



UNIVERSITY
OF
CALIFORNIA

Annual Report on Sustainable Practices

2014

ANNUAL REPORT ON SUSTAINABLE PRACTICES 2014

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A MESSAGE FROM THE PRESIDENT



The University of California is renowned as a place where new ideas emerge, discoveries are made and world-changing advances take hold. Nowhere is that forward-leaning spirit more evident than in our commitment to environmental sustainability.

UC has more LEED-certified buildings than any other university in the country, and we continuously raise the bar on water conservation, waste reduction, energy efficiency and more. This ethos of sustainability is reflected in rankings that consistently place UC among the nation's greenest universities.

Our environmental leadership doesn't stop with operational innovations, however. Cutting-edge research from across the UC system is driving us toward sustainable solutions to some of the world's toughest problems.

Of particular note this year are initiatives that redouble UC's efforts to tackle drought, hunger and climate change. We are harnessing the research and policy expertise of the entire UC system in service to California and the world on these difficult issues. This annual report provides a wealth of detail about the good work underway, but a few items deserve special mention:

Water: In the midst of one of the worst droughts in California history, UC is using its considerable technical and policy expertise to help the state respond to the

crisis. Our campuses, meanwhile, all have adopted water action plans that will allow them to reduce per capita potable water consumption by at least 20 percent by 2020.

Food: I announced the Global Food Initiative in July 2014, an effort that brings the entire UC system together to find sustainable ways to nutritiously feed the world's growing populace. Students play an important role in this far-ranging effort. Through campus-specific fellowships, 54 students are working on issues as diverse as food security and genomic research.

Climate: UC has set the ambitious goal of achieving carbon neutrality by 2025, and we made some big strides toward that goal in 2014. In June, I formed the Global Climate Leadership Council, comprised of experts from both inside and outside UC, to guide the university's efforts. We also became an electricity service provider and used that new capacity to secure the largest solar energy purchase of any university in the country.

Sustainable investing: UC's investment portfolio now is one of the tools helping to further our sustainability goals. UC this year adopted recommendations for a sustainable investing policy and also became the first public university in the country to sign the United Nations-supported Principles for Responsible Investment.

Those are just a few of the highlights. As you'll see, we are doing so much more.

Yours very truly,

Janet Napolitano
President



EXECUTIVE SUMMARY

This 11th annual Report on Sustainable Practices summarizes the University's comprehensive sustainability program, discusses new developments — including President Napolitano's Carbon Neutrality Initiative and other sustainability-related presidential initiatives — and reports on progress toward goals in areas of the Sustainable Practices Policy (Policy). The report also includes annual sustainability highlights in: faculty, staff and student engagement; healthcare; external recognition; social responsibility and the annual California Higher Education Sustainability Conference.

President Napolitano's Carbon Neutrality Initiative commits the University to emitting zero-net greenhouse gases from its buildings and vehicle fleet by 2025, becoming the first major research University in the country to do so. As a significant first step in establishing the organizational capacity to implement its carbon neutrality plan, the University became a registered Electric Service Provider (ESP) in 2014. ESP status enables the University to self-supply electricity to campuses that have the regulatory authority to procure electricity from third parties ("direct access"). The University used this new capacity in 2014 to negotiate the largest solar purchase by any university in the country. When the two solar photovoltaic (PV) installations are completed in 2016, 80 megawatts (MW) of solar panels will supply 60 percent of the University's direct access electricity demand. The University also has over 34 MW of on-campus solar PV installed or planned.

The University's chief investment officer made sustainability a priority upon his arrival in April 2014. His office is taking the first steps to integrate environmental, social and governance factors as core components of portfolio optimization and risk management, and committed to allocate \$1 billion over a period of five years to climate solutions-oriented investments.

The University's successful energy efficiency program received approximately \$7.1 million in incentives from a utility partnership to implement 80 projects in 2014. Energy efficiency improvements implemented since the program began in 2004 allow UC to avoid approximately

\$28 million in additional energy costs annually. This program's cumulative avoided costs reached approximately \$140 million by the end of 2014.

The President's vision for carbon neutrality extends beyond business operations. In June 2014, President Napolitano formed the Global Climate Leadership Council (Council) to engage the entire university — from its medical centers and campuses to the Agriculture and Natural Resources Division — and the entire community of students, faculty and staff. In October 2014, the Council's research working group convened select UC faculty experts and sustainability officers for a two-day workshop to create a carbon neutrality research roadmap for the University.

UC campuses leverage their sustainability initiatives as opportunities to use the physical campus as a living laboratory for research and teaching. At both Davis and Riverside the campus is a test bed for integrated renewable energy, energy storage and electric vehicle systems. A campus water consumption dashboard at Davis and a rain barrel project at San Diego are addressing the need for innovative water conservation projects in a time of drought. UCLA announced a groundbreaking university-wide research initiative — the Grand Challenge in Environment and Sustainability. This initiative brings together over 160 faculty from 70 different departments who will work with Los Angeles communities to develop a comprehensive plan to achieve 100 percent renewable energy use and 100 percent local water use while enhancing biodiversity in the region by 2050.

President Napolitano launched an initiative to enhance all stages of technology commercialization. Many of the technologies and startups that result from UC's innovation directly relate to energy or the environment. Through FY 2012-13, 45 startups have formed to commercialize UC technology in industries related to energy and the environment. These startups have secured over \$5 million in Small Business Innovation Research (SBIR) funding, over \$1 billion in venture funding and bring in over \$140 million in revenue annually. Moreover — energy and environment — related inventions brought in approximately \$1.2 million in revenue for UC in FY 2012-13.

UC brought its considerable research, extension, education and operations expertise into play to help the state respond to the drought crisis. UC's Agriculture and Natural Resources Division hosted over 100 training seminars for farmers and ranchers, whose communities were the first to feel many of the drought's impact. President Napolitano committed the University to reduce per capita potable water consumption 20 percent by 2020 and called on UC's campuses to take immediate actions in response to the drought. All campuses have completed water action plans to meet or surpass the goal, and those plans include short-term actions that respond to the drought crisis.

In July, President Napolitano launched the Global Food Initiative (GFI) to rally the UC community across a wide range of disciplines to work toward a world that can sustainably and nutritiously feed itself. The GFI builds upon UC's sustainable foodservice policy, which among other things established a goal for campuses to procure 20 percent of their food from sustainable sources by 2020. This year, Davis Coffee House retail dining, Davis Medical Center, Irvine residential dining, and Irvine retail dining joined residential dining services at Berkeley, Davis, Santa Barbara and Santa Cruz, and the UCLA and UCSF medical centers in surpassing the 2020 goal.

UCSF's Academic Senate took actions to lead the healthcare industry in phasing out procurement of meat produced with the use of non-therapeutic antibiotics. All beef and poultry served by the UCLA Health System and 26 percent of UCSF Medical Center's meat is now antibiotic free.

UC has 191 LEED™ building certifications (new construction, renovations, homes, and existing building certifications), the most of any university in the country. Forty seven new certifications (seven platinum) were awarded in 2014.

In 2014, UC earned top-tier marks in all national campus sustainability rankings. Sierra magazine ranked Irvine first in its annual list of "Cool Schools." San Diego and Santa Barbara also ranked in the top 25. San Francisco and UCLA medical centers received national awards for sustainability practices. In fiscal year 2013-14, UC campuses and medical centers tallied a total of 27 awards for their leadership in sustainability.

An attachment to this report provides summaries of sustainability progress for each campus and medical center, including reporting on climate, waste, green building, sustainable food and water metrics.

OVERVIEW OF UC SUSTAINABILITY

Introduction and Background

This annual report summarizes the University's comprehensive sustainability program, especially progress on goals in each area of the Sustainable Practices Policy. The report discusses President Napolitano's Carbon Neutrality Initiative and other presidential initiatives that have a sustainability component. The report also includes annual sustainability highlights in: faculty, staff and student engagement; healthcare, external recognition, social responsibility and training (including an annual statewide conference).

UC's robust sustainability program covers all 10 campuses and five medical centers. The systemwide programs are driven by the nationally recognized comprehensive sustainability policy and leading-edge presidential initiatives.

In November 2013, President Napolitano announced a Sustainability Initiative to make the University carbon neutral by 2025. This builds on a decade of sustainability efforts by the University. UC's sustainability commitment started with a Regents' action in 2003 that led the University to adopt a Presidential Policy on Green Building Design and Clean Energy Standards. Since the initial policy adoption in 2004, the University has added seven additional policy sections, and the expanded policy is now known as the Sustainable Practices Policy (Policy). The Policy can be accessed at: <http://policy.ucop.edu/doc/3100155/SustainablePractices>.

The comprehensive definition of sustainability in higher education, developed by the Association for the Advancement of Sustainability in Higher Education (AASHE), includes areas of sustainability education, research and social responsibility. This year's annual report includes highlights from those areas in addition to reporting on progress toward achieving policy goals for business operations.

External Recognition

Even as the number of colleges and universities embracing sustainability goals has grown, UC continues to be recognized as a national leader in this area. Sierra magazine ranked Irvine number one in its annual list of "Cool Schools" in 2014. San Diego and Santa Barbara also claimed rankings in the top 25, at 17th and 24th, respectively.

Irvine and Santa Barbara were among 24 universities named to the 2015 Princeton Review's Green College Honor Roll, each earning a perfect score.

Santa Barbara renewed its Gold rating in the Sustainability Tracking Assessment and Rating System (STARS), the first UC campus to do so with STARS version 2.0. Developed by AASHE, STARS is a national benchmark for higher education sustainability. Six other campuses also have a STARS rating: Davis, Irvine and San Diego at the Gold level; and UCLA, Merced and Riverside at the Silver level.

UC medical centers are also gaining recognition for their sustainability efforts. Practice Greenhealth honored UCSF Medical Center and UCLA Health System for a fourth year in a row, with UCSF earning an Emerald award and UCLA earning a Partner for Change award.

In FY 2013-14, UC campuses and medical centers received a total of 27 awards for their leadership in sustainability. An annotated listing of all sustainability rankings and awards over the past year can be accessed at: <http://ucop.edu/sustainability/policies-reports/reports-awards-rankings/sustainability-awards-and-rankings.html>.



LIVING LABORATORY

Every campus is a living laboratory for research and teaching across a wide range of sustainability topics. The projects below highlight only a selected sample from the past fiscal year.

At Davis, faculty and students are investigating the application of solar technology to zero net energy concepts using campus student, faculty and staff housing. One project combines on-site solar photovoltaic (PV) arrays, a high voltage lithium-ion battery pack and electric vehicle charging stations to store solar energy and charge vehicles, day or night, without adding loads to the grid. Another project integrates a 24-panel PV-plus-thermal hybrid solar system with the central hot water system of an apartment building. These two systems interact with the high efficiency air-to-water heat pump to investigate how to optimize both water heating systems for multifamily applications. A third project uses an existing PV-plus-thermal hybrid solar system, a lithium ion second life battery and a home energy management system with the goal of achieving zero-net energy in a retrofit environment.

Riverside is also using the campus as a living lab to study renewable energy. In May 2014, the Riverside campus held a ribbon-cutting ceremony for its Sustainable Integrated Grid Initiative. This initiative features an integrated renewable energy system that couples four megawatts (MW) of PV energy generation, two MW of storage, smart grid protocols, and electric transportation, allowing for students and researchers to develop improved energy systems for the future. The system will provide the University with renewable energy while serving as a platform to learn about how new technologies can be applied in the real world. The initiative is a collaboration between Riverside, local, state and national governmental agencies and for-profit companies.

Water projects have increased as campuses seek to reduce their water consumption in response to California's drought crisis. At San Diego, a group of engineering students worked closely with Environmental Health & Safety and Housing, Dining & Hospitality staff to design, build and install a rain barrel collection and treatment system at a popular dining facility on campus. The system is designed to collect roof runoff, which is used to irrigate a planter box. The water passes through a media blend specifically designed to remove storm water pollutants such as heavy metals. Davis students worked with staff to develop a real-time, interactive web-based dashboard showing campus water use. The publically accessible tool tracks progress toward the campus' water reduction goal.

UCLA announced a groundbreaking university-wide research initiative — the Grand Challenge in Environment and Sustainability. This initiative brings together over 160 faculty from 70 different departments who will work with Los Angeles communities to develop a comprehensive plan to achieve 100 percent renewable energy use and 100 percent local water use while enhancing biodiversity in the region by 2050. Students interviewed faculty, identifying opportunities for applying faculty research on campus as part of the initiative. Many opportunities build on existing living laboratory projects such as a renewable energy grid-integration project that evaluates how solar-powered electric vehicles can provide temporary storage for the power grid at peak times. Another such example is the appliance-level power metering in UCLA apartments that evaluate the impact that real-time information displays have on energy conservation.

Santa Cruz captures its many living laboratory projects in a Living Lab Map that highlights sustainability features on campus that provide learning and research opportunities for faculty and students.

Policy Goals

- Reduce greenhouse gas emissions to year 2000 levels by 2014 and 1990 levels by 2020.
- Achieve climate neutrality for Scope 1 and 2 emissions by 2025 and Scope 3 emissions by 2050.
- Develop 10 megawatts of onsite renewable energy generation by 2014.



CLIMATE AND ENERGY

President's Initiative: Carbon Neutrality by 2025

In November 2013, President Janet Napolitano announced the Carbon Neutrality Initiative, which commits UC to emitting net-zero greenhouse gases (GHGs) from its buildings and vehicle fleet by 2025. This would make UC the first major research university to achieve carbon neutrality.

The initiative builds on UC's pioneering work on climate research and furthers its leadership in sustainable business practices. UC is improving its energy efficiency, developing new sources of renewable energy and enacting a range of related strategies to cut carbon emissions.

Roadmap to Neutrality

The University formed an Energy Services Unit (ESU) to implement large systemwide renewable energy strategies using the University's capability to finance projects at favorable rates. The ESU is pursuing four strategies to achieve carbon neutrality:

1. Expand the highly successful statewide Energy Efficiency Partnership program.
2. Develop a wholesale power procurement strategy that provides a steadily increasing amount of renewable power.
3. Procure large quantities of biomethane (biogas) in lieu of natural gas.
4. Proactively manage UC's carbon allowances and offsets in compliance with California's cap and trade program.

Energy Efficiency Partnership Program

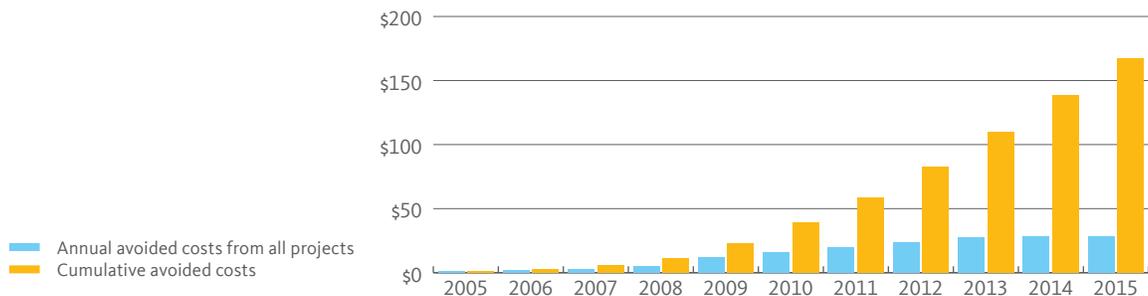
Ten years ago, the University formed a unique statewide Energy Efficiency Partnership program (the Partnership) with the California State University system and the state's four investor-owned utilities to improve the energy performance of existing buildings. The energy efficiency projects implemented through the Partnership have been the main strategy utilized by campuses to meet the 2014 Policy goal for greenhouse gas emissions reductions.

In 2014, the University received approximately \$7.1 million in incentives from the Partnership to implement 80 projects. Those projects are projected to save approximately 27 million kilowatt-hours (kwh) of electricity and 1.3 million therms of natural gas annually.

As shown in Figure 1, energy efficiency projects since the program began in 2004 allow UC to avoid over \$28 million in additional energy costs annually; UC's annual energy costs would be 10 percent higher if these projects had not been implemented. This program's cumulative avoided costs reached \$140 million by the end of 2014. Projects completed in 2014 will increase these cumulative savings to approximately \$170 million by the end of 2015. While campuses have used a portfolio approach to balance projects with shorter and longer paybacks, they have now implemented most of the "low-hanging fruit." The future focus on deeper energy efficiency retrofits to achieve climate goals will likely result in lower levels of net avoided costs because of larger up-front investments.

FIGURE 1: COST AVOIDANCE FROM ENERGY EFFICIENCY PROJECTS

(Millions of dollars, net of debt services)



Wholesale Power Procurement

This year UC became a registered Electric Service Provider (ESP). As an ESP, the university will be able to self-supply electricity to its direct access accounts (Irvine campus and medical center, Merced, San Diego campus and medical center, San Francisco and its medical center, Santa Cruz, and portions of Davis and Berkeley). The university plans to self-supply electricity beginning in 2015 to those accounts. As an ESP, UC will experience greater transparency in its energy costs as well as greater control over the renewable energy supply mix.

In September 2014, UC's new Energy Services Unit and its ESP status allowed the University to sign two power purchase agreements with Frontier Renewables for 80 MW of solar photovoltaic power capacity. Frontier Renewables will construct these two projects in Fresno County and expects them to come on line by the end of 2016. The projects secure solar energy for UC for 25 years with an estimated production of 200,000 megawatt-hours per year (MWh/year). This new solar supply will provide 60 percent of the total electricity consumed by the campuses served by direct-access accounts. The solar project will also allocate 24 percent of its output to serve Davis beyond that campus's small direct access accounts. Davis receives power from the Western Area Power Administration. The solar production allocated to Davis will supply 23 percent of its electricity demand.

The project also allows Frontier Renewables to consider educational opportunities with UC researchers and students, such as research access to solar fields, the creation of a field station on the project site and student internships.

The agreements were authorized by the University's wholesale governing board, which oversees wholesale power-related policies and actions as they relate to the direct-access accounts. The board was formed in December 2013 and consists of one representative from each of the UC locations participating in the Wholesale Power Program.

Biomethane Procurement

Natural gas consumption accounts for approximately 65 percent of the University's Scope 1 and 2 GHG emissions. That consumption primarily takes place at six cogeneration facilities that provide heating, cooling and power to campuses. Discontinuing the use of existing cogeneration facilities would be uneconomical and impractical due to the costs associated with changing campus and/or building infrastructure and the amount of debt still outstanding on the systems. Considering the proportion of the University's emissions that are from natural gas, wholesale renewable electric procurement and on-campus efficiency and renewable energy projects cannot meet the University's goal of carbon neutrality on their own. The University must incorporate a strategy that mitigates its carbon emissions in natural gas and plans to do so by using biomethane instead of natural gas. Biogas sources include landfills, wastewater treatment facilities, and agricultural waste. Biomethane is a commodity and a derivative from biogas that has been cleaned of its impurities and has identical properties to natural gas. It is therefore a perfect substitute for fossil fuel. In November, the Regents authorized the President to approve external financing of up to \$100,000,000 for multiple biomethane supply facilities over the next five years.

California's Cap and Trade Program

The California Air Resources Board (CARB) established a GHG cap-and-trade program starting in 2013 as required by AB32 — the California Global Warming Solutions Act. Based on current emissions levels, five UC campuses and one medical center are regulated under the program and required to purchase a monetary allowance for each ton of GHG they emit. Nov. 1, 2014 was the first compliance deadline and the University owned enough allowances to meet its regulatory obligations.

In April 2014, CARB approved proposed regulatory amendments to allocate allowances to the University for 2013-2020. Starting in October 2014, campuses began receiving approximately 98 percent of the allowances needed for their annual compliance. Each year thereafter, the allocation will decrease in line with the reduction in the program's overall emissions cap reduction, about 2 percent per year. The cap and trade regulations require the University to report investments in energy efficiency and other projects consistent with the goals of AB 32. The total amount of these investments should equate to the total value of the free allowances.

Due to the change in the regulations, three more UC campuses decided to "opt-in," or voluntarily comply with the regulations. As part of opting in before August 2014, these campuses will receive the same allowance allocations as obligated campuses. If the campuses did not opt-in before the deadline, they would not be eligible to receive allowances in the future. Therefore, these campuses voluntarily subjugated themselves to the regulation in order to mitigate the cost risk of surpassing the emissions threshold for mandatory participation.

Global Climate Leadership Council

President Napolitano's vision for carbon neutrality extends beyond business operations. In June 2014, President Napolitano formed the Global Climate Leadership Council (GCLC) to engage the entire university, from its medical centers to the Agriculture and Natural Resources Division, and the entire community of students, faculty and staff.

