.
11. Develop an anti-idling policy for campus fleet.
12. Expand Clean Cities to county line.
13. Expand full bus service (until 2am) to San Joaquin and Sierra Madre (~1500 new beds).
14. Through partnerships, expand alternative fueled infrastructure. Identify UCSB research projects that can complement this project.
15. Through optimization, reduce fleet emissions with the last mile delivery program.

MID-TERM GOALS
JUNE 2014 – 2020

1. Decrease single vehicle ridership by faculty and staff by 10%.
2. Increase TAP participation by 10%.
3. Attain an alternative fuel fleet mix of 85% and a robust multi-fuel infrastructure.
4. Develop planning and funding for a north-south bike path linking the Fairview Plaza – Stowe Park area to campus.
5. Further reduce scope 3 emissions by expanding the use of teleconferencing/web options.

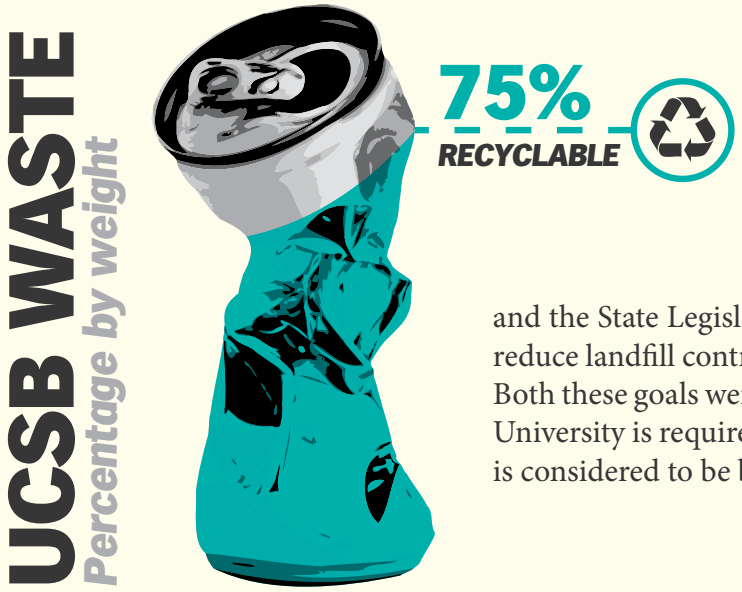
LONG-TERM GOALS
JUNE 2020 – 2050

1. Decrease single vehicle ridership by faculty and staff by 25%.
2. Further increase TAP participation by 25%.
3. Work with the local municipalities, MTD, SBCAG, and the county of Santa Barbara to develop an integrated public transit system.
4. Complete alternative fuel infrastructure and have 85% alternative fueled vehicles use over 50% renewable fuels.

Waste

MISSION

To ultimately eliminate waste streams on the campus with the eventual goal of a net zero waste campus through implementing "cradle to cradle" processes and practices. UCSB strives to reduce the amount of waste leaving the University by implementing on-campus waste management programs and practices.



BACKGROUND

The practice of reducing, reusing, and recycling has been in effect at UCSB for more than two decades. California's Integrated Waste Management Act of 1989 required UCSB to recycle 25% of its waste by 1995 and 50% by 2000. Current California Title 14, CCR and Title 27, CCR and the State Legislature bill AB939, required every large State agency to reduce landfill contribution by 25% by the year 2002 and by 50% by 2004. Both these goals were achieved by UCSB. With the addition of AB341, the University is required to achieve zero waste by 2020. At UCSB, zero waste is considered to be between 90 and 95% diversion.

ACCOMPLISHMENTS

1. 100% of green waste is composted and a portion is returned to campus as mulch.
2. Worked with the Procurement Team to implement systemwide agreements on reducing packaging.
3. Established Campus Green Awards to recognize departments with exemplary recycling programs.
4. Introduced a campus-wide e-waste collection program.
5. Expanded in-building commingled recycling infrastructure.
6. Hosted UCSB's first zero waste athletic event, Zero Waste Weekend at Harder Stadium.
7. Introduced coffee grounds compost program, which composts approximately two tons each month.
8. Established pre- and post-consumer food waste in all four dining facilities.
9. Recycled 100% of all cooking oil that is reused as biodiesel.
10. Established a campus compost system by the Arbor, Coral Tree, Courtyard Café, and Buchanan to collect food waste in solar compacting BigBelly units.

POLICIES/PRACTICES

The Campus Recycling Program:

Consists of partnerships between building occupants, Physical Facilities, and the Associate Students Recycling program. These efforts combine to provide a large component of the recycling for the University. All offices on campus have landfill and commingled recycling. There are 92 recycling clusters (Berthas) strategically located across Campus to meet the recycling needs of the UCSB Community. Other waste, such as green waste, is collected in subgrade green waste dumpsters. The green waste is collected by our waste hauler and turned into mulch before being returned to the campus grounds in landscaping.

The Housing Recycling Program & Food Waste Reduction Program:

Recycles all residence hall and office recyclables as comingled materials (plastic, glass, metal, all paper), and also recycles electronics, used clothing, batteries, scrap metal, large appliances, and motor oil. The dining commons recycles 100% of its used cooking oil, which is converted to biodiesel, and composts up to 90% of the vegetable waste and coffee grounds. H&RS has also successfully adopted a pre- and post-consumer food waste program in all four dining facilities. Through these practices, Residential Dining Services diverts 94% of material from landfill.

Environmental Health & Safety's Hazardous Materials Program:

Assures compliance with all federal, state, and local hazardous waste regulations. Materials managed include: chemicals, biohazards, radioactive materials, and electronic waste such as batteries and lamps.

Current successful practices in this area include:

- *Free pick-up and transportation of waste materials from research laboratories.*
- *Specialized facility designed for proper handling of hazardous materials.*
- *On-going measurement and verification.*
- *Campus training and education.*
- *Adopt-a-Chemical Program.*

SHORT-TERM GOALS
JUNE 2012 – 2014

1. Expand Campus Food Waste Compost Program in collaboration with MarBorg.
2. Switch from traditional food service ware to compostable food service ware.
3. Retrofit Quickcrete landfill bins with blue lids to make them recycling receptacles and pair with Keystone Ridge landfill bins.
4. Utilize the Gateway Procurement System to identify items for purchase that have minimal packaging and are made of recycled materials.
5. Conduct a closed-loop study to assess ways to determine process of waste reuse kept on-site.

MID-TERM GOALS
JUNE 2014 – 2020

1. Implement clean fuel strategies for generators.
2. Work with Transportation Services for clean fuel fleet implementation.
3. Fully implement food waste reduction program, stipulating a 50% food waste reduction in 5-10 years, 80% in 10-20 years, and 100% reduction in 20-25 years.
4. Achieve a 95% reduction of total weight of campus waste.

LONG-TERM GOALS
JUNE 2020 – 2050

1. Refine any practices that still remove or displace waste at UCSB.
2. Conduct waste management studies to determine practices and programs needed to further increase diversion rates.

Water

MISSION

To minimize potable water use on campus while striving to collect as much water as possible from within the campus footprint for first use, re-processing, and reuse. To treat storm water onsite to ensure it exits the site unpolluted. To have seawater used on campus re-enter the marine environment in a non-invasive state.

BACKGROUND

UCSB began implementing water conservation strategies in response to droughts in the early 1980's. Customary water saving strategies in campus buildings include using low-flow faucets, flush valves, and showerheads that significantly reduce water usage. In 2001, the campus began installing waterless urinals and dual flush toilets to reduce water use even further. The campus also measures and verifies campus water use.