The GCLC's purpose is to advise the president, chief financial officer and chief operating officer on how to achieve carbon neutrality by 2025 and how to connect implementation of carbon neutrality to UC's teaching, research and public service mission. It is comprised of scientists, administrators, students and experts from inside and outside UC. The council is organized around key areas of contribution toward the initiative's success:

- Energy services
- Applicable research
- Campus and medical center climate action plans
- Sustainability policy
- Faculty engagement
- Student engagement
- Staff engagement
- Health sciences and services
- Financial strategies
- Communications and political advocacy

The GCLC has already made progress in several key areas. The Sustainability Policy Steering Committee revised the Policy to now include the goal of carbon neutrality by 2025 for the University's buildings and vehicle fleet (Scope 1 and 2 emissions). In October 2014, selected UC faculty experts and sustainability officers convened for a two-day workshop to create a carbon neutrality research roadmap for the University. More information on the workshop and roadmap can be found in the Research and Education section of this report. As an initial step to engage staff, UC now offers rebates for home solar PV systems and Nissan Leaf electric vehicles to all employees.

Progress towards Meeting Climate Goals

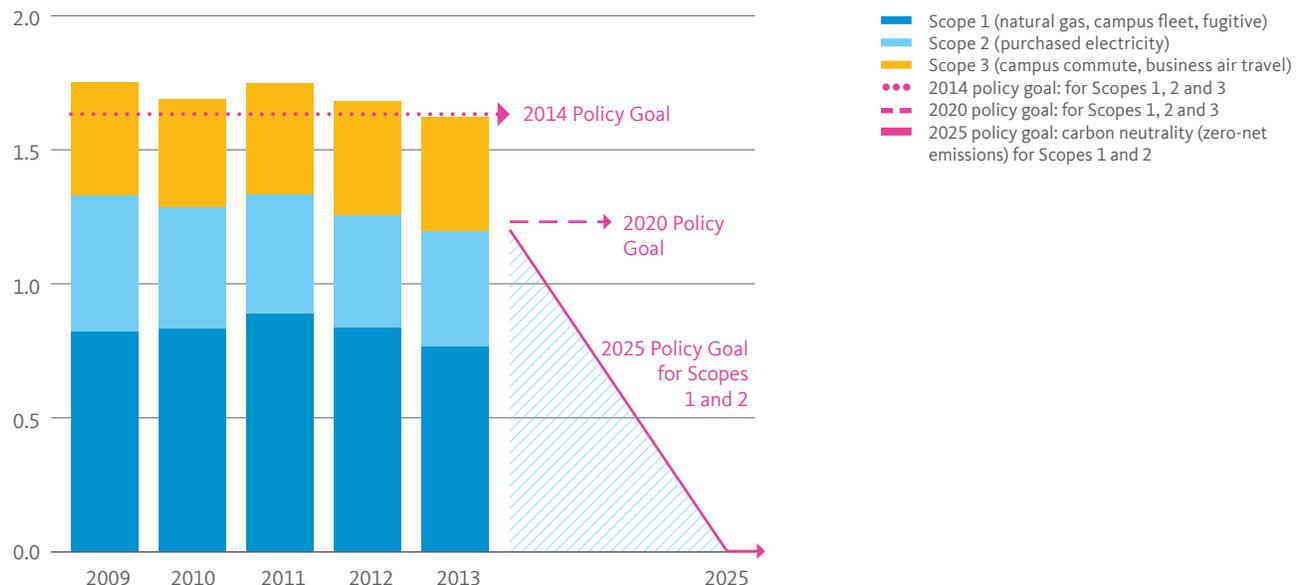
As demonstrated in Figure 2, the University’s GHG emissions totaled 1.6 million metric tons CO₂e (carbon dioxide equivalent) in 2013. Forty-seven percent of the total emissions come from Scope 1 sources — natural gas, campus fleet, and fugitive emissions (such as refrigerants or certain gases used in research). Twenty-six percent come from Scope 2 sources — purchased electricity and steam. The final 26 percent come from Scope 3 emissions — campus commute and business air travel. Despite continued growth in building space, total emissions have been declining over the past two years. The University’s total emissions are on track to fall below 2000 levels at the close of calendar year 2014.

Attachment A demonstrates each campus’ progress toward the climate policy goals. In 2013, Davis, Riverside, San Francisco, Santa Barbara and Santa Cruz emitted fewer metric tons of GHGs than in 2000; these campuses are on track to meet the 2014 policy goal. Berkeley has already achieved emissions below 1990 levels, surpassing the 2020 policy goal seven years early. UCLA has committed to meeting the 2020 policy goal in 2014.

All campuses have a climate action plan identifying measures to reduce GHG emissions. Campuses are currently in the process of updating these plans to include the 2025 carbon neutrality goal.

FIGURE 2: UC GREENHOUSE GAS EMISSIONS COMPARED TO CLIMATE GOALS

(Millions metric tons CO₂e)



On-site Renewable Energy Generation

All campuses are meeting a portion of their campus power load with carbon-neutral sources. UC has already exceeded the 2014 Policy goal of installing 10 megawatts (MW) of on-site renewable energy generation through deployment of solar PV, solar water heating and biofuels.

As listed in Table 1, UC now has 11.2 MW of solar PV capacity installed across its campuses and medical centers and another 23 MW under construction or contract. Combined, this is enough to power approximately 11,400 homes.

Solar hot water heaters partially offset hot water demand at seven residence halls at UCLA, the Maximino Martinez Commons at Berkeley*, and at Canyonview Pool and North Campus housing at San Diego.

As listed in Table 2, biofuels contribute significantly to the University's renewable energy capacity. San Diego operates a 2.8 MW fuel cell burning only biomethane. This past year, San Diego installed an absorption chiller that is powered by waste heat from the fuel cell that was previously ventilated to the atmosphere. This significantly increases the efficiency of the fuel cell. Five percent of UCLA's 40 MW cogeneration power plant is fueled by biomethane from a nearby landfill. The Renewable Energy Anaerobic Digester at Davis blends landfill gas with biogas produced by a biodigester fueled by campus and community organic waste. The system generates approximately 5.6 million kilowatt hours of electricity annually when operating at full capacity.

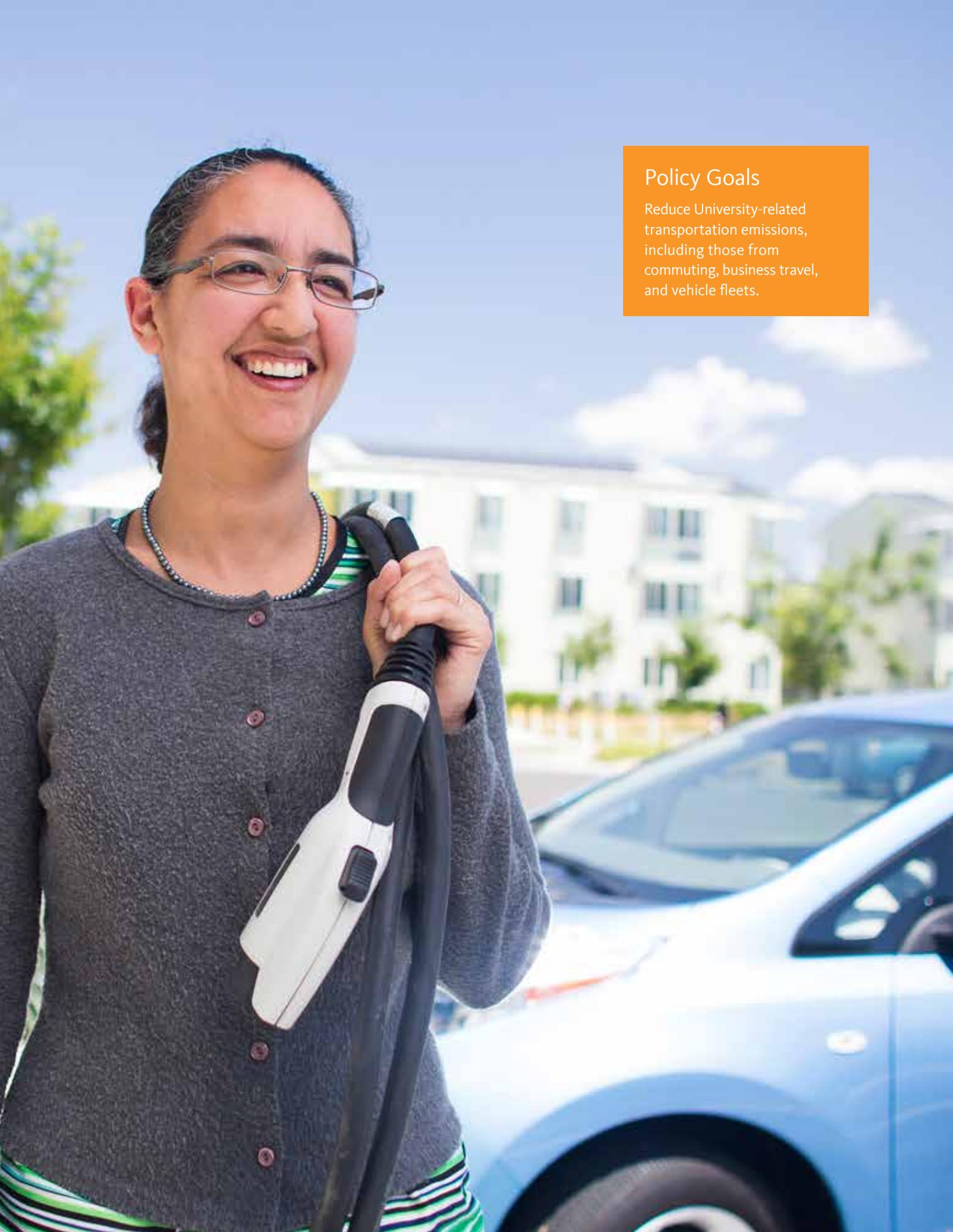
TABLE 1: ON-SITE SOLAR PV CAPACITY

Campus	Solar Capacity (kW)		
	Installed	Under Construction/ Contract	Total
UCB	80	1,250	1,330
UCD	760	16,300	17,060
UCD Medical Center	145	0	145
UCI	1,031	3,240	4,271
UCLA	39	138	177
UCM	1,000	1,000	2,000
UCR	4,000	350	4,350
UCSD	3,004	0	3,004
UCSF	250	750	1,000
UCSB	650	0	650
UCSC	250	0	250
Total	11,209	23,028	34,237

* Berkeley does not retain the environmental attributes for this installation.

TABLE 2: ON-SITE BIOGAS PROJECTS

Campus	Biogas Projects (kW)
UCD: anaerobic digester	925
UCLA: biomethane from landfill in cogeneration plant	2,000
UCSD: biomethane fuel cell	2,800
Total	5,725



Policy Goals

Reduce University-related transportation emissions, including those from commuting, business travel, and vehicle fleets.

TRANSPORTATION

Transportation-related emissions are the second largest source of campus GHG emissions, after building energy consumption. Campuses work to reduce those emissions through alternative commuting, reducing air travel and reducing emissions from their vehicle fleets.

As demonstrated in Figure 3, UC employees commute using a wide variety of transportation modes. Demand Management programs reduce single-occupancy vehicle (SOV) trips through the use of carpools, vanpools, transit, carsharing, ridesharing, bicycling and walking programs. New programs this year include the following:

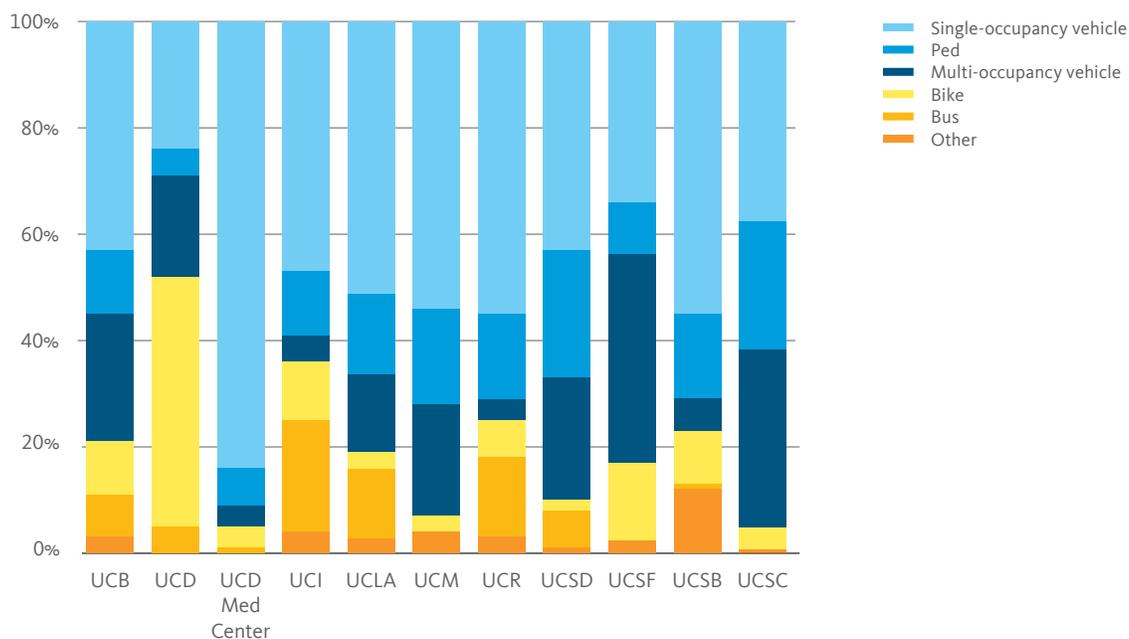
- Santa Cruz’s Walk to Class Challenge, a student peer-to-peer education program sponsored by the Provost’s Sustainability Internship program
- UCLA’s Sustainable Transportation Plan, featuring three goal areas of Commutes & Trips, Operations and Civic Engagement that aim to balance the sustainability values of economic benefit, social equity, and environmental health

- A regional electric bicycle sharing pilot program, in which Berkeley is participating. The UC Berkeley Transportation Sustainability Research Center will be studying the effects on commuters’ methods of transport and the environmental impacts of the service.

All campuses now provide electric vehicle charging systems, with nearly 200 chargers systemwide. UC has partnered with Nissan to offer a discount to all UC employees on their LEAF electric vehicles.

UC leadership in sustainable transportation is recognized nationally. The League of American Bicyclists has rated six UC campuses — Davis at the Platinum level, Santa Barbara at Gold, Berkeley, Irvine and Santa Cruz at Silver, and UCLA at Bronze. Davis, Irvine, UCLA and San Francisco made it on the national Best Workplace for Commuters list, with San Francisco being recognized as “the best university” in the country.

FIGURE 3: EMPLOYEE COMMUTE MODES



Campuses are working to improve data collection for accurate estimation of GHG emissions from air travel. Connexus (the University’s online travel portal) utilization varies by campus from 20 to 80 percent, meaning that data for air travel emissions is incomplete. Campuses provide video conferencing equipment to reduce the need to travel.

As shown in Figure 4, despite growth in the number of campus fleet vehicles, GHG emissions from UC fleet vehicles have remained relatively constant over the past five years.

FIGURE 4: GREENHOUSE GAS EMISSIONS FROM UC FLEETS

(Thousand metric tons CO₂e)



UC Leads in National Sustainable Transportation Research

The Institute of Transportation Studies (ITS) at Davis was selected in a national competition in September 2013 to lead a new two-year, \$11.2 million research, education, and outreach consortium for the U.S. Department of Transportation. Riverside’s Center for Environmental Research and Technology and four other universities have joined the consortium.

The new National Center for Sustainable Transportation will help federal, state, regional and local agencies reduce the greenhouse-gas emissions from passenger and freight travel that contribute to climate change. The center’s

research is focused in four thematic areas: zero-emission vehicles and fuel technologies, low-carbon infrastructure and efficient system operation, low-impact travel and sustainable land use and institutional change.

“The goal of the National Center is to transform the transportation system to improve environmental sustainability nationwide. We aim to provide leadership that produces meaningful action by mobilizing innovative research teams and partnering with influential stakeholders,” said Dan Sperling, director of ITS-Davis, and the new national center’s executive director.

WATER

The University brought its considerable research, extension, education and operations expertise into play to help the state respond to the drought crisis.

Even before the governor announced a drought emergency, President Napolitano committed the University to reduce per capita potable water consumption 20 percent by 2020 and called on the campuses to take immediate actions in response to the drought. The policy announced by President Napolitano requires all campuses to complete water action plans. The short-term actions in those plans served as the basis for the immediate steps campuses have taken in response to the drought crisis.

Drought Response

Education, Research, and Public Service

While continuing to do research on an array of issues, from drought-resistant crops to snow sensors to climate change, the University also provided immediate and ongoing management advice to farmers and ranchers, and many educational resources for policy makers and the general public.

Communities served by UC's Division of Agriculture and Natural Resources (ANR), such as ranchers and farmers, were the first to feel many of the drought's impacts. ANR responded immediately to the drought by organizing more than 100 training seminars and other educational events for these communities throughout the state. Examples include drought management workshops for rice farmers in Richvale, Glenn, Colusa and Yuba City, and a session for almond growers in Merced. More workshops are planned for the future.

ANR houses the California Institute for Water Resources (CIWR), whose mission is to integrate California's research, extension and education programs to develop research-based solutions to water resource challenges. The Institute developed a set of drought webpages to extend the research and extension work done on drought from around the UC system to communities throughout California and beyond. CIWR's webpage hosts a number of tools, including SierraNet real-time hydrological data and a virtual tour of California's water system, developed by researchers

Policy Goals

- Reduce per capita potable water use by 10 percent by 2017 and 20 percent by 2020 (compared to campus-specific baselines)
- Develop and maintain campus-specific water action plans

throughout the UC system. UC ANR makes many of its water conservation resources available in Spanish.

In April 2014, the Center for Watershed Sciences at Davis organized faculty from across UC campuses and other California universities to present a daylong Drought Science, Policy and Management Summit at the state Capitol. More than 200 people attended the series of panel discussions and talks on the environmental and economic consequences of the current drought and future water shortages — and how best to manage them. Topics included agricultural production and employment, the California economy, energy production and use, fish and wildlife, water conservation, public health and wildfires.

Campus Operations

UC also responded to the drought in its own campus operations. The emergency drought response measures built upon the extensive sustainable water management practices that had already reduced UC's water consumption by over 500 million gallons annually, enough to supply an entire UC campus with its annual water needs. Campuses and medical centers implemented over 160 drought-response measures, such as irrigation cutbacks, increased leak detection and correction efforts, and restroom fixture retrofits. Campuses also took outreach and education actions, including letters from chancellors to the campus community, educational websites and signage posted in restrooms and elsewhere on campus.

Because there are many complexities that affect short-term water consumption, such as weather and variability in end-uses (e.g. power generation, agriculture, hospitals), drought response measures and their results have varied.

Santa Barbara reduced water use by 21 percent from FY 2012-13, which it largely attributes to campus- and community-wide education and outreach efforts. Santa Cruz, facing a 20 percent mandatory reduction requirement from the city, reduced water consumption by an estimated 27 percent between the months of May through August 2014 compared to an average of the past two years for the same time period. UCSC’s drought response actions include reduced irrigation, outreach to conference services and summer programs, changes in cooling tower operation and reprogramming of hydrant flushing.

Long-term Water Conservation

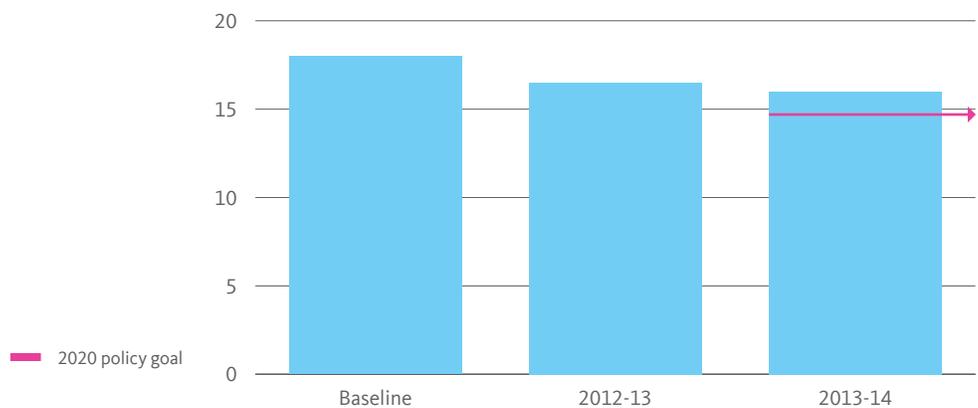
The University’s Sustainable Practices Policy includes a long-term water conservation goal of reducing per capita potable water use by 20 percent by the year 2020 compared to historical baselines at each campus. As shown in Figure 5, the University slightly reduced its per capita water consumption over the past fiscal year and is 14 percent below the University’s baseline water consumption. Attachment A demonstrates each campus’ progress toward the 2020 policy goal, which seven campuses and medical centers — Berkeley, Davis, Irvine, Merced, Santa Barbara, Santa Cruz, and San Francisco Medical Center — have already achieved. Five of these campuses have set stretch goals beyond the policy goal.

All 10 campuses and two medical centers completed water action plans that outline strategies to meet or go beyond the 2020 target. The plans include sections on the following topics:

- Consideration of more stringent potable water reduction goals if the location has already achieved a 20-percent-below-baseline reduction in per capita potable water consumption
- Location-specific strategies for achieving the target for reduced potable water consumption, with a cost analysis to support the implementation of those strategies
- Use of non-potable water sources, and how those sources factor into overall sustainable water systems strategy
- Education and outreach, including engagement and behavior change campaigns targeting students, faculty and staff, as well as living laboratory opportunities that use the campus to pilot new technologies or programs.