LANDSCAPING AND IRRIGATION

Currently, irrigation accounts for only about 1% of total campus potable water use. UCSB has been proactive in integrating potable water conservation practices in this sector and has made great strides in switching from irrigating with potable to reclaimed water, reducing potable water consumption used for irrigation by 80%. The University also employs smart irrigation and xeriscaping practices. In 1994, UCSB first used recycled water for 60 % of irrigation purposes. Various recycled water line extension projects over the past eight years have increased the use of recycled water for irrigation at UCSB. We currently irrigate approximately 90% of the campus with reclaimed water.

WATER QUALITY

UCSB is committed to protecting water quality and will continue to implement best management practices (BMP) to prevent environmental pollution and improve our local watershed. The campus has a detailed Stormwater Management Plan that focuses on pollution prevention efforts and recently completed its first Water Action Plan, which encompasses strategies for water reduction, environmental protection, and smart growth. Both plans discuss how water quality is protected and improved by the collaboration of many campus departments and groups such as Campus

Planning, Design & Construction Services, Environmental Health & Safety, Facilities Management, Housing & Residential Services, and Sustainability.

BMP's to protect stormwater are implemented during three stages of operation at the University.

- *When new projects are being designed, stormwater treatment features are incorporated to manage stormwater long after construction is completed. Examples of these stormwater treatment features include rain gardens, permeable pavement, treatment devices, and disconnected roof drains.*
- *During construction of new development projects, contractors implement BMP's to prevent construction related pollutants from leaving the site and entering the campus storm drain system. Examples of these BMP's include a perimeter control, separately containing all waste and chemicals in covered storage with secondary containment, regularly sweeping all hardscape, and protecting all storm drains within and around the construction site.*
- *Daily operations and maintenance activities have the potential to cause stormwater pollution. Staff that work in areas such as dining services, facilities maintenance, fleet services, grounds, housing and residential services, and vehicle maintenance, receive training about BMP's and ways to conduct their daily activities without causing pollution. In addition, UCSB implements clean-up efforts, such as sweeping all roads and parking lot surfaces on a monthly basis, maintaining landscaped areas, preventing erosion, and continuing an impressive refuse and recycling program.*

SHORT-TERM GOALS
JUNE 2012 – 2014

1. Retrofit Toilets in Bathrooms.
2. Increase concentration cycles for Cooling Towers.
3. Hire a "Water Manager" to help with the effective and efficient implementation of water conservation programs and strategies across campus.
4. Calibrate existing industrial water meters and install new where needed.

MID-TERM GOALS
JUNE 2014 – 2020

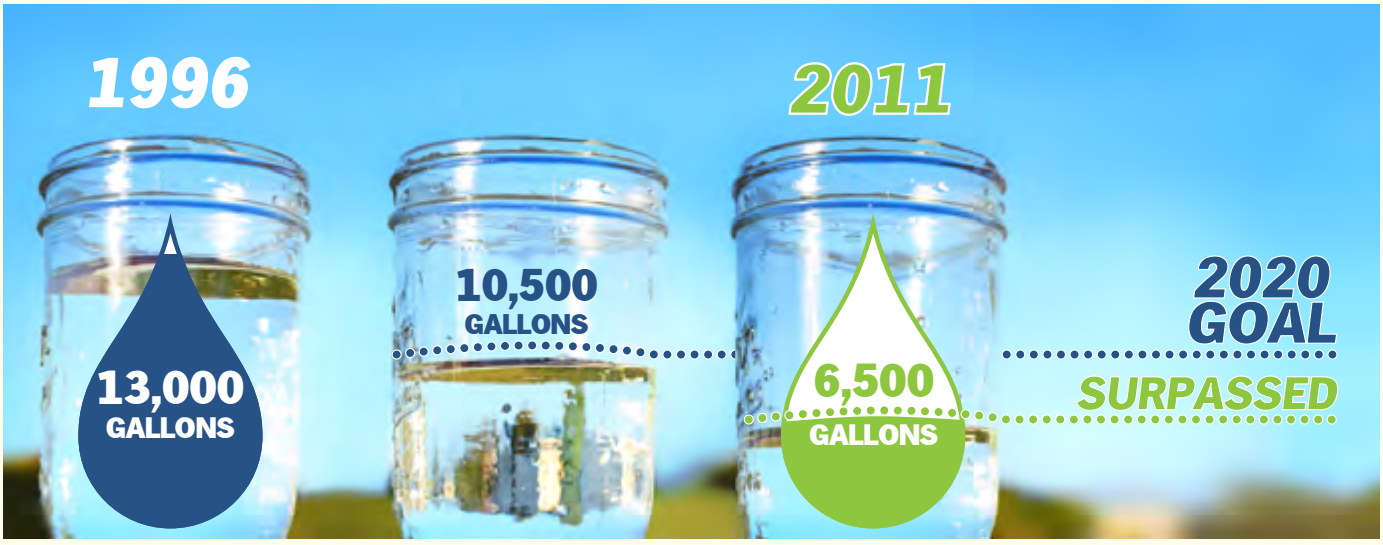
1. Use recycled water in toilets.
2. Upgrade Dining Common dishwashers in Portola and Carrillo.
3. Install real-time meters in all buildings and new construction.

LONG-TERM GOALS
JUNE 2020 – 2050

1. Retrofit urinals to .25 GPF in bathrooms.
2. Expand weather-based irrigation control systems .

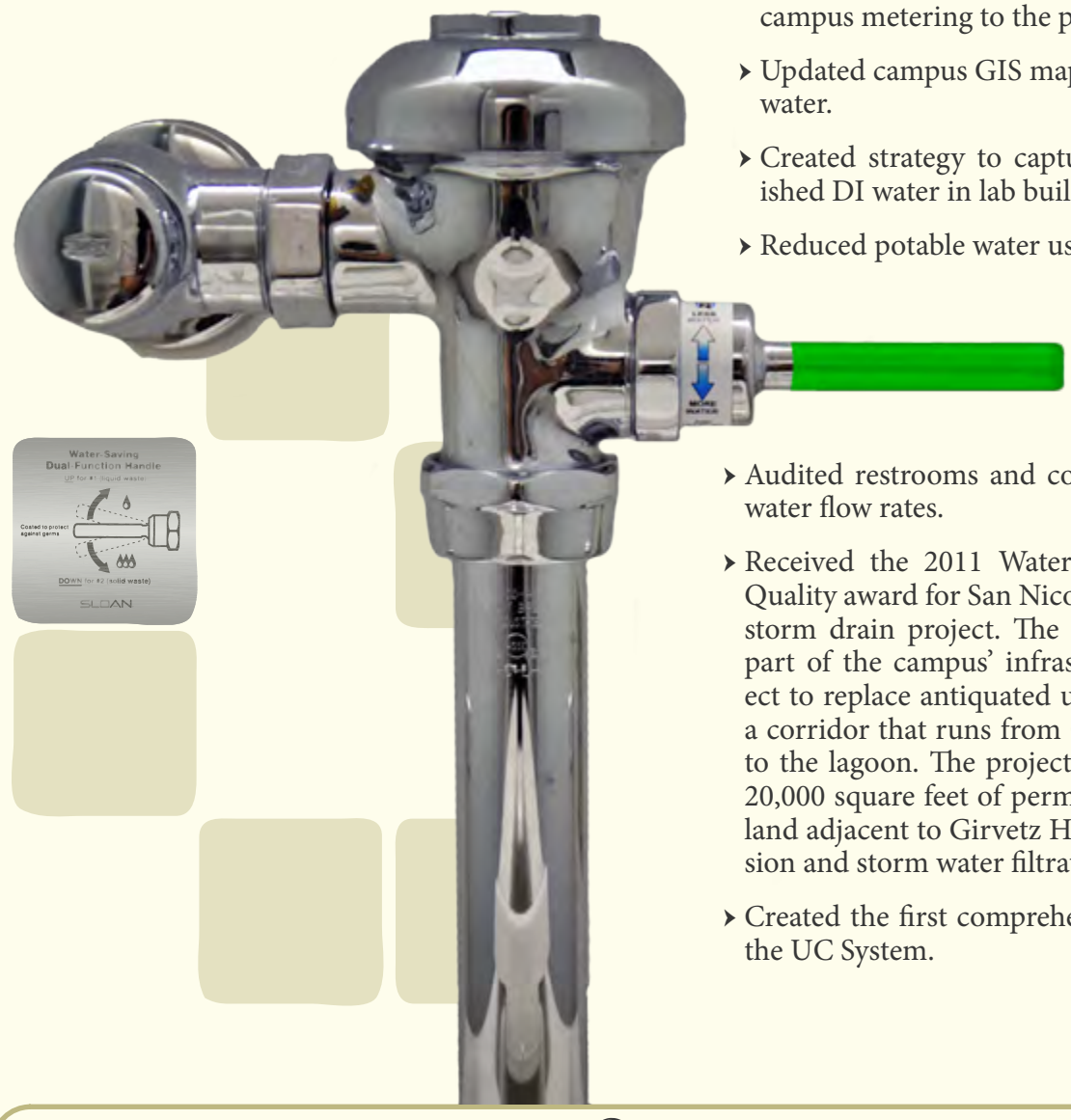
ANNUAL UCSB WATER USAGE

[GALLONS PER WEIGHTED CAMPUS USER]



ACCOMPLISHMENTS

- Converted to front loading washing machines.
- Installed more low water use dishwashers in Ortega Dining Commons and Carrillo Dining Commons.
- Converted to Energy Star Rated Appliances in H&RS.
- Installed .5gpm aerators in 13% of the campus restrooms.
- Installed dual flush valves in 20% of the campus restrooms.
- Converted to Waterless urinals in 35% of the campus restrooms.
- Installed 1.5gpm showerheads.
- Installed dual flush tanks in H&RS (1.6/.8gal).



- Extended the reclaimed irrigation system to 90% of the campus.
- Extended the weather controlled irrigation system to 85% of the campus.
- Converted to MR sprinkler rotator heads (30% more efficient).
- Gathered and assessed missing data for three water types: potable, reclaimed, and stormwater.
- Received funding from TGIF and the Coastal Fund to install 37 hydration stations across campus.
- H&RS installed hydration stations in each of the residence halls.
- Collected and assessed water data/consumption from campus metering to the public via the web.
- Updated campus GIS maps for potable and reclaimed water.
- Created strategy to capture and reuse partially polished DI water in lab buildings.
- Reduced potable water use by 25%.
- Audited restrooms and completed fixture counts and water flow rates.