San Francisco won the Water Efficiency Best Practice Award at the 2014 California Higher Education Sustainability Conference for their laboratory water conservation program. By retrofitting and decommissioning outdated lab equipment, the campus is saving 3.6 million gallons of water annually.

FIGURE 5: UC PER CAPITA POTABLE WATER CONSUMPTION
(Thousands of gallons per capita)



GREEN BUILDING

The University of California has 191 LEED certified projects (new construction, renovation, homes and existing building certifications), the most of any university in the country. As shown in Figure 6, 51 of these projects were certified in 2014, with seven earning Platinum certification, 39 earning Gold, and five earning Silver. Campus profiles starting on page 44 tracks each campus' LEED certifications over time and a complete list of all UC LEED certifications is available at: <http://ucop.edu/sustainability/programs-initiatives/green-building/uc-leed-certified-projects.html>.

Energy Efficient Design of New Buildings and Major Renovations

The Policy requires all new construction and major renovation projects to register with the Residential or Non-Residential New Construction Programs (formerly the Savings By Design™ Program). These energy efficiency programs, offered by California's four investor-owned utilities and the Sacramento Municipal Utility District, provide design assistance, energy analysis, life-cycle costing and financial incentives to help projects exceed the energy provisions of California's Building Code (CBC). To date, 231 University projects (more than 28 million gross square feet) have registered with these programs. The utilities project these energy efficiency design measures will earn \$15 million in incentive payments, and will avoid \$8.9 million in annual energy costs.

The University is evaluating benchmark-based, whole-building energy performance targets as an alternative Policy goal for energy efficiency in new buildings. The UC Office of the President (UCOP) and the California Institute for Energy and the Environment (CIEE) together have developed these targets for all campuses. Energy performance targets have been in use at Merced since its founding, and will be a crucial tool to enable the campus to achieve its zero-net-energy and zero-GHG-emissions commitments.

Policy Goals

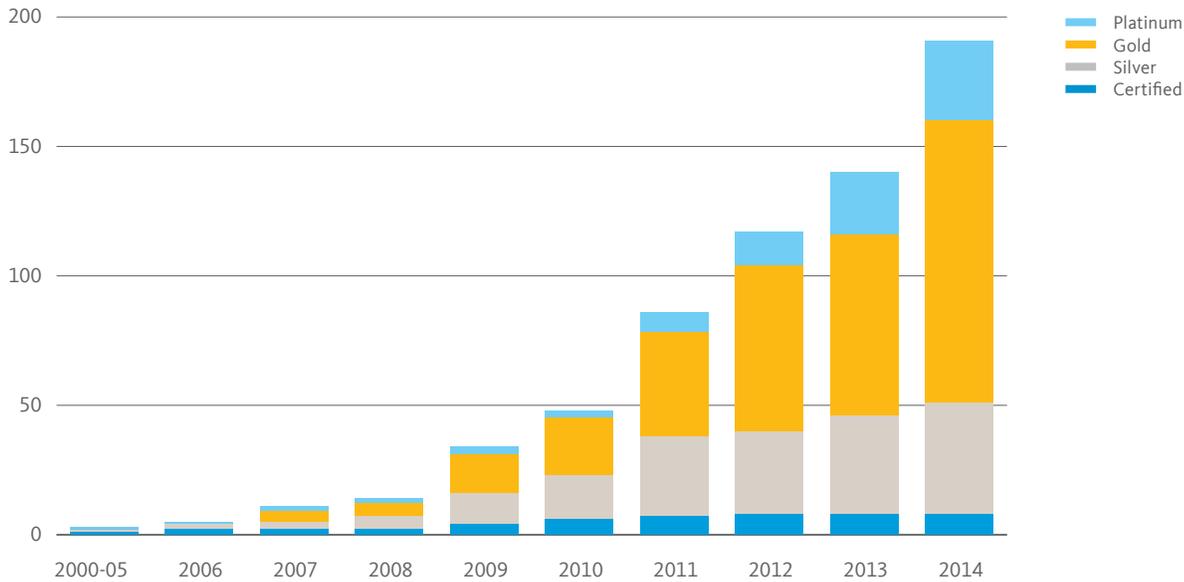
New Buildings and Renovations

- Design and construct all new buildings to a minimum LEED Silver rating.
- Design and construct all renovation projects with a cost of \$5 million or greater (except acute care facilities) to a minimum LEED Certified rating.
- Outperform the energy provisions of the California Building Code by at least 20 percent on all new construction and major renovation projects (except acute care facilities).

Existing Building Operations and Maintenance

- Each campus will submit for certification one pilot building at a LEED-EBOM Certified level or higher.
- Each campus shall register a campus-wide LEED-EBOM master site by July 1, 2015, to streamline the certification of multiple buildings through the LEED-EBOM rating system.
- Each campus shall seek to certify as many buildings as possible through the LEED-EBOM rating system.

FIGURE 6: CUMULATIVE NUMBER OF SYSTEMWIDE LEED CERTIFICATIONS BY YEAR



Green Building Operations

UC uses the LEED for Existing Buildings: Operations and Maintenance (EBOM) rating system to evaluate and improve the environmental performance of existing facilities. UC buildings have received 22 LEED-EBOM certifications and 16 additional projects are in progress or in planning. Santa Barbara leads the nation with 10 certifications, more than any other university.

Seven UC campuses have initiated certification for campus-wide LEED-EBOM credits and prerequisites. The campus-wide certification option was pioneered by UC, resulting in streamlined documentation for individual projects. Davis, Irvine, Merced, Riverside, Santa Barbara and Santa Cruz have already earned certification of those credits. The remaining campuses need more staff resources and funding for additional building metering to participate in the campus-wide certification program.

LEED Platinum Certifications

UCD Segundo Services Center

The three-story Segundo Services Center on the Davis campus houses many of the Segundo student housing area’s services. Through efficiency features such as chilled beams, demand control ventilation — including operable windows — and high-efficiency glazing, the building outperforms CBC energy standards by 27 percent. Low-flow fixtures reduce indoor water use by 43 percent and rain sensors and pressure-regulating sprinklers reduce outdoor water use by 52 percent. The center’s most striking feature is its 1,500-square-foot rooftop garden of drought-tolerant grasses. The roof also hosts a solar PV array that offsets eight percent of the center’s annual energy costs.

UCI Contemporary Arts Center and Production Studio

The Contemporary Arts Center is Irvine's most recent addition to the Claire Trevor School of the Arts and includes many innovative educational spaces, including a state-of-the-art recording studio, performance capture studio, and costume design studio. A black box theater and an art gallery are located within the building's center as these two spaces are the only functions that need climate control. Surrounding these two spaces are classrooms, labs, offices and studios spaces, all of which have access to daylight and breezes. A ventilation shaft and operable skylights allow hot air to vent up and out and sunlight to shine in. Metal vertical louvers act as sunshades for exterior hallways. Outside, landscaping will provide a shady public plaza with seating made from recycled telephone poles.

UCLA Fielding School of Public Health Renovation

The renovation of UCLA's Fielding School of Public Health is UC's first LEED-Platinum certification for Commercial Interiors. In addition to providing new gathering spaces for the school, the renovation greatly improves access to the entire Center for Health Sciences complex. The renovation prioritized both water and energy efficiency, with a 37 percent reduction in water consumption and over 30 percent reduction in heating, ventilation and air conditioning energy consumption compared to code. The building optimizes lighting performance through LEDs (light-emitting diode) and daylight sensors. The project reused 100 percent of the existing furniture.

UCM Student Activities and Athletics Center

Merced's Student Activities Center increased the campus' recreation space by nearly 70 percent. The building is designed to outperform CBC energy standards by 30 percent and achieve a 50-percent-of-benchmark energy performance target developed by UCOP and CIEE. Efficient fixtures reduce the building's indoor water use by more than 40 percent and native and drought tolerant plants keep outdoor water consumption low.

UCSD Scripps Institute of Oceanography MESOM Lab

The Marine Ecosystem Sensing, Observation and Modeling (MESOM) Laboratory at San Diego's Scripps Institution of Oceanography is San Diego's first LEED Platinum for New Construction certification. The building was designed to bring together Scripps scientists from multiple disciplines to develop new sensors that will provide data to integrate observations and predictive models of California's near-shore waters and coastal ecosystems and their responses to climate change.

Sustainable features include regionally sourced materials for the exposed concrete structure, which provides thermal mass; analyzed and reduced air flows in the laboratories; water-efficient landscaping focused on restoring native coastal plant species; use of Forest Stewardship Council-certified wood at exterior siding and shade screens; and use of high solar reflectance index roofing materials. The energy-intense laboratory space is located in the core of the building, and all offices and two-thirds of the labs are naturally ventilated.

Berkeley Lab Building 74

Building 74, which houses the Earth Sciences Division, is Lawrence Berkeley National Laboratory's first LEED Platinum Certification. Originally a collection of seven different increments built between 1960 and 1990, the renovated building is designed for flexibility and connectivity. Sustainability features include the use of high-efficiency rooftop air conditioning units, a "cool roof" made of sun-reflecting materials, solar hot water heating panels, a new centralized heating and plumbing network, and computer-controlled heating, cooling, ventilation and lighting. Cutting a bank of new high-efficiency windows into the previously windowless middle floor of the east wing provides views and daylighting.

Policy Goals

- Divert 75 percent of waste from landfills by 2012 and achieve zero waste by 2020.
- Prioritize waste reduction in the following order: reduce, reuse, recycle.



ZERO WASTE

As shown in Figure 7, the University diverted 63 percent of its waste from landfill in FY 2013-14. Attachment A shows each campus' progress toward the ambitious 2020 zero-waste goal (defined as 95 percent waste diversion). At 93 percent waste diversion, Irvine is only two percentage points away from achieving zero waste. The campus has been able to achieve this impressive waste diversion rate through a comprehensive, campus-wide recycling and composting program, which includes laboratory buildings and residential facilities. Five of Irvine's buildings are certified zero waste and another two are expected to receive certification in 2015. No other campuses were able to maintain the interim target of 75 percent waste diversion from landfill, although Davis, Merced, Riverside, San Francisco, and Santa Barbara came close.

Five campuses and medical centers increased their waste diversion rates (excluding construction and demolition — C&D — waste) between FY 2012-13 and FY 2013-14. The University reports waste diversion numbers both with and without C&D waste because C&D waste is highly variable each year and can make up a significant portion of waste weight, skewing and obscuring results of other waste diversion efforts.

With an ultimate goal of zero waste, UC also tracks landfill waste in pounds per weighted campus user (also shown in

the campus profiles starting on page 44 for each campus). This metric stayed consistent or decreased on most campuses between FY 2012-13 and FY 2013-14. Irvine sent the least amount of waste per capita to landfill, at 100 pounds.

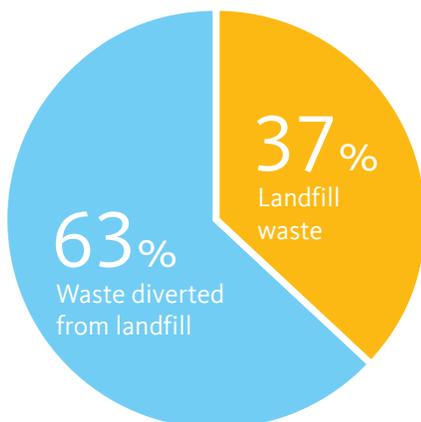
Santa Cruz won the Waste Reduction Best Practice Award at the California Higher Education Sustainability Conference for changing the way it charges for waste pickup. Industry-wide, the standard is to charge based on a set volume and frequency. The charge is the same whether the bin is full or not, which does not incentivize waste reduction. By charging based on weight, the campus has been able to reallocate staff resources to use them more efficiently, and to build in price incentives for waste reduction and diversion. This new practice complimented Santa Cruz's first-ever Chancellor's Sustainability Challenge, which focused on waste reduction. The Challenge resulted in over 700 personal pledges and a 12 percent reduction in food scraps and compostable paper.

Other campuses are also making strides in waste diversion efforts. Merced installed a state-of-the-art waste sorting line. When complemented with smaller office waste bins, the new sorting line has the potential to increase the campus' waste diversion rate up to 85 percent. Davis has devised a method to clean and reuse gravel used for lining animal pens by using a cement mixer, a gold mining sluice and tertiary-treated effluent from the campus wastewater treatment plant. With this process, the campus will annually divert 25 percent of formerly landfilled waste.

Zero waste sporting events are now prevalent on many campuses. All football events at Davis and all football and basketball events at Berkeley are zero waste events, with Berkeley defending its first-place title in the national collegiate waste-diversion RecycleMania "Game Day" competition. Santa Barbara holds an annual zero-waste weekend at its stadium for the men's soccer game. Not only do these zero waste sporting events address a major source of campus waste, they also educate a wide audience on sustainable practices.

Additional waste reduction initiatives are highlighted in the "Food" and "Healthcare" sections of this report.

FIGURE 7: UC WASTE DIVERSION



Policy Goals

Procure 20 percent sustainable food products by the year 2020 for campus and medical center foodservice operations

Certify at least one foodservice facility on each campus as a green business.

Educate both patrons and foodservice staff about sustainable food products and sustainable operations.

Feeding the World

UC President Janet Napolitano launches an audacious and far-reaching goal: harnessing the collective power of UC to help put the world on a path to sustainably and nutritiously feed itself.



FOOD

Global Food Initiative

In July 2014, President Napolitano launched the Global Food Initiative (GFI) to rally the UC community over a wide range of disciplines to work toward a world that can sustainably and nutritiously feed itself as population grows to an expected 8 billion people by 2050. This new initiative will involve documenting and promoting best practices in sustainable food sourcing within the University, as well as leveraging UC’s research to help individuals and communities access safe, affordable and nutritious food while sustaining natural resources. In addition, GFI will deploy UC’s research to shape, impact and drive policy discussions around food security, health and sustainability at the local, statewide, national and international levels.

The current systemwide Sustainable Food Service Working Group (SFSWG) will work with the GFI and its subcommittees to provide data, best practices and resources to assist their efforts.

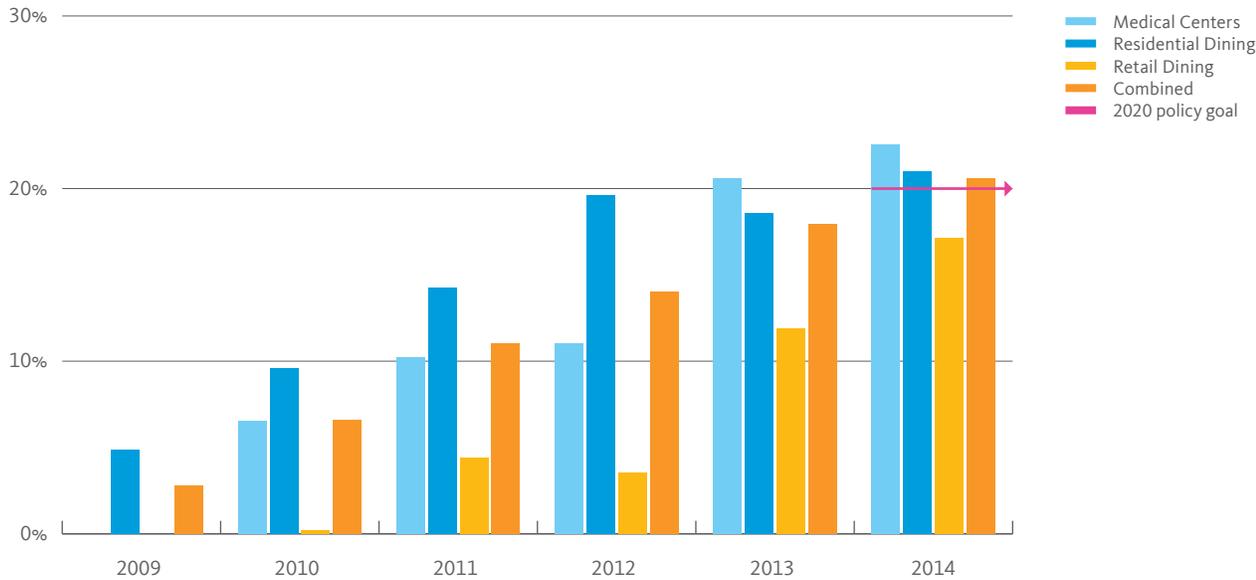
Sustainable Food Procurement

As shown in Figure 8, the University’s sustainable food procurement practices shifted \$25.7 million (20.6 percent of total reported annual food expenditure) toward local, fair, ecologically sound and humane food sources. The average percentage of reported sustainable food purchases increased for residential dining (21 percent), medical centers (23 percent) and reporting retail vendors (18 percent).

Purchases

Campus profiles starting on page 44 demonstrate the progress each campus and medical center is making to meet the 2020 policy goal of procuring at least 20 percent of their food from sustainable sources. In FY 2013-14, Davis’ Coffee House retail dining, Davis Medical Center, Irvine residential dining services, and Irvine retail dining joined residential dining services at Berkeley, Davis, Santa Barbara and Santa Cruz, and UCLA and UCSF Medical Centers in surpassing the policy goal.

FIGURE 8: PERCENT OF SUSTAINABLE FOOD



At least six campuses have initiated campus farm-to-fork sourcing efforts that include dining-supported herb and produce gardens and campus-based farm sourcing.

Education and External Stakeholder Engagement

Campus and medical center dining staff have worked with other campus units and nonprofit community partners to explore production planning with small- and medium-size growers, new vendor options to increase regional food and farm suppliers, including seafood, and methods to work with businesses as part of a farm-to-fork solution. In 2014, Berkeley launched the Berkeley Food Institute, dedicated to research, education and policy initiatives and practices to support sustainable food and agriculture.

UCLA Dining Services' Bruin Plate Restaurant received the CHESC Energy Efficiency & Best Practice Award in Sustainable Foodservice in 2014. In its first year of operation Bruin Plate sustainable food expenditures exceeded 30 percent of total food purchases.

As part of the Global Food Initiative, UC campuses and medical centers celebrated Food Day on Oct. 24, 2014, joining a nationwide campaign encouraging Americans to change their diets and advocate for improved food policies. Six UC campus dining organizations — Berkeley, UCLA, Merced, San Diego, San Francisco and Santa Cruz — hosted lunches or dinners highlighting the availability of fresh, local ingredients that showcased the sustainable and nutritious foods served regularly by campuses. Several campuses hosted lectures and panel discussions by faculty experts and food movement leaders such as Jonathan Gold and Mitchell Thomashow. Many campuses offered fresh produce and other local goods with farmers markets or farm stands.

Riverside's retail and residential programs launched a weeklong celebration in April focusing on Earth Day and sustainable food systems. Foods served included free vegan tacos made with locally sourced ingredients, fresh squeezed juice made from tree-ripened oranges from the UCR Citrus Varietal Collection and kale salads to promote the nutritional benefits of the vegetable. Food events were supplemented with a digital display campaign and food waste reduction challenge.

Sustainable Foodservice Operations

Campuses continue to improve upon sustainable foodservice operations practices. Ronald Reagan UCLA Medical Center's dining commons joined the University's 57 certified green restaurants in FY 2013-14. Demonstrating leadership in response to the drought, UC foodservice operations implemented innovative best practices in water conservation, including non-boiler-based food steamers, infrared controls for dish scraping water nozzles, low-flow spray head installations and limited force thawing.

In 2014, Davis became Food Recovery Certified by the Food Recovery Network. This certification recognizes and rewards businesses for donating surplus/unsold food to local nonprofits and raises awareness about the benefits of food recovery.

HEALTH CARE

The University's medical centers are increasingly earning recognition for efforts to save money and conserve natural resources while modeling healthy, sustainable business practices. Highlights in the past year include advances in sustainable food procurement and increased engagement in sustainability across all departments.

Sustainable food is often a starting point for health-care sustainability efforts because of the role that food and diet play in healthy communities. All medical centers have made steady increases in sustainable food procurement over the past fiscal year, with UC Davis, UCLA and UCSF meeting or surpassing the 2020 policy goal of 20 percent sustainable food procurement. Those three medical centers achieved 20 percent sustainable food purchases, 30 percent and 27 percent, respectively. UC Irvine and UC San Diego also are on track to meet the goal at 16 percent and 15 percent, respectively.

UCLA's Ronald Reagan and Santa Monica Medical Centers and UCSF Medical Center now offer antibiotic-free meat to their patients and visitors. All beef and poultry at the UCLA medical centers and 26 percent of the meat served at UCSF Medical Center are antibiotic-free. The menu changes were spurred by the public health challenge caused by the dwindling effectiveness of key antibiotics. A growing body of research demonstrates that an overuse of antibiotics in cows, chickens and other food-producing animals has helped make bacteria resistant to commonly used antibiotics, leading to more antibiotic-resistant infections in humans.

Waste reduction in the healthcare environment offers the potential for significant cost savings. UCSF Medical Center reported close to \$800,000 in savings in FY 2013-14 by transitioning to reusable products such as pillows, sharps containers, and sterilized and reprocessed invasive devices such as cardiac catheters, suture passers, ultrasonic scalpels, drill bits and burrs. UCLA Health is expanding its washable isolation gowns (worn as protection against infectious materials) program, diverting 190 tons of disposable

gowns from the landfill and saving over \$710,000 since the program began in May 2012. The program has also led to an evaluation and new policy on when isolation gowns are needed, leading to a 50 percent decrease in their use.

UC medical centers have been doing their part in responding to California's drought crisis by cutting back on irrigation water, identifying and fixing leaks, and replacing old fixtures and appliances with new water-efficient ones. UC Irvine Medical Center completed a comprehensive indoor water audit that identified water savings potential of over 14 million gallons per year, or 19 percent of their baseline water consumption.

UC Davis Health System has been pioneering energy efficiency projects despite the continued challenge of meeting California Office of Health Planning and Development (OSHPD) requirements. Replacement of two boilers to boiler-less Energy Star-rated steamers resulted in close to 79,000 kWh of energy savings per year. Two LED (light-emitting diode) light bulb retrofit projects led to electricity savings of over 180,000 kWh per year. All three projects combined save enough energy to power approximately 40 California households.

UC medical center sustainability is not only limited to operations. UC Davis, UCLA, and UCSF medical centers engage their staff in sustainability initiatives through sustainability committees and sustainability liaison/advocate programs, which include representation by nurses, clinic managers, human resources, IT and administration staff, among others. The UCSF's Chancellor's Advisory Committee on Sustainability and the Academic Senate Committee on Sustainability hosted a Health and Sustainability Summit that gathered leadership from across the campus and medical center to identify top strategies for positioning the campus as a national leader in health and sustainability by 2025. The summit evaluated recommendations put forth from leading experts on the topics of health and climate change, toxics reduction, and healthcare operations.

The sustainability accomplishments at UC's medical centers have led to national recognition by the healthcare industry. UCSF Medical Center won the second annual Sustainability Award from the University Healthcare Consortium (comprising 450 academic medical centers and affiliate hospitals worldwide). Practice GreenHealth presented UCSF Medical Center with an Emerald award and two Circles of Excellence awards in categories of Climate (for its greenhouse gas emissions tracking and reporting) and Green Building (for construction of its Medical Center at Mission Bay, which are pursuing a LEED Gold rating). Practice GreenHealth also presented UCLA Ronald Reagan and Santa Monica Medical Centers with a Partner for Change award for the fourth year in a row and a first-time Making Medicine Mercury-Free award. UC San Diego Health System received a Gold Award "for outstanding performance in reducing environmental harm and improving overall hospital quality through medical device remanufacturing and reprocessing," from their primary medical supply reprocessing vendor. UCSF Medical Center also received a Healthy Hospital Award for medical supply reprocessing.

STAFF DEVELOPMENT AND SHARING BEST PRACTICES

California Higher Education Sustainability Conference

San Diego State University hosted the 13th annual California Higher Education Sustainability Conference (CHESC), a unique statewide collaboration between UC, California State University (CSU), California Community Colleges (CCC), and private colleges and universities in the state. The 2014 conference attracted 740 attendees from 60 colleges and universities, including 240 students. Programming spanned five full days of sharing sustainability best practices and learning about innovative research and new technologies.

The UCOP-led Energy Efficiency and Sustainability Best Practice Awards were presented for the 10th year and recognize UC and CSU energy and sustainability projects. Case studies of energy efficiency-related best practice award winners are available online at: http://greenbuildings.berkeley.edu/best_practices.htm.

Training

UC promotes excellence in sustainability through workshops and professional certifications for staff. The Energy Efficiency Partnership program (the Partnership) with CSU and the state's four investor-owned utilities provides funding for energy efficiency and green building training. UCOP manages this training program to impart skillsets necessary for successfully implementing the Partnership's investments in energy efficiency while also targeting training topics to achieve the Policy's goals. A total of 251 person-days of training were delivered in 2014 for UC and CSU staff, including certification trainings for building operators and energy managers.

- Staff from northern UC campuses attended a workshop on the development and use of energy benchmarks for use as design targets for new buildings. This complemented a southern California training session that took place in December 2013.
- Davis, Riverside and San Diego hosted trainings on the new version of LEED for New Construction, LEED v4. The sessions focused specifically on how LEED v4 will impact UC buildings.
- Irvine hosted a Smart Labs training, sharing with their colleagues across the UC and CSU systems how to reduce lab building energy use by 50 percent.
- Trainings in both northern and southern California covered how changes in the 2013 California Building Code's Energy Efficiency Standards (which came into effect in July 2014) will affect retrofit and renovation projects.
- Energy managers from both UC and CSU convened twice in 2014 to share best practices on energy efficiency hot topics such as lighting power density and monitoring-based commissioning.
- CHESC hosted Sustainable Operations Day as a post-conference workshop focused on how to gain energy savings in existing buildings through energy audits, retro-commissioning, optimizing ventilation and energy benchmarking.



UC Merced's Vernal Pools and Grasslands Natural Reserve.

In fiscal year 2013-14, reserves were visited by more than 7,100 research scientists, 4,600 research faculty, 8,700 graduate student researchers, 18,000 undergraduates and 34,000 schoolchildren; virtually all came to study the natural environment. The 39th reserve, 6,530-acre Merced Vernal Pools and Grassland Reserve, joined the system in January 2014.

RESEARCH AND EDUCATION

This year's report focuses on three specific programs or research areas that make substantial contributions to sustainability research: applied research on climate solutions, President Napolitano's Technology Commercialization Initiative and the UC Natural Reserve System. This report also provides highlights campus-level Academic Senate bodies that are working to advance sustainability education programs. The information below is only a fraction of the multitude of sustainability education and research activities within UC. New systemwide working groups established by President Napolitano's Global Climate Leadership Council (GCLC) will work in the coming year to inventory that universe of sustainability education and research and allow for more comprehensive reporting in the future.

Applied Research on Climate Solutions

The GCLC charged an Applied Research Working Group with advising on research priorities for meeting President Napolitano's 2025 Carbon Neutrality goal. In October, the working group organized a two-day workshop of leading researchers and sustainability practitioners from all 10 campuses, three affiliated national laboratories and the division of Agriculture and Natural Resources to develop a carbon neutrality research roadmap for the University. The workshop resulted in the following set of recommendations that emphasize the high priority applied research investments that will substantially contribute to achieving the 2025 neutrality goal:

1. Accelerated research in biofuels, especially biomethane as an alternative to natural gas
2. Systems integration research related to campus-level smart microgrids, including the development of on-site storage technologies
3. Technologies for building efficiency such as advanced lighting systems, smart building management systems and electrification of heating systems via advanced heat pumps
4. Policy and economics case studies related to state and federal regulatory issues that pose impediments to carbon neutrality.

The carbon neutrality research roadmap also identifies the need to foster UC-wide collaborations and identify opportunities for research funding.

Finding alternatives to natural gas is both the most challenging and urgent research topic. Natural gas is the largest source of emissions from the University, a fuel source that is widely used for heating, cooling and electricity generation by on-site co-generation power plants. Biomethane from municipal solid waste and agricultural waste is currently the best substitute, but many uncertainties exist regarding its cost, availability of supply, distribution and regulation. Research to improve the efficiency of biodigesters, the cleaning of raw gas and the distribution of gas from source to users is still needed. Policy analyses are needed to identify supportive regulations.

Although biomethane is the current best alternative to natural gas, workshop participants agreed that further research is also necessary on other potential solutions such as fuel cells, geothermal heat pumps and solar thermal.

Reducing greenhouse gas emissions from purchased electricity is more straightforward. Due to the declining cost of solar PV, the University can economically achieve carbon neutrality for purchased electricity through power-purchase agreements. However, regulations, including the one-megawatt limit on solar rebates and the lack of direct access to the wholesale market for five campuses, still create barriers to the University's purchased electricity becoming 100 percent renewable. The research roadmap highlights the need for policy studies that could catalyze efforts to overcome these barriers.

As the percentage of on-site renewable energy generation increases, campus micro-grids will become less stable because solar- and wind-produced electricity is not always available. Adequate energy storage technology is still developing and is a topic that needs focused research.

Although each UC campus and national laboratory has unique challenges and opportunities, only through a systemwide research approach will the University be able to tackle the issues outlined above. The research roadmap will provide a platform for collaboration and for securing funding.

Technology Commercialization

UC is a source of innovation for California's economy. President Napolitano's Initiative on Technology Commercialization will enhance all stages of technology commercialization by investing in UC inventors, early-stage UC technologies and UC startup companies. Increased financial support and flexibility for campus-led technology transfer activities will help streamline existing technology transfer processes and systems, while enhanced communication will create greater awareness of UC's technology commercialization successes.

Many of the technologies and startup companies that result from UC's innovation directly relate to energy or the environment. Through FY 2012-13, 45 startups, from nine campuses (all but UCSF) and Lawrence Berkeley National Laboratory, have formed to commercialize UC technology in industries related to energy and the environment. Eighty percent of these startups are active or have had a successful exit (e.g. acquisition or merger) and in total they have secured over \$5 million in Small Business Innovation Research (SBIR) funding, over \$1 billion in venture funding and bring in over \$140 million in revenue annually.

Seventeen licenses and options were executed in FY 2012-13 (the most recent year for which data is available), giving companies access to UC patented technologies and innovations. Energy- and environment-related inventions brought in approximately \$1.2 million in revenue for UC in FY 2012-13.

The Davis Renewable Energy Anaerobic Digester (READ) is just one example of successful technology commercialization of UC innovation. Located at the campus' former landfill, READ employs anaerobic digestion technology invented and patented by Professor Ruihong Zhang. It converts campus and community food and yard waste into clean energy that feeds the campus electric grid. READ is the third commercial biodigester that CleanWorld, a startup founded by Davis alumni on Zhang's licensed technology, has opened within the past two years in the Sacramento area. One of Zhang's doctoral students is now CleanWorld's vice president of research and development.

UC Natural Reserve System

The UC Natural Reserve System is a 756,000-acre network of 39 wild land areas that include most major types of California habitats. Reserves are used primarily for scientific research, university-level instruction and strengthening public appreciation of nature.

Ecology, natural history and the environment dominate research conducted at the NRS. In the past year, research conducted at NRS sites and/or using NRS data found that the eradication of non-native grazing animals enabled native vegetation to recover on Santa Cruz Island (one of the Channel Islands) without additional intervention, and that drying of Sierra Nevada meadow soils diminishes their sponge-like ability to hold water. In addition, a recently completed compilation of 10,000 years of ecological history on California's Channel Islands will guide restoration of the islands' ecosystems.

Other NRS projects collect and make environmental data available to the public. For example, the NRS Climate Monitoring Network, completed January 2014, consists of 26 meteorological stations with sensors and monitoring protocols located at 22 reserves, and makes all its data freely accessible online. Also established in January was the Eel River Critical Zone Observatory (CZO) at and around Angelo Coast Range Reserve; the observatory collects detailed information about factors influencing hydrology. Formed on the strength of a decade of water cycle research at Angelo Reserve, the Eel River CZO is one of just 10 NSF-funded CZOs studying the environmental envelope that sustains life on Earth.

Because reserves are often located in remote areas, the NRS has long relied on solar electricity and green building practices. In 2014, Sierra Nevada Aquatic Research Laboratory broke ground on a net-zero energy 2,700-foot classroom and lecture hall. Blue Oak Ranch Reserve is erecting a group of off-grid structures including user cabins, staff residences, and a hub encompassing office space, a communal kitchen, laboratory and library.

Academic Senate Leadership

The Academic Senates at San Francisco and Santa Barbara have created bodies to advance sustainability topics in education.

The San Francisco Academic Senate Committee on Sustainability (SCS) helped lead several of UCSF Medical Center's major sustainability accomplishments over the past year. With support from UCSF's Nutrition and Food Services department, SCS drafted and implemented a resolution calling for UCSF to phase out procurement of meat and poultry produced with the use of non-therapeutic antibiotics. Moffitt Hospital and Benioff Children's Hospital now serve antibiotic-free meat and poultry to their patients and in their cafeterias. SCS partnered with the nonprofit organization Physicians for Social Responsibility to develop an outreach plan to other universities, resulting in a webinar series focusing on policies regarding antibiotic-free meat/poultry and how medical professionals can develop an antibiotic-free program.

SCS also co-hosted a Sustainable Food conference and a Health and Sustainability summit. Approximately 80 food producers, distributors and food service professionals from across the country attended the Sustainable Food Conference, which focused on policies and issues preventing more widespread sustainable food procurement. The Health and Sustainability summit is described in the Healthcare section of this report.

The Santa Barbara Academic Senate Sustainability Working Group (SWG) made significant progress over the past year. It gained approval for an interdepartmental doctorate degree with an emphasis on the environment and society, a joint effort of 15 departments from social science, natural science and humanities divisions. The degree began being offered in fall 2014. In partnership with a group of graduate students and a faculty member in political science, the SWG also drafted and piloted a sustainability literacy assessment tool.

The SWG sponsors a Campus Sustainability Champion program. Faculty members submit competitive proposals to engage undergraduate and graduate students in sustainability issues and provide campus-wide leadership and visibility in sustainability in education and research. Awardees receive funding to support their initiatives, including leading a freshman seminar in sustainability. The Sustainability Champion for FY 2013-14, sociology Professor John Foran, hosted a climate justice conference and created a film on the global climate justice movement. The Sustainability Champion for FY 2014-15, English Professor Ken Hiltner will be focusing on expanding the English Department's existing Literature and the Environment Center into a campus-wide multidisciplinary Environmental Humanities Center.



UC MERCED
triplezero
Zero net energy. Zero landfill waste.
Zero of greenhouse gas emissions.

STUDENT ENGAGEMENT

Much of the credit for the University's sustainability programs belongs to students, whose call to action led the Regents to adopt a green building and clean energy policy in 2004. Since then, student sustainability programs have grown substantially and students continue to play a crucial role in educating faculty, administrators, staff and their peers about environmental stewardship and campus sustainability.

Demonstrating their commitment to sustainability, students on eight undergraduate campuses have approved one or more fee referenda to fund sustainability projects and student sustainability internships. Santa Cruz students have approved five student fee referenda related to sustainability, including one focused specifically on carbon reduction. Santa Barbara students voted for a renewable energy fee that now provides funding for the student affairs division's goal of LEED-EBOM Platinum certification and zero-net energy for its buildings.

Student affairs divisions house student environmental and sustainability resource centers at Davis, Berkeley, Irvine, San Diego and Santa Cruz that support student sustainability projects and organizations on campus and in the local community, provide student internship opportunities and support career development in sustainability. The Graduate Student Association provides this resource at UCLA. As an example of the contribution that the resource centers provide to the campus sustainability community, the Student Environmental Resource Center at Berkeley, in operation for just two years, has already raised \$150,000 in recurring funds and \$85,000 in one-time funds for staff, student internships, and student focused programming and services.

As listed in Table 3, students have organized into nearly 200 sustainability clubs and organizations at the nine UC undergraduate campuses. The California Student Sustainability Coalition (CSSC) brings together many of these organizations to advocate more effectively on major environmental issues. CSSC also leads the Education for Sustainable Living Program (ESLP), which enables students to get academic credit for student-led courses and to conduct research. Davis, UCLA and Santa Cruz currently have active ESLP programs. A zero-waste plan for Pauley Pavilion, UCLA's renowned basketball arena, is just one example of the ESLP projects in the past year.

TABLE 3: UC STUDENT ORGANIZATIONS BY CAMPUS

Berkeley	35+
Davis	34
Irvine	16
UCLA	20
Merced	6
Riverside	5
San Diego	30+
Santa Barbara	35
Santa Cruz	22
San Francisco	1
Total	204

Eight campuses host the Alliance to Save Energy's PowerSave Campus Program, which engages students in realizing measurable energy savings, builds pathways to green careers, infuses energy and energy efficiency concepts into academic curricula and promotes energy-efficiency awareness. PowerSave Campus interns — approximately three to six per campus — work closely with investor-owned utility funders, faculty, staff, administrators and other students to engage them in energy efficiency projects. PowerSave Campus projects on UC campuses collectively saved over 2.3 million kilowatt hours from January through September 2014 and reached over 68,000 people. In 2014, the program hosted six energy competitions (at Berkeley, Santa Barbara, Merced, Irvine and two at UCLA) and two water competitions (at Santa Barbara and Merced). Innovative projects from the past year include a microscope lighting retrofit at Berkeley, a project to decrease energy use in ultra-low freezers by increasing temperature set points at San Diego and a campaign to encourage students to wash clothes in cold water at Santa Cruz.

The President's Global Food and Carbon Neutrality Initiatives are also engaging students. Both initiatives offer paid student fellowships at each campus for students to work on a project that supports the initiative. The Student Engagement Working Group of the President's Global Climate Leadership Council (GCLC) adopted a vision in October 2014 to do the following: develop broad student support for and engagement in the 2025 carbon neutrality goal, advance UC leadership in climate change and sustainability co-curricular education, and foster

student empowerment and advocacy for responsible personal and institutional behaviors. Short-term projects in the next year to generate momentum toward this vision include a UC systemwide residence hall energy competition and a partnership with Net Impact, a student organization that engages business students in promoting social and environmental sustainability, to provide student internships that focus on developing job skills in the energy sector through energy efficiency assessments for local businesses. The GCLC graduate and undergraduate student representatives are planning to engage their student communities across the UC campuses through a social media platform and a network of student climate leaders on each campus.

Students are also taking action to respond to California's drought crisis. At Irvine, students developed Drought Reach, a peer-to-peer outreach program updating the campus community on the drought while also providing water savings tips. At Santa Cruz, student interns from the Sustainability Office are conducting a campus-wide audit of all restroom, kitchen and lab fixtures; posting educational signage regarding water use restrictions on lawns and in restrooms; and assisting with the identification of campus sub-metering needs. Berkeley's Student Environmental Resource Center is offering a new undergraduate publication called "Words of the Watershed" as one of its signature programs. The publication is Berkeley's official undergraduate journal of environmental writing and features a multitude of poetry and prose concerning the environment, particularly around Berkeley and the San Francisco Bay.

SOCIAL RESPONSIBILITY

Mission-Driven Investing

The University's new chief investment officer, Jagdeep Singh Bachher, made sustainability a priority for the Office of the Chief Investment Officer (OCIO) upon his arrival in April 2014. The OCIO recognizes that the integration of environmental, social and governance (ESG) factors into investment decision-making throughout the entire portfolio is necessary to produce the best possible risk-adjusted returns in the long-term and to align the University's investment practices with its demonstrated commitment to sustainability. Accordingly, the OCIO worked with the Regents' Task Force on Sustainable Investing during the summer to develop recommendations for the adoption of a sustainable investment strategy. In September, the Regents approved the following set of recommendations:

1. Allocate \$1 billion over a period of five years to solutions-oriented investments such as renewable power and fuels, energy efficiency, and/or sustainable food and agriculture.
2. Approve the establishment and implementation of a framework on sustainable investment with the goal of completion by the end of FY 2014-15.
3. Integrate ESG factors as a core component of portfolio optimization and risk management. Evaluate all strategies for achieving ESG goals as soon as practicable, including whether to use divestment.

In the fall, the UC became a signatory to the United Nations-supported Principles for Responsible Investment and a member of the Investor Network on Climate Risk and the Carbon Disclosure Project. The OCIO has built a team within the office to lead the development and implementation of the sustainable investment framework. The team will continue developing the framework with the goal of completion by the end of the current fiscal year.

Socially Responsible Trademark Licensing

Trademark licensing and sustainability

The Association for the Advancement of Sustainability in Higher Education (AASHE) includes socially responsible trademark licensing in their Sustainability Tracking, Assessment & Rating System (STARS). STARS is the basis of external sustainability reporting for all nine undergraduate UC campuses. The University has one of the strongest codes of conduct in the country for manufacturers of goods that bear campus logos and has been in the forefront of the movement to establish acceptable labor standards for the production of university logo apparel.

Bangladesh building and fire safety

In FY 2013-2014, the University's UC's Committee on the Code of Conduct for Trademark Licensees (Code of Conduct Committee) focused its efforts on developing a UC response to the Bangladesh apparel industry's woeful track record for the safety and working conditions of its workers. That track record includes over 1,200 worker deaths since 2010, most notably from the Rana Plaza collapse and related fires in April 2013. During FY 2013-14, the Code of Conduct Committee reviewed two options for helping to improve building and fire safety in Bangladeshi factories manufacturing UC-logoed goods: (1) the Accord on Fire and Building Safety in Bangladesh (Accord), an initiative formed largely by European manufacturers and endorsed by both the Worker Rights Consortium (WRC) and United Students Against Sweatshops; and (2) the Alliance for Bangladesh Worker Safety (Alliance) formed largely by American manufacturers.

After almost a year of fact-finding and communicating with representatives of the Alliance and Accord, other colleges and universities, civil society organizations such as the WRC and Fair Labor Association, and others, the Code of Conduct Committee unanimously recommended that UC's trademark licensees producing UC-logoed goods in Bangladesh be required to join the Accord.