- Received the 2011 Water Efficiency and Site Water Quality award for San Nicolas wetland and library mall storm drain project. The storm drain replacement is part of the campus' infrastructure construction project to replace antiquated utility lines and drains along a corridor that runs from Campbell Hall on the north to the lagoon. The project, which includes more than 20,000 square feet of permeable pavers, created a wetland adjacent to Girvetz Hall and helped with soil erosion and storm water filtration in the Campus Lagoon.
- Created the first comprehensive Water Action Plan in the UC System.

CSC SUBCOMMITTEE ON WATER

This subcommittee provides the campus with leadership and guidance for sustainable water use by:

- Working closely with PF/CCBER/H&RS on a water management plan and planning and implementing water conservation measures.
- Providing information about water use and its global environmental impact to campus constituents.
- Revisiting campus water contracts to define areas of improvement in the short- and long-term.
- Crafting water-related policy and assisting with implementation measures.
- Coordinating with Landscape group to ensure plants used on campus have minimal water needs.
- Coordinating with the SWG to see where water issues can be integrated into the curriculum: propose "plants as a learning lab" approach to using campus landscaping and grounds as a teaching tool.
- Coordinating with the Procurement group to improve purchasing practices regarding water efficient supplies and equipment.
- Coordinating with the Waste group to address "best lab practices for microchemistry" to reduce water use.