After careful consideration of the Code of Conduct Committee's recommendation, the Office of the President decided to require its trademark licensees producing UC-logged goods in Bangladesh to become members of either the Accord or the Alliance. This decision was driven by the following factors: the Accord and Alliance are relatively young organizations (each established less than two years ago); they pursue the common goal of improving the conditions of garment workers in Bangladesh; and both have made concrete progress toward that goal.

While the Accord and the Alliance have taken different approaches toward governance and remediation, UC's approach will allow it to continue to engage with both organizations, monitor progress, and evaluate outcomes of these organizations' efforts. UC will not only be part of the evaluation process but will also work closely with its licensees to implement this new requirement. The Code of Conduct Committee believes that reforming Bangladesh's garment manufacturing industry will require the collective efforts of as many manufacturers as possible, which is the primary reason it is requiring all its licensees to be members of either the Accord or the Alliance.

Committee expansion and new website

To further support the goals of ensuring workers' safety and improving working conditions in Bangladesh and around the globe, the Code of Conduct Committee has expanded to include a broader swath of University stakeholders on this important area of social responsibility. This expansion will allow the Code of Conduct Committee to address a wider set of issues pertinent to UC's Code of Conduct for Trademark Licensees and enable better coordination among UC campuses. In addition, to provide greater public access regarding the past and current work of the Code of Conduct Committee (including the committee's findings, reports and requirements), the Social Sustainability website was launched in October 2014 and is available at: <http://ucal.us/socialsustainability>.

CONCLUSION

New presidential initiatives and resulting engagement of all parts of the university made 2014 a year of ambitious goal setting and planning for UC's sustainability program.

President Napolitano's Carbon Neutrality Initiative sets a goal for 2025 and engages students, faculty and staff through its Global Climate Leadership Council (GCLC). It also engages the Office of the Chief Investment Officer, which committed to investing \$1 billion over five years in sustainability solutions-oriented investments such as renewable power and fuels, energy efficiency, and sustainable food and agriculture. The University hit the ground running by signing a contract for 80 megawatts of solar electricity and convening selected faculty experts and campus practitioners to develop a carbon neutrality research roadmap. The University expects to develop its first biomethane projects in 2015. The GCLC is already completing an inventory of carbon neutrality-related applied research and will do the same in 2015 for sustainability education and co-curricular programming. These inventories of the expansive current teaching and other student engagement will form the basis of a strategy to implement best practices across all campuses.

Merced and several other campuses are using whole-building energy performance targets to design energy efficient buildings that will enable campuses to plan for carbon neutrality even as those campuses continue to grow. The University will be encouraging all campuses to use these energy performance targets in the next year.

President Napolitano's Global Food Initiative (GFI) will rally the UC community over a wide range of disciplines to work toward a world that can sustainably and nutritiously feed itself. The initiative involves documenting and promoting best practices in sustainable food sourcing within the University, as well as leveraging UC's research to help individuals and communities access safe, affordable and nutritious food while sustaining natural resources. Currently, the subcommittees responsible for implementing the initiative are in the planning phases. Implementation is planned for 2015 and the University looks forward to reporting on these efforts next year.

In 2014, the University also enlisted its considerable research, extension, education and operations resources to help the state respond to the drought crisis. Whether or not the current drought continues, the University will continue to take immediate actions to reduce water consumption while also planning for continued water scarcity and conducting research into the impacts and the solutions for California's water management challenges.

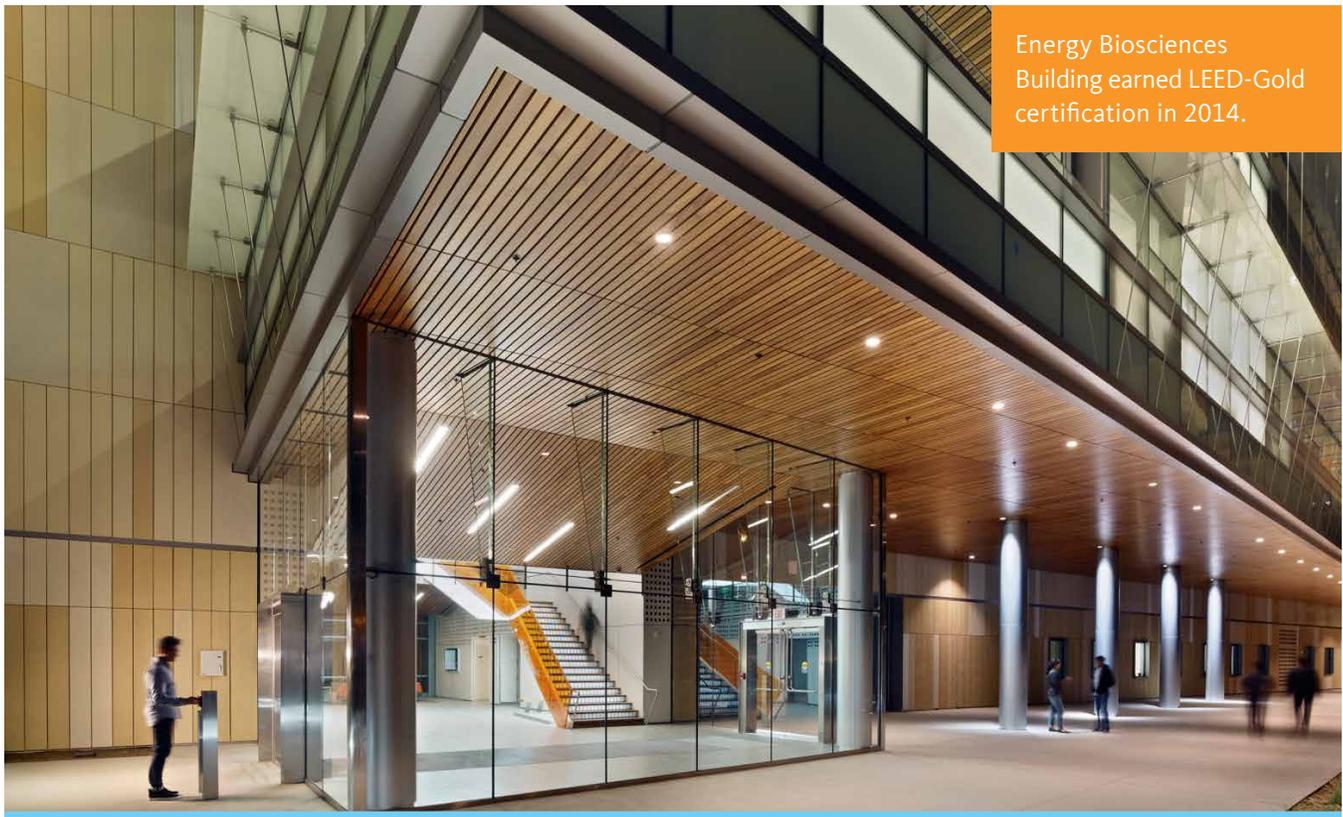
With ambitious sustainability goals and plans in place, the University anticipates further reductions in greenhouse gas emissions, energy consumption, water consumption and more, while more fully engaging students, faculty and staff in the all sustainability initiatives.

THE CAMPUSES

2013-14







Energy Biosciences Building earned LEED-Gold certification in 2014.

BERKELEY

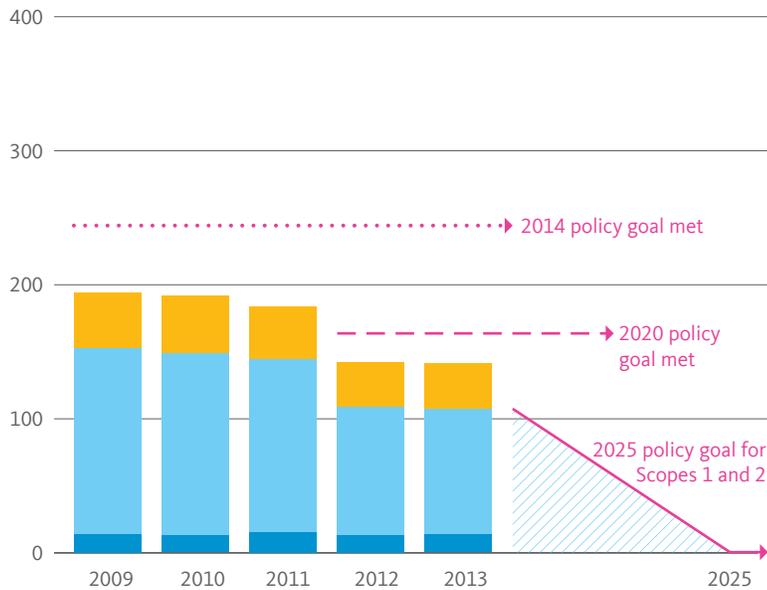
Berkeley has achieved or is on track to achieve the majority of its environmental sustainability goals. Most notably, the campus has reduced its greenhouse gas emissions to 1990 levels two years ahead of schedule. Berkeley's climate program, CalCAP, received the 2014 Sustainability Innovations Award for this achievement. Berkeley has also outperformed its fuel use and sustainable food purchase goals. In the last two decades the campus reduced waste sent to landfills by 38 percent and water use per capita by one-third; it is on track to meet campus goals in these two areas. Since the start of the drought, the campus has reduced main campus water use by 6-8 percent, about 23 million gallons.

Each year Berkeley publishes a comprehensive Sustainability Report that now conforms to the international reporting standard, the Global Reporting Initiative. The reports can be found on Berkeley's newly designed and integrated website: <http://sustainability.berkeley.edu>. Other highlights this year include the launch of the new Berkeley Food Institute. The institute deploys the resources of five colleges to connect with farmers, environmentalists, people struggling to feed their families, the food industry, policy makers, and power brokers to help supercharge the push for a fair and sustainable food system. Also this year, the new Student Sustainability Resource Center opened its doors to serve Berkeley's 30 student environmental groups.

UC Berkeley has been ranked as the top university in environment/ecology by the U.S. News and World Report's inaugural international ranking.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- - - 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

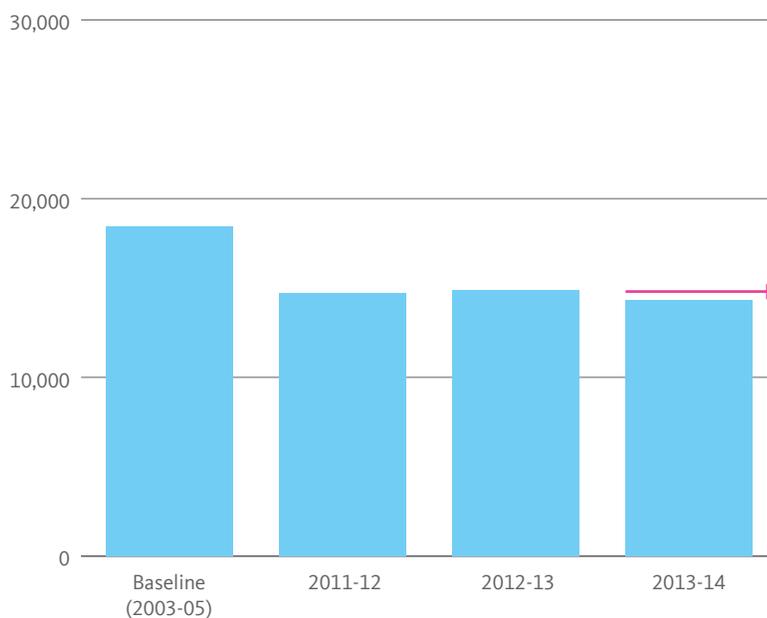
In 2013, Berkeley's GHG emissions totaled 140,000 metric tons, staying relatively constant with 2012 emissions.

Berkeley has already achieved the 2020 policy goal of reducing total emissions to 1990 levels.

UC's goal for achieving carbon neutrality by 2025 requires Berkeley to reduce all of its Scope 1 and 2 emissions to net zero.

POTABLE WATER CONSUMPTION

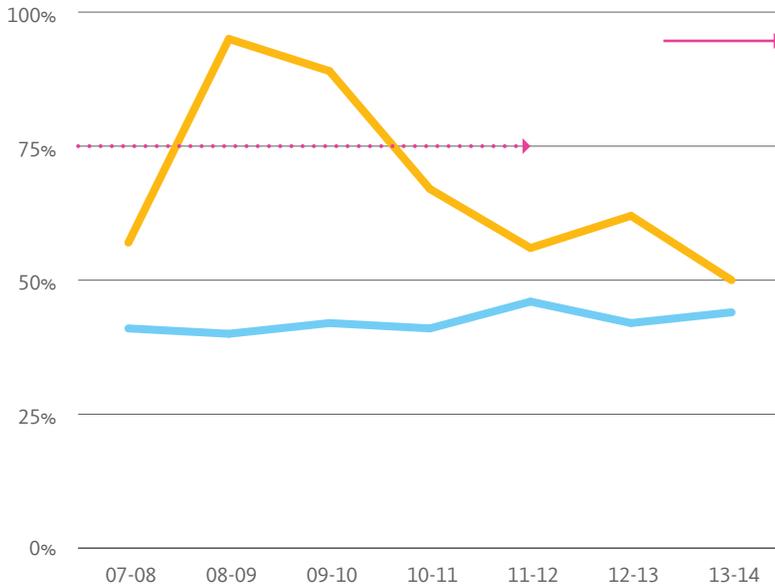
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, Berkeley consumed 15,000 gallons of potable water per capita. This is a 22 percent reduction from its 2003-2005 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

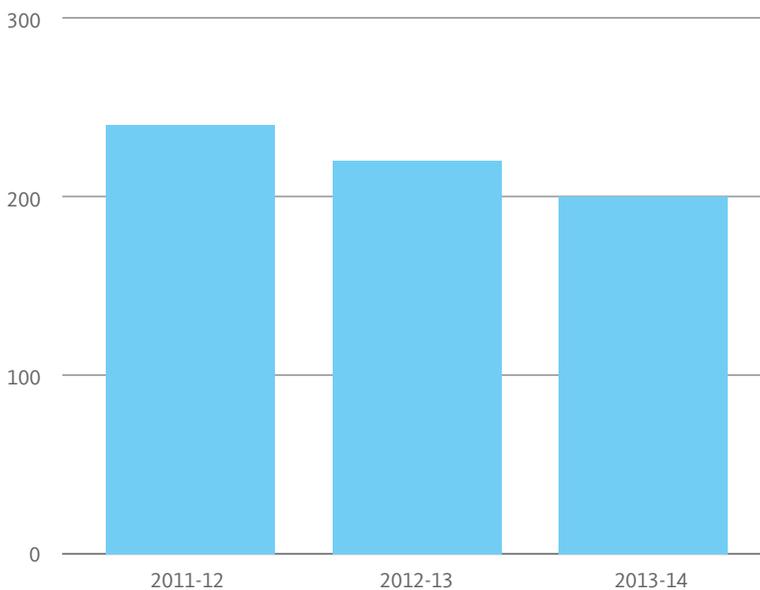
In FY 2013-14, Berkeley diverted 50 percent of its waste from the landfill, a decrease of 12 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 44 percent in FY 2013-14.

Berkeley is striving to meet the 2012 policy goal of 75 percent waste diversion.

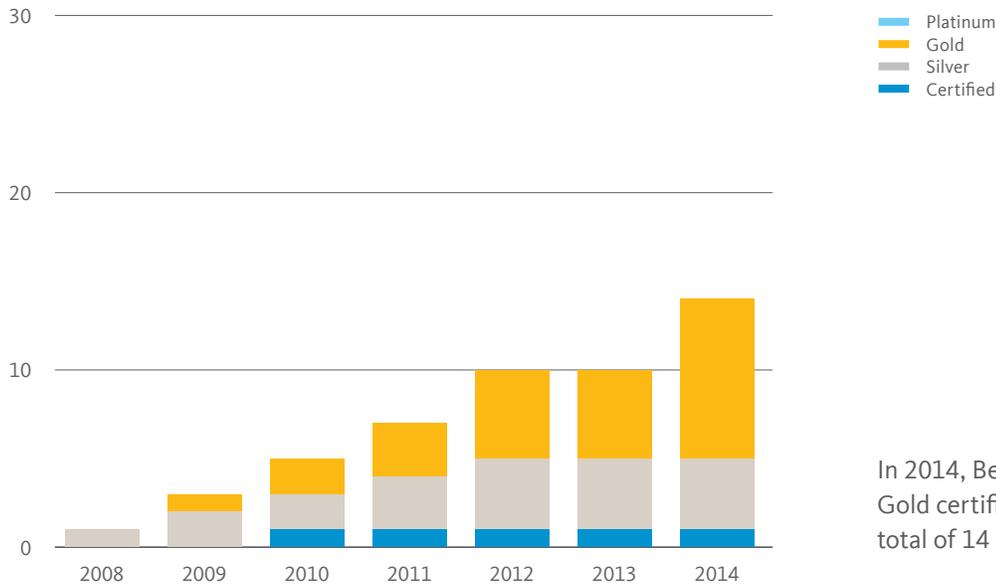
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



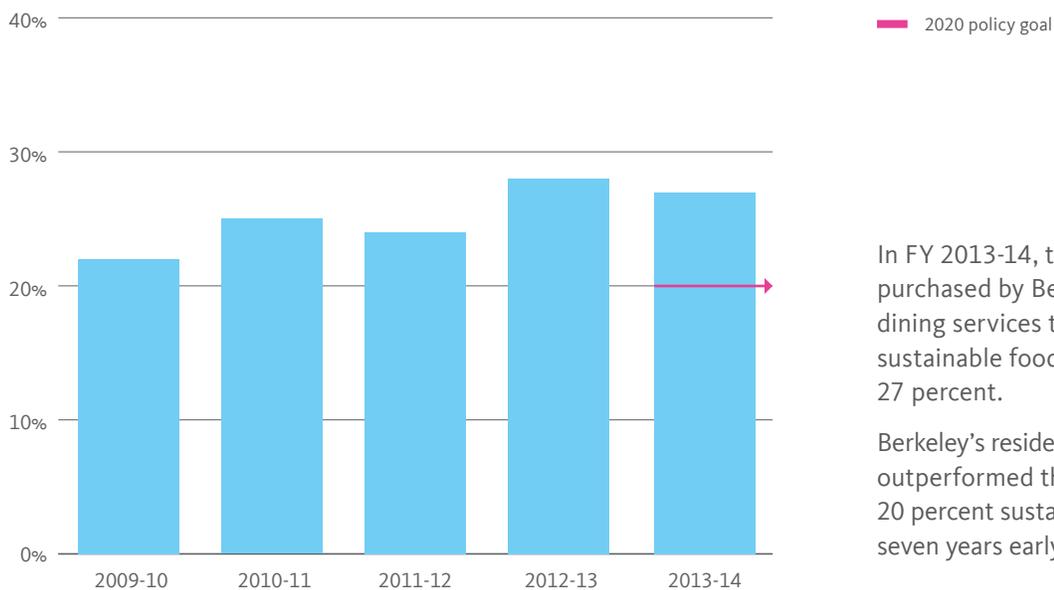
In FY 2013-14, Berkeley sent 200 pounds of solid waste per capita to the landfill, 20 pounds per capita less than the prior year.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, Berkeley received four LEED-Gold certifications, contributing to its total of 14 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Berkeley’s residential dining services that met one or more sustainable food criteria reached 27 percent.

Berkeley’s residential dining services has outperformed the 2020 policy goal of 20 percent sustainable food purchases seven years early.



DAVIS

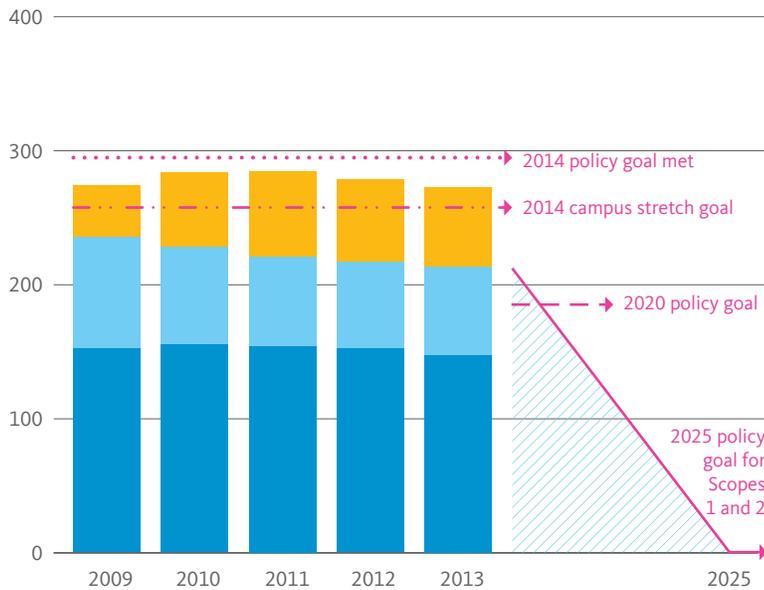
Davis was honored with three Higher Education Energy Efficiency and Sustainability Best Practice awards at the 2014 California Higher Education Sustainability Conference; the Awards included: Overall Sustainable Design for the Jess S. Jackson Sustainable Winery Building, which is also pursuing Living Building Challenge Net-Zero Energy Certification; HVAC Design/Retrofit for the Plant & Environmental Science Lab Energy Retrofit; and Sustainable Transportation for its Bike Friendly Platinum status. UC Davis received Platinum Level recognition from the League of American Bicyclists (LAB) as both a Bicycle Friendly University (BFU) and a Bicycle Friendly Business (BFB). There are only two Platinum level BFUs recognized in the U.S., and of the nine Platinum BFBs, UC Davis is the only university to earn that status.

Davis took a leadership role in addressing the drought state of emergency with a Drought Response Action Plan written in the first quarter of 2014, and the campus has reduced total landscape water use by 21 percent. The campus also began construction on a large on-site solar photovoltaic installation of 16.3 MW — which is expected to be the largest of any campus in the country — and signed a power purchase agreement for another 20 MW of off-site solar for the campus as part of the overall systemwide wholesale electricity purchase executed in late August 2014.

Since 2010, over 32,000 pounds of tomatoes have been harvested from the UC Davis Russell Ranch research farm and made into tomato sauce for the campus Dining Commons. The Russell Ranch farm hosts the Agricultural Sustainability Institute's Long-Term Research in Agricultural Sustainability project.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2014 campus stretch goal
- - - 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

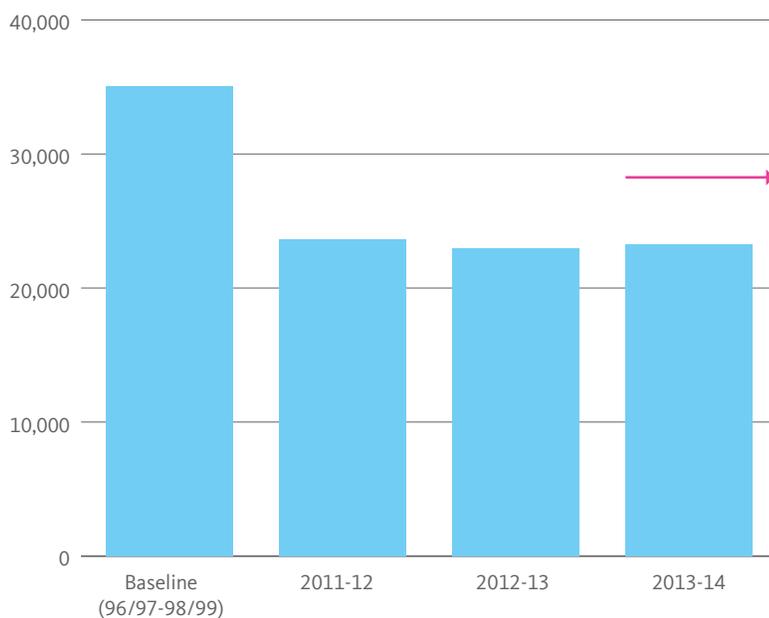
In 2013, Davis' GHG emissions totaled 272,000 metric tons, a slight decrease from 2012.

Total emissions in 2013 were lower than 2000 levels and Davis is on track to meet the 2014 policy goal. The campus needs to reduce its total emissions by 86,000 metric tons to meet the 2020 policy goal.

UC's goal for achieving carbon neutrality by 2025 requires Davis to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

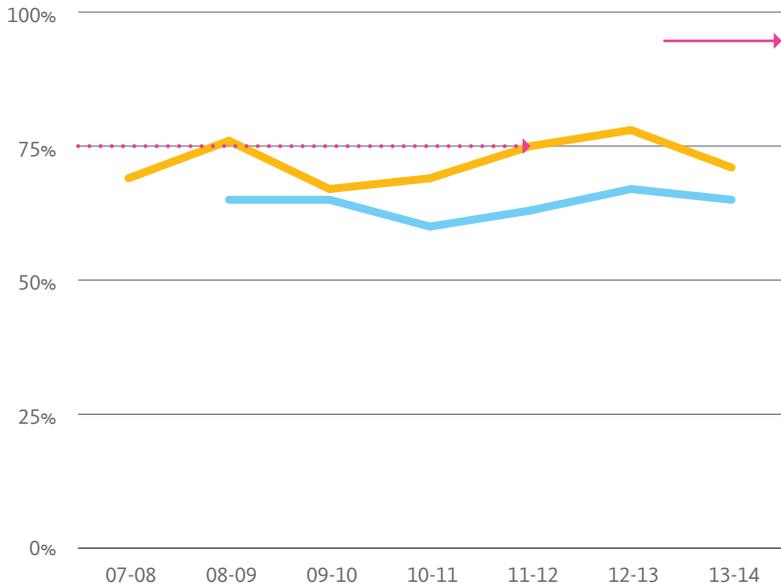
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, Davis consumed 12,000 gallons of potable water per capita. This is a 33 percent reduction from its FY 1996-97 to FY 1998-99 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

In FY 2013-14, Davis diverted 71 percent of its waste from the landfill, a decrease of 7 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 65 percent in FY 2013-14.

Davis is close to maintaining the 2012 policy goal of 75 percent waste diversion.

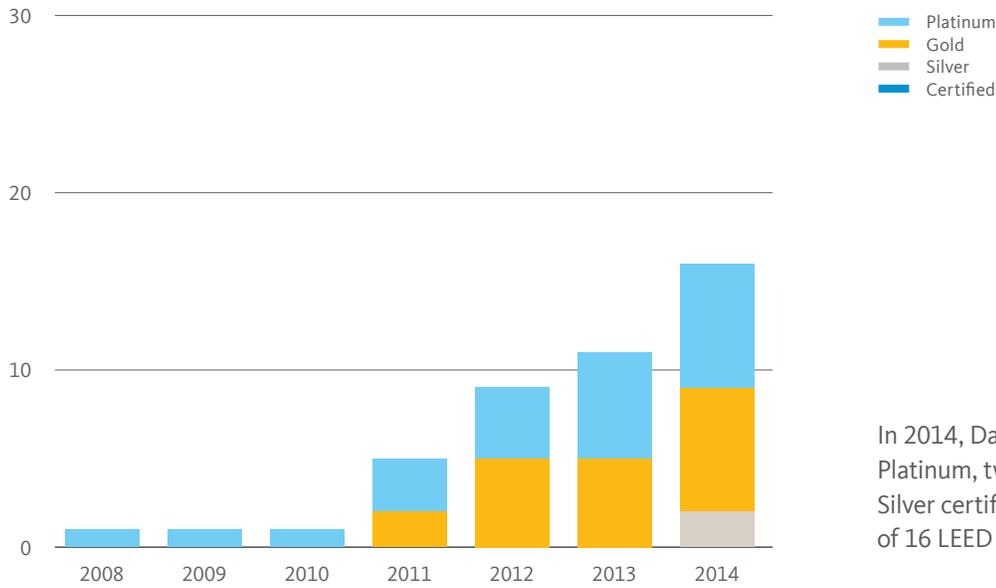
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



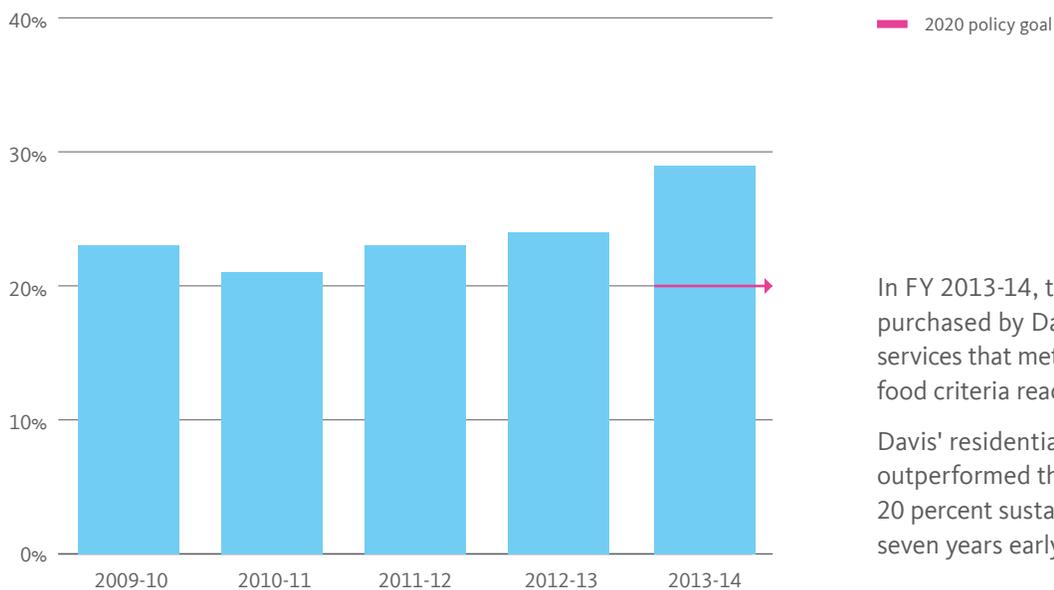
In FY 2013-14, Davis sent 280 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



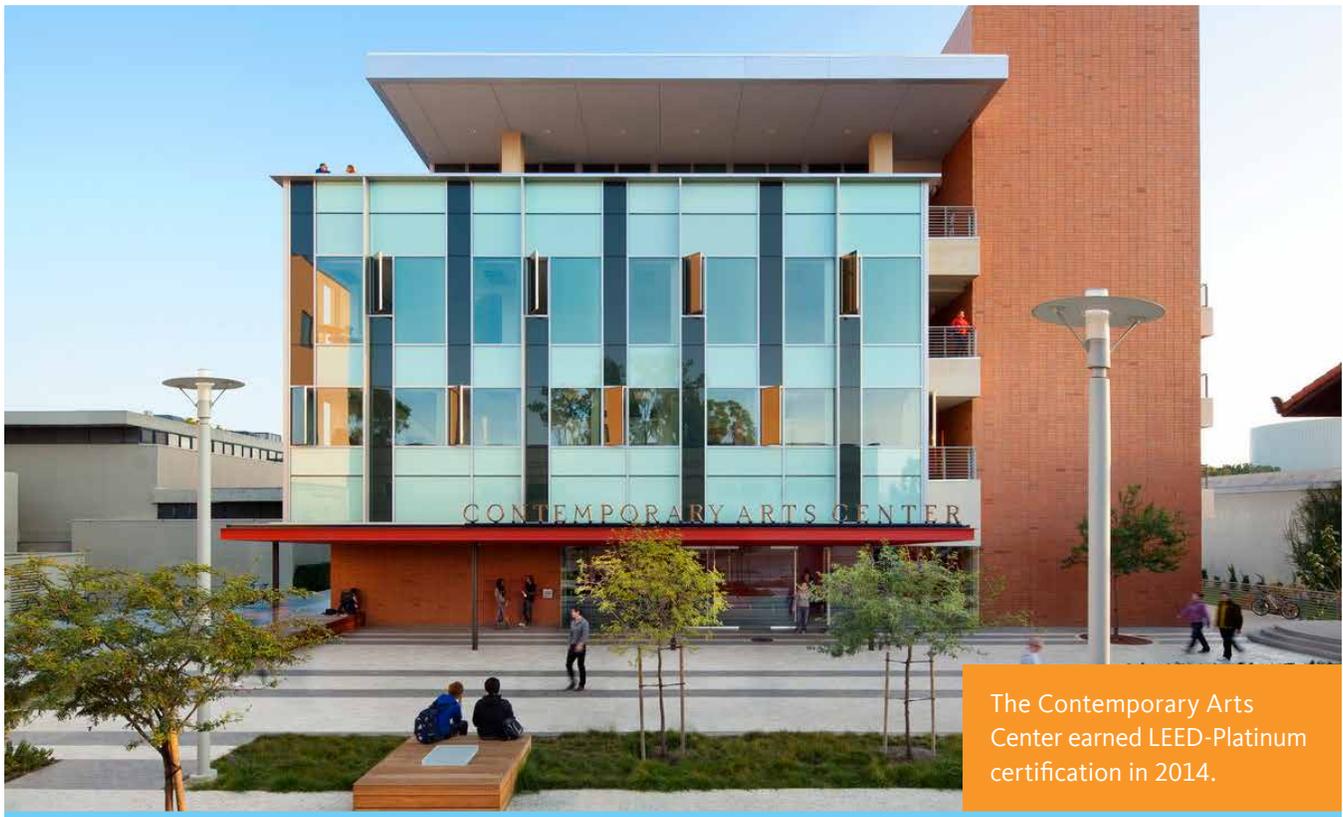
In 2014, Davis received one LEED-Platinum, two LEED-Gold and two LEED-Silver certifications, contributing to its total of 16 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Davis' residential dining services that met one or more sustainable food criteria reached 29 percent.

Davis' residential dining services has outperformed the 2020 policy goal of 20 percent sustainable food purchases seven years early.



IRVINE

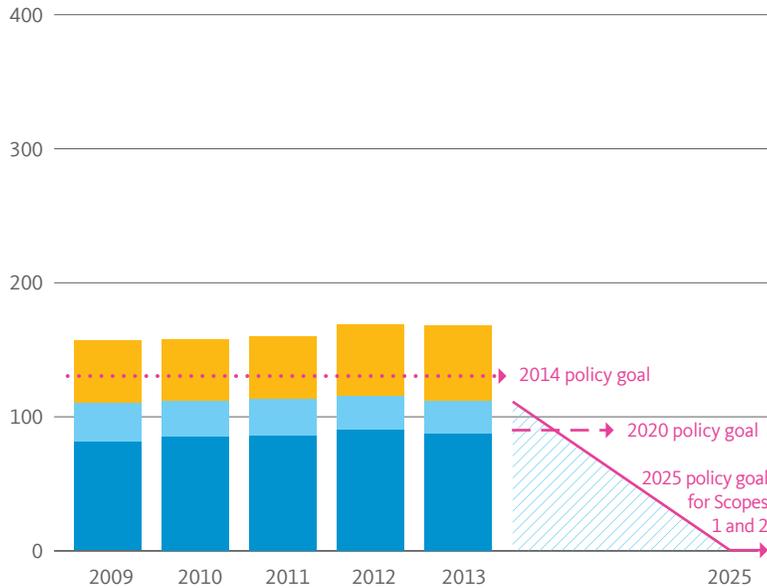
In 2014, Sierra magazine ranked Irvine its no. 1 ‘Coolest School’ in the country, and it has ranked Irvine in the top 10 for five consecutive years. The state of California also recognized Irvine with its highest environmental honor, the Governor’s Environmental and Economic Leadership Award, for the campus’ leadership in climate protection programs. The award gave special mention to the UCI Smart Labs Initiative, which safely reduces laboratory energy use by an average of 60 percent. Irvine also earned the U.S. Environmental Protection Agency’s Climate Leadership Award for Organizational Leadership.

Irvine was recognized by the Department of Energy for attaining the Better Buildings Challenge goal of reducing campus energy use by 20 percent seven years before the 2020 deadline. President Barack Obama acknowledged this achievement in his address to UCI’s 2014 graduating class, stating that Irvine is “ahead of the curve.”

The chief executive officer and founding chairman of the U.S. Green Building Council recognized Irvine for its record-setting 20 LEED-Platinum and Gold buildings at a Southern California green building leadership event.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

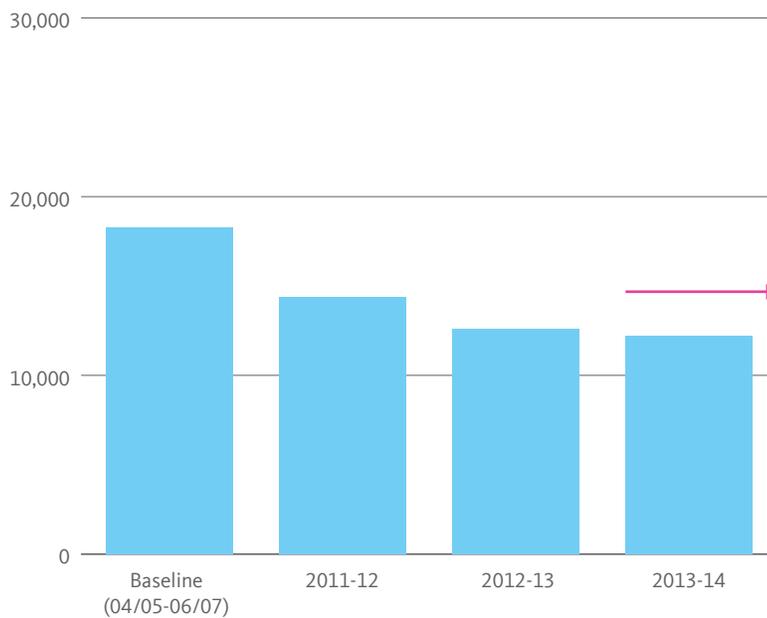
In 2013, Irvine's GHG emissions totaled 170,000 metric tons, a decrease in Scope 1 and 2 emissions by 3 percent and increase in Scope 3 emissions by 6 percent from 2012.

Irvine needs to reduce its total emissions by 38,000 metric tons to meet the 2014 policy goal and 78,000 metric tons to meet the 2020 policy goal.

UC's goal for achieving carbon neutrality by 2025 requires Irvine to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

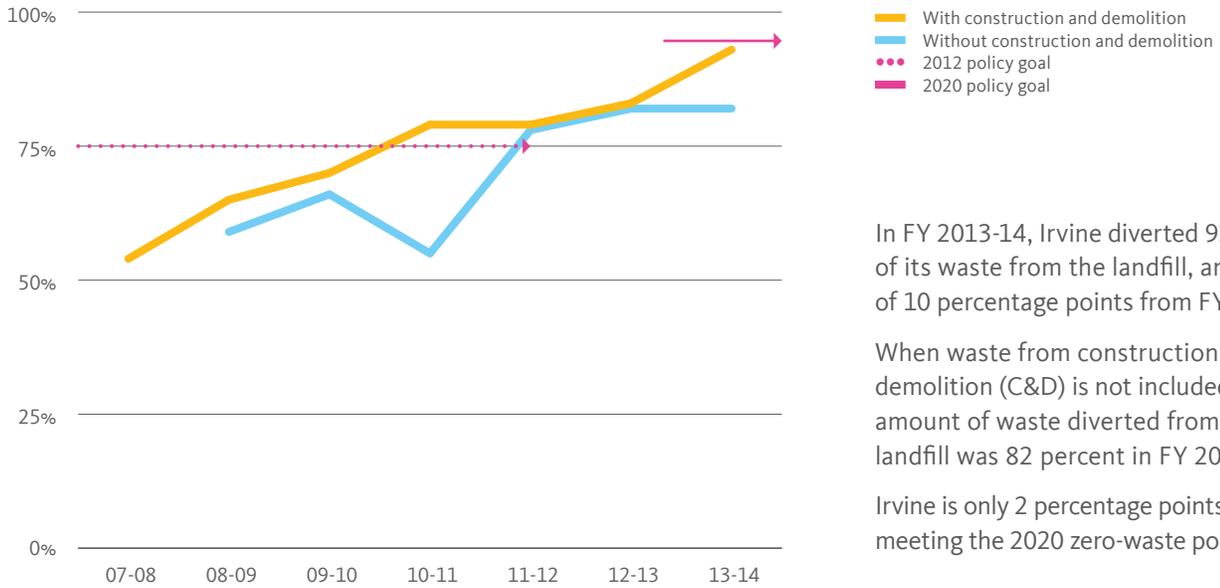
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, Irvine consumed 12,000 gallons of potable water per capita. This is a 33 percent reduction from its FY 2004-05 to FY 2006-07 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



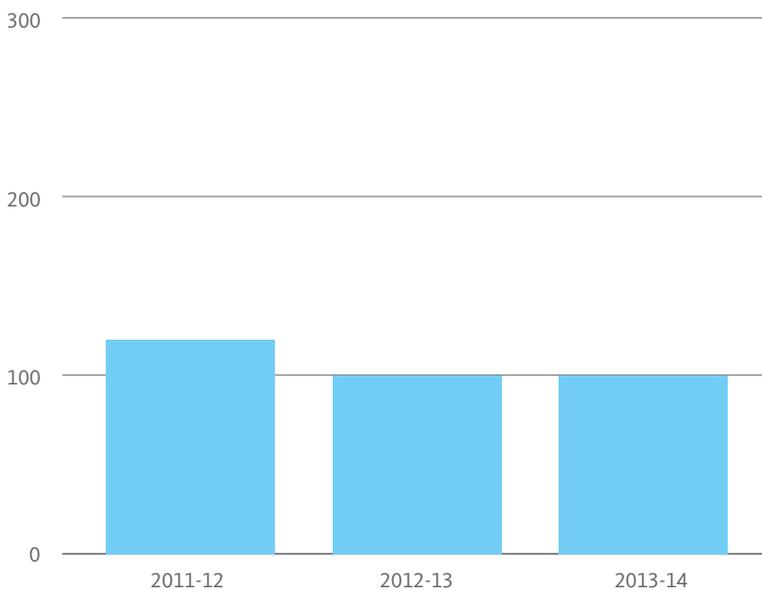
In FY 2013-14, Irvine diverted 93 percent of its waste from the landfill, an increase of 10 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 82 percent in FY 2013-14.

Irvine is only 2 percentage points away from meeting the 2020 zero-waste policy goal.

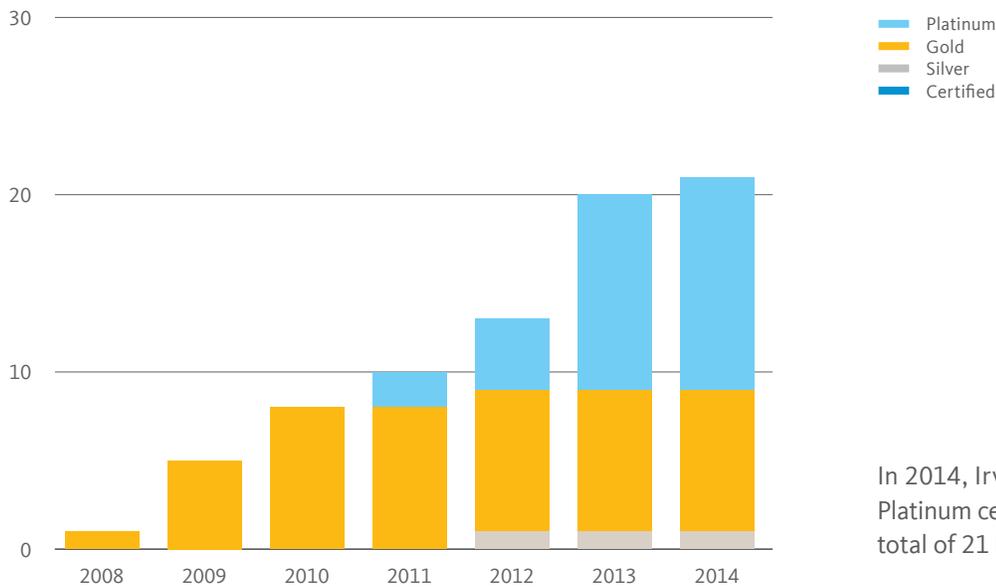
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



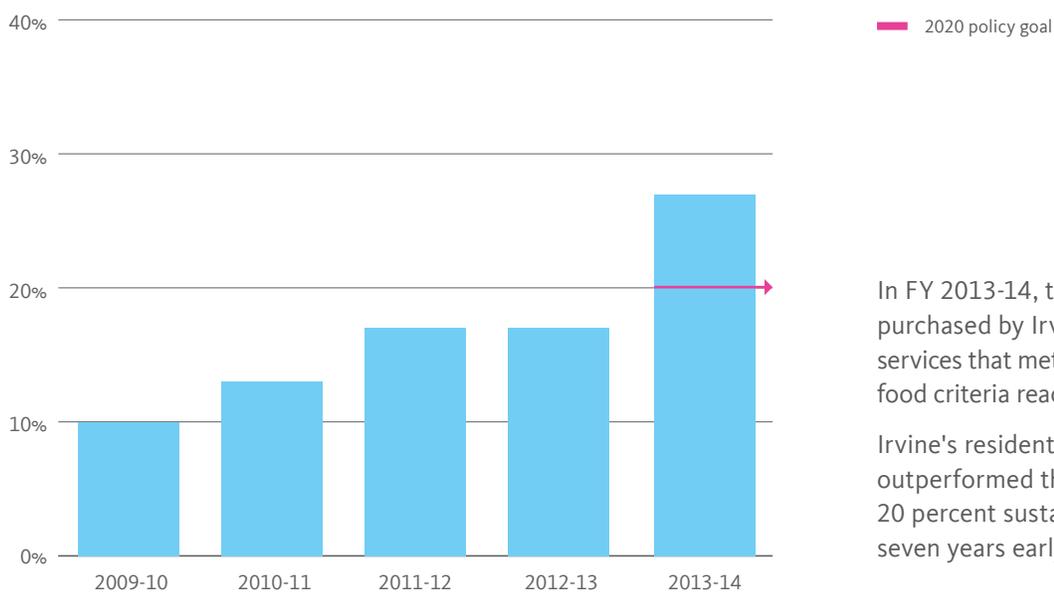
In FY 2013-14, Irvine sent 100 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, Irvine received another LEED-Platinum certification, contributing to its total of 21 LEED certifications.

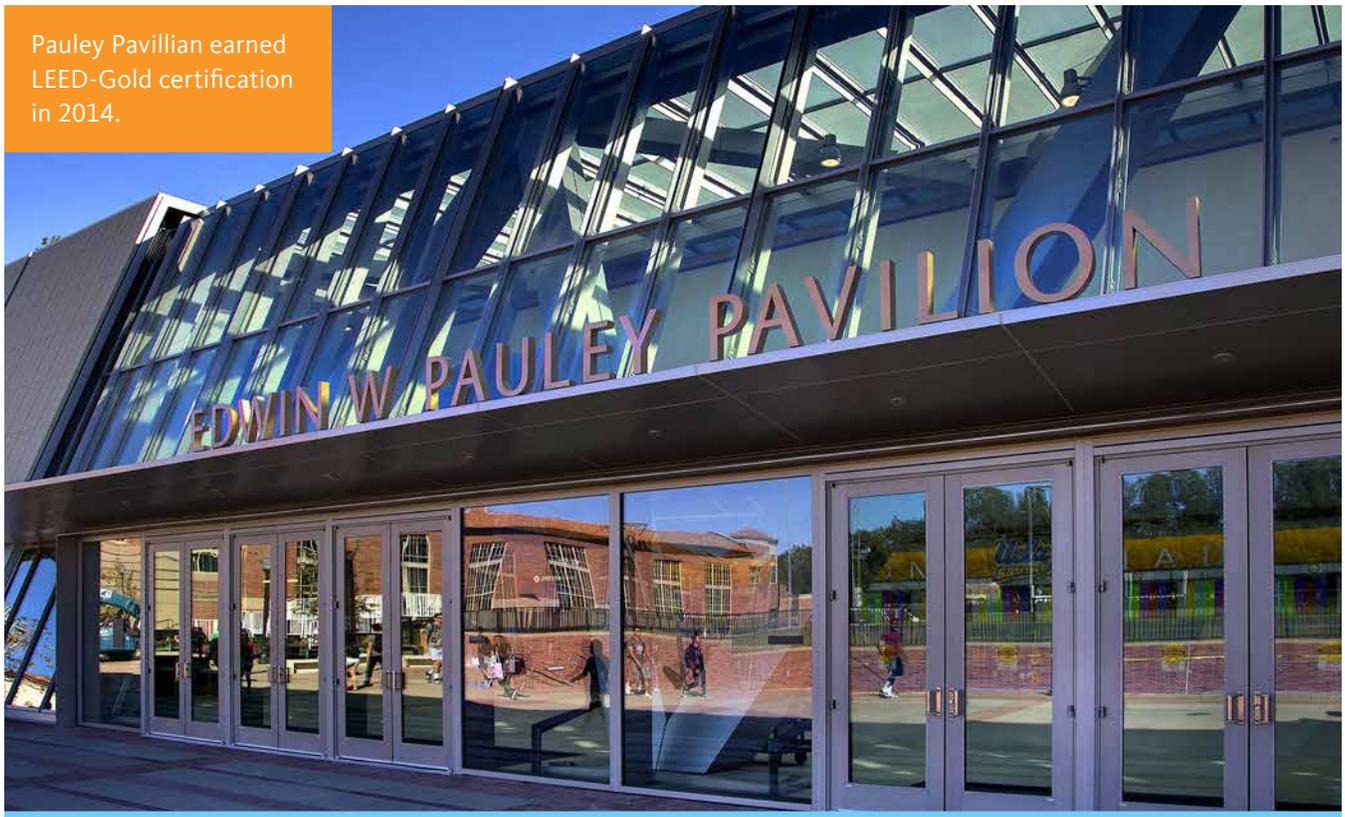
SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Irvine's residential dining services that met one or more sustainable food criteria reached 27 percent.

Irvine's residential dining services has outperformed the 2020 policy goal of 20 percent sustainable food purchases seven years early.

Pauley Pavillion earned LEED-Gold certification in 2014.



UCLA

Over the last year, UCLA launched a groundbreaking university-wide research initiative that will bring together faculty from 70 different departments and centers to work collaboratively to move the Los Angeles region to 100 percent renewable energy and 100 percent local water by 2050. Students interviewed faculty and identified opportunities for undergraduates to participate and faculty research to be applied on campus to support the initiative. Many opportunities build on existing living laboratory projects such as a renewable energy grid integration project that evaluates how solar-powered electric vehicles can provide temporary storage for the grid at peak times.

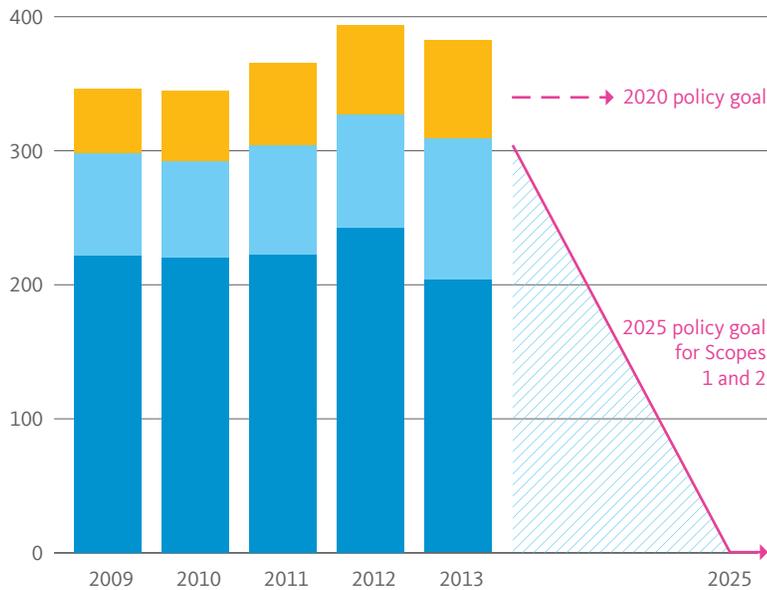
UCLA reduced its GHG emissions in 2013, in part due to continued energy efficiency efforts. UCLA completed a successful first year of its building energy audit program, auditing 10 buildings and identifying 85 energy conservation measures, which on completion will result in \$1.8 million in energy savings. With the addition of 41 donated electric vehicles to its fleet, UCLA will achieve the Climate Action Plan goal of 50 percent of fleet powered by sustainable, zero-emission fuels.

In 2013, UCLA earned seven new LEED certifications, including the iconic Pauley Pavilion and the Kinross Recreation center, which both achieved Gold.

With the launch of the President's Global Food Initiative, UCLA continued the collaborations between its sustainability program and the Healthy Campus Initiative. The new Bruin Plate dining hall won a best practice award at the California Higher Education Sustainability Conference and launched a “meet the vendors” fair where students met the farmers and companies that supply food to the dining hall.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

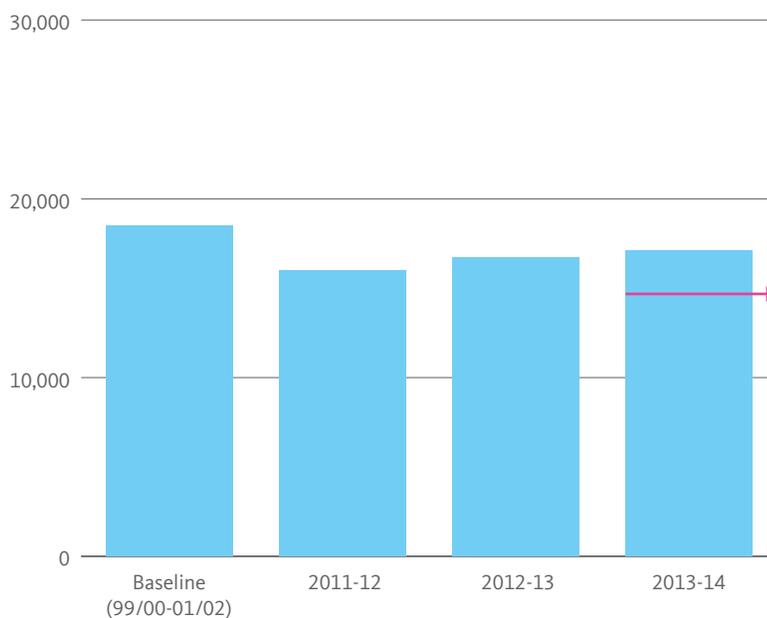
In 2013, UCLA's GHG emissions totaled 380,000 metric tons, a decrease in Scope 1 emissions by 16 percent, and an increase in Scope 2 emissions by 26 percent and in Scope 3 emissions by 9 percent from 2012.

UCLA is committed to meeting the 2020 policy goal for its 2014 emissions inventory and will reduce its total emissions by 44,000 metric tons to do so.

UC's goal for achieving carbon neutrality by 2025 requires UCLA to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

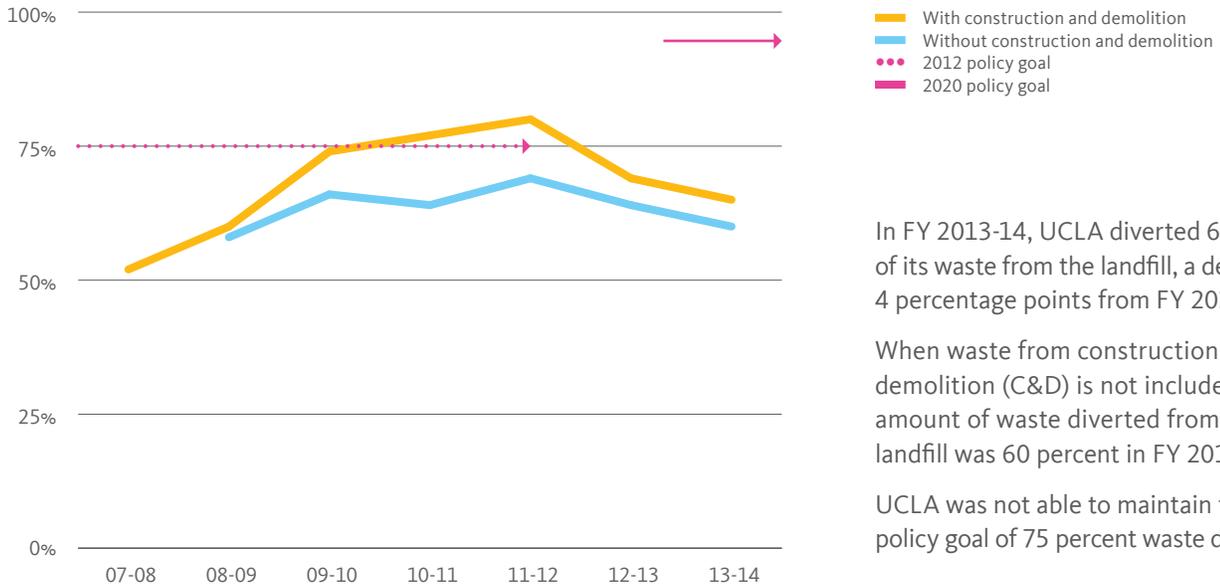
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, UCLA consumed 17,000 gallons of potable water per capita. This is a 7 percent reduction from its FY 1999-00 to FY 2001-02 baseline. UCLA needs to reduce potable water another 13 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



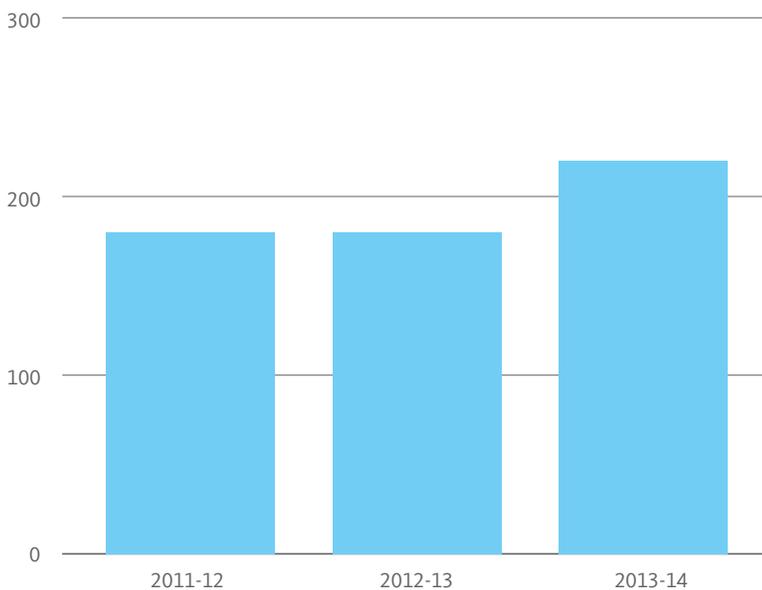
In FY 2013-14, UCLA diverted 65 percent of its waste from the landfill, a decrease of 4 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 60 percent in FY 2013-14.

UCLA was not able to maintain the 2012 policy goal of 75 percent waste diversion.

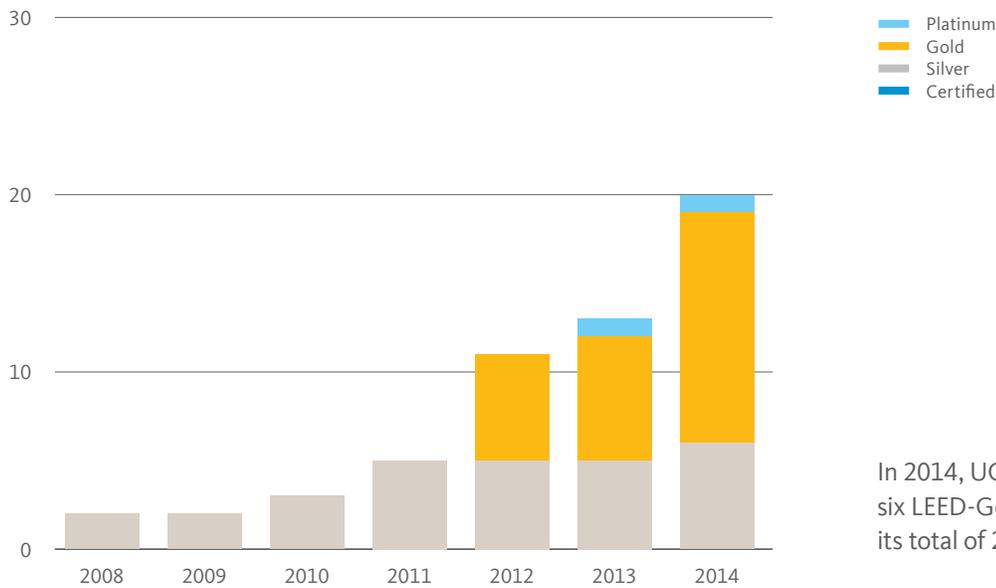
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



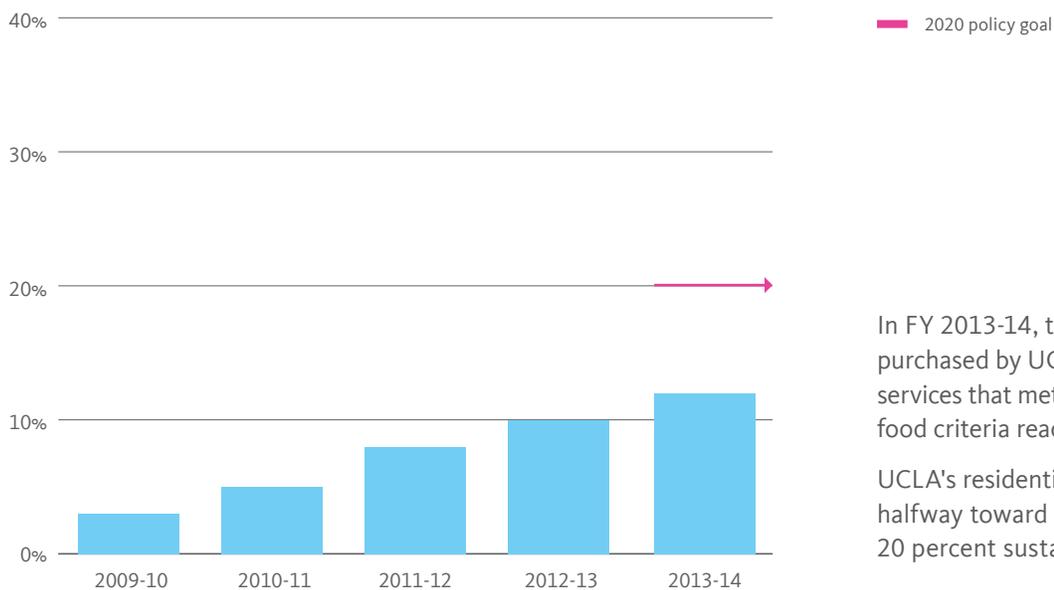
In FY 2013-14, UCLA sent 220 pounds of solid waste per capita to the landfill, 40 pounds per capita more than the prior year.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, UCLA received one LEED-Silver and six LEED-Gold certifications, contributing to its total of 20 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by UCLA's residential dining services that met one or more sustainable food criteria reached 12 percent.

UCLA's residential dining services is over halfway toward the 2020 policy goal of 20 percent sustainable food purchases.

The Student Activities and Athletics Center earned LEED-Platinum certification in 2014.



MERCED

In 2014, the Chancellor's Advisory Committee on Sustainability commissioned the first campus sustainability report, featuring past accomplishments and future plans. Highlights from 2014 include a strong energy program and new, innovative waste initiatives.

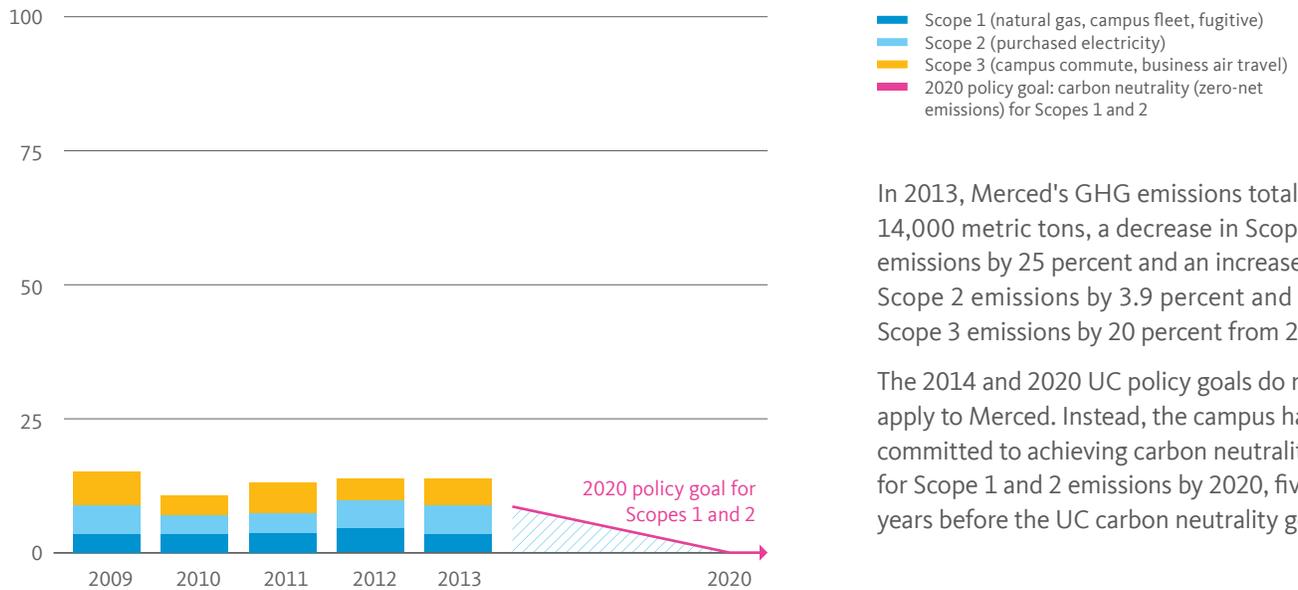
In the past 17 months, the campus has increased its built space by 25 percent. Buildings have been designed to 50-65 percent of benchmark energy use. The campus plans to maintain its aggressive energy efficiency program for buildings built via the 2020 Project, potentially setting a standard of 25-40 percent of benchmark. Merced's ground mounted solar PV system provides over 14 percent of annual electricity use. In 2014, Merced executed a roof top solar RFP on 10 buildings that will produce an additional 13 percent of the campus' energy use.

In 2014, Merced installed a state-of-the-art waste sorting line. When complemented with smaller office waste bins, the new sorting line has the potential to increase the campus' waste diversion rate to 85 percent. The campus also began deploying Big Belly solar-powered waste compactors and incorporated them into their construction standards.

Other sustainability accomplishments over the past year include: reducing irrigation water consumption by 12 percent, completing a LEED master site (certification for campus-wide practices) for the LEED for Existing Buildings Operations and Maintenance (EBOM) program and earning its first LEED-EBOM certification, and officially designating 6,530 acres of vernal pools and grassland to the UC Natural Reserve System.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)

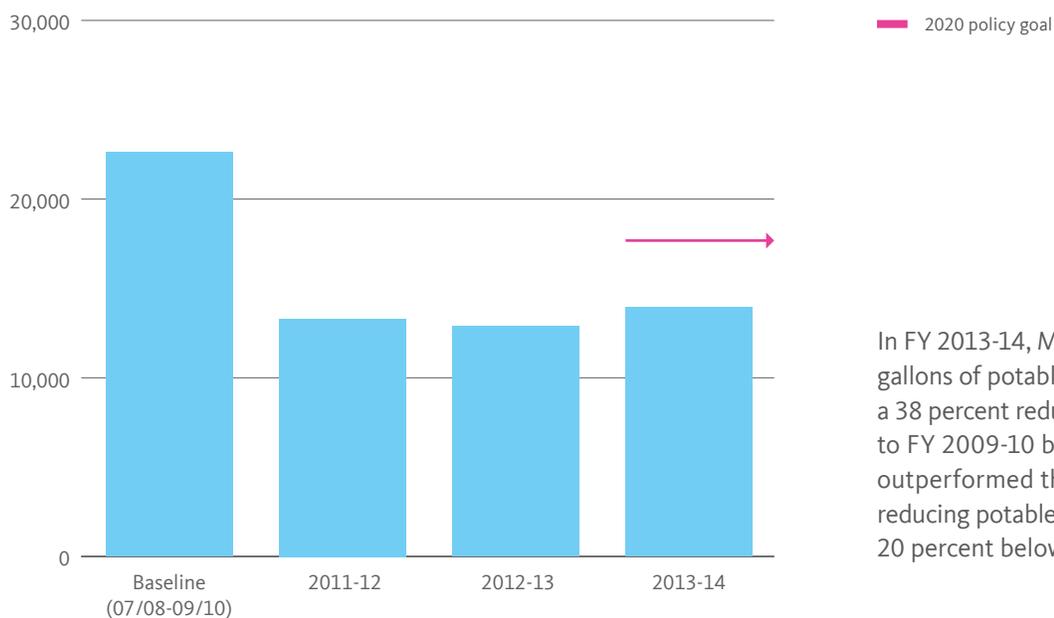


In 2013, Merced's GHG emissions totaled 14,000 metric tons, a decrease in Scope 1 emissions by 25 percent and an increase in Scope 2 emissions by 3.9 percent and in Scope 3 emissions by 20 percent from 2012.

The 2014 and 2020 UC policy goals do not apply to Merced. Instead, the campus has committed to achieving carbon neutrality for Scope 1 and 2 emissions by 2020, five years before the UC carbon neutrality goal.

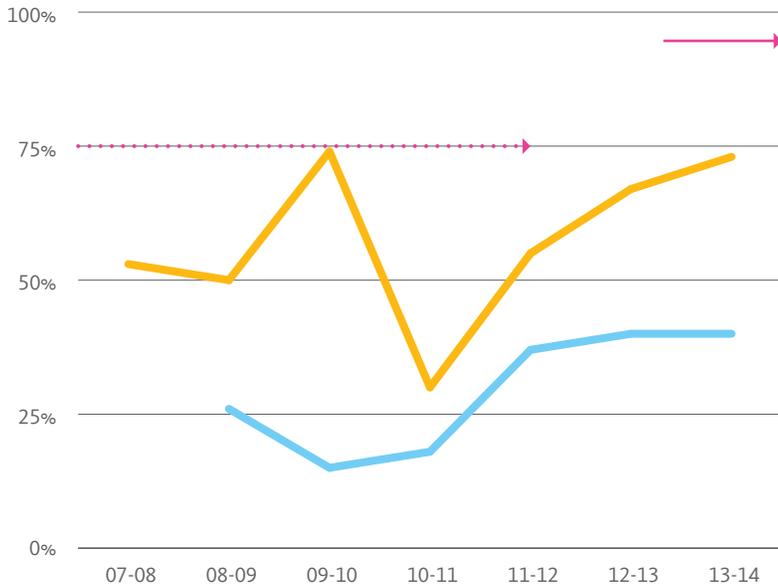
POTABLE WATER CONSUMPTION

(Gallons per capita)



In FY 2013-14, Merced consumed 14,000 gallons of potable water per capita. This is a 38 percent reduction from its FY 2007-08 to FY 2009-10 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

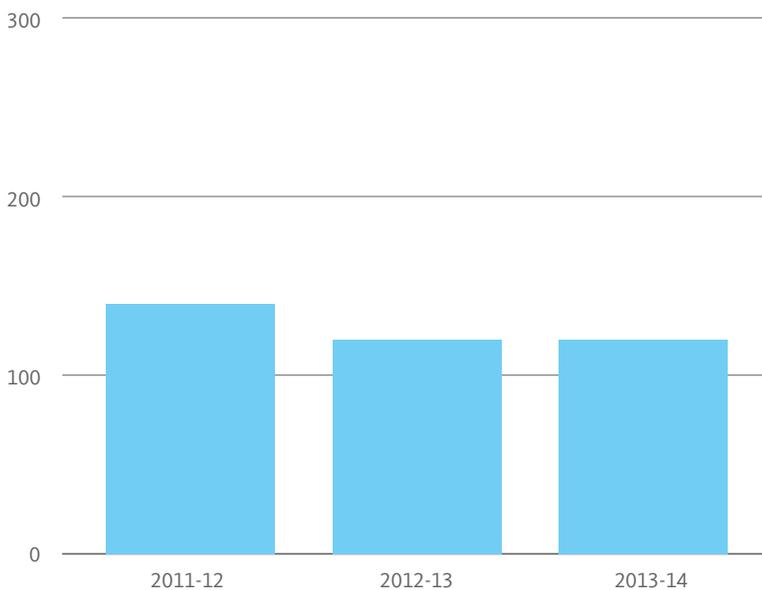
In FY 2013-14, Merced diverted 73 percent of its waste from the landfill, an increase of 6 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 40 percent in FY 2013-14.

Merced is close to maintaining the 2012 policy goal of 75 percent waste diversion.

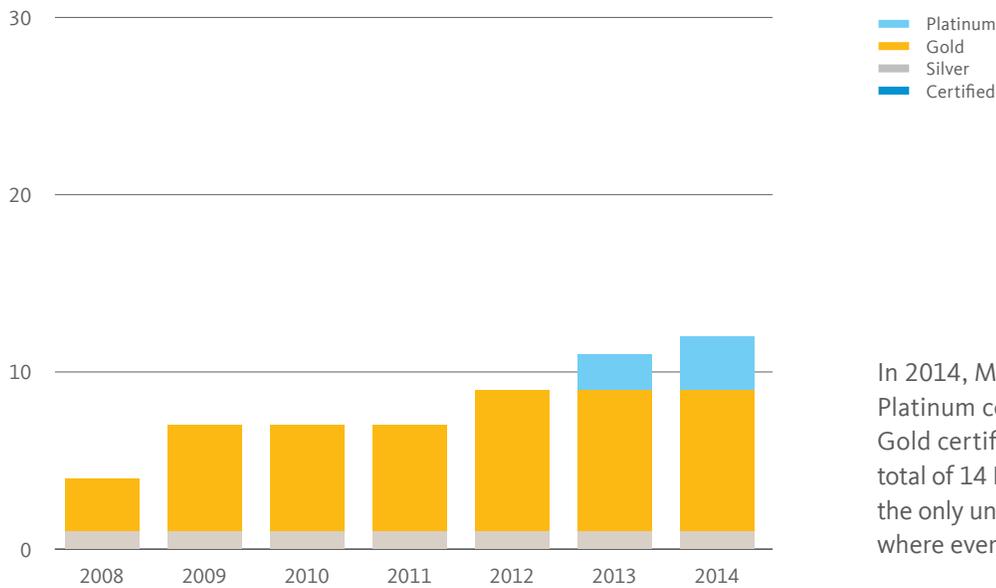
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



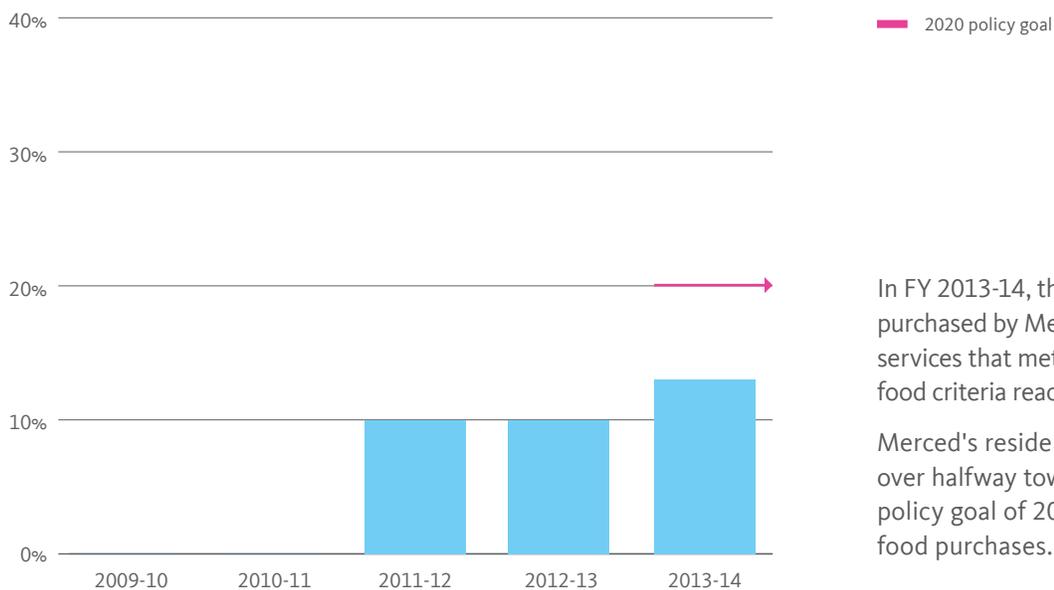
In FY 2013-14, Merced sent 120 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, Merced received two LEED-Platinum certifications and one LEED-Gold certification, contributing to its total of 14 LEED certifications. Merced is the only university campus in the country where every building is LEED certified.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Merced's residential dining services that met one or more sustainable food criteria reached 13 percent.

Merced's residential dining services is over halfway toward meeting the 2020 policy goal of 20 percent sustainable food purchases.



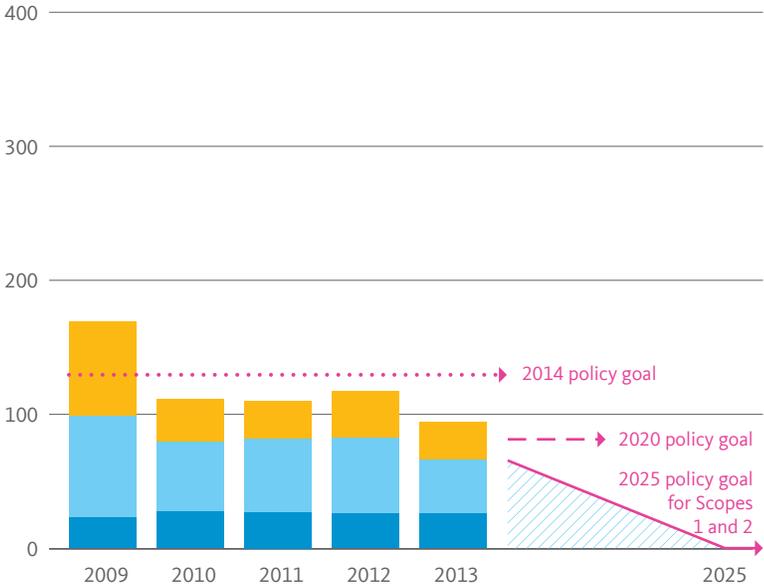
RIVERSIDE

FY 2013-2014 has been the year for renewable energy at Riverside. The College of Engineering's Center for Environmental Research and Technology launched the Sustainable Integrated Grid Initiative to research the integration of solar PV with battery storage and electric vehicles. A 500 kW parking array will provide electricity to a 1.1 MW battery used for energy management of electric vehicles and building loads. Using a fund created through a student referendum, Riverside installed 13 one-kW solar café tables in time for Earth Day celebrations. The campus also constructed an 11-acre solar PV array that will provide 6.6 million kWh of electricity per year. Ten buildings — all expecting LEED certification — opened in 2014, including an 800-bed, apartment-style, on-campus residential project with installed solar thermal panels on rooftops, providing 45 percent of hot water needs from renewable energy.

Riverside inaugurated its Green Labs program. The Office of Sustainability hired a part-time sustainability science advisor to set up and institute the Green Lab program. The new program will address energy, water and waste in all campus laboratories.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

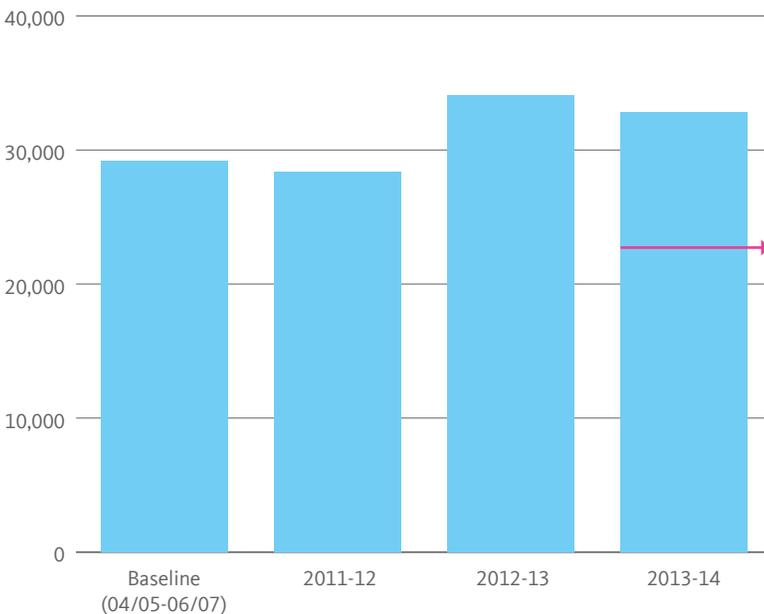
In 2013, Riverside's GHG emissions totaled 94,000 metric tons, a decrease in Scope 2 emissions by 29 percent and in Scope 3 emissions by 20 percent compared to 2012.

Total emissions in 2013 were lower than 2000 levels and Riverside is on track to meet the 2014 policy goal. The campus needs to reduce its total emissions by 12,000 metric tons to meet the 2020 policy goal.

UC's goal for achieving carbon neutrality by 2025 requires Riverside to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

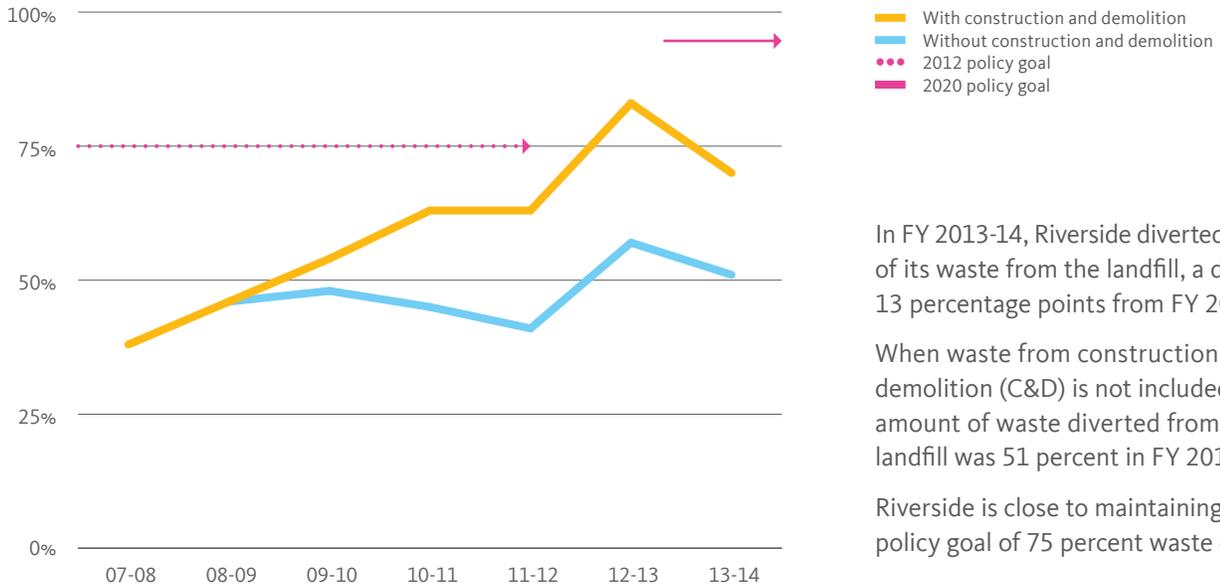
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, Riverside consumed 33,000 gallons of potable water per capita. This is a 12 percent increase from its FY 2004-05 to FY 2006-07 baseline. The campus needs to reduce its water consumption by 32 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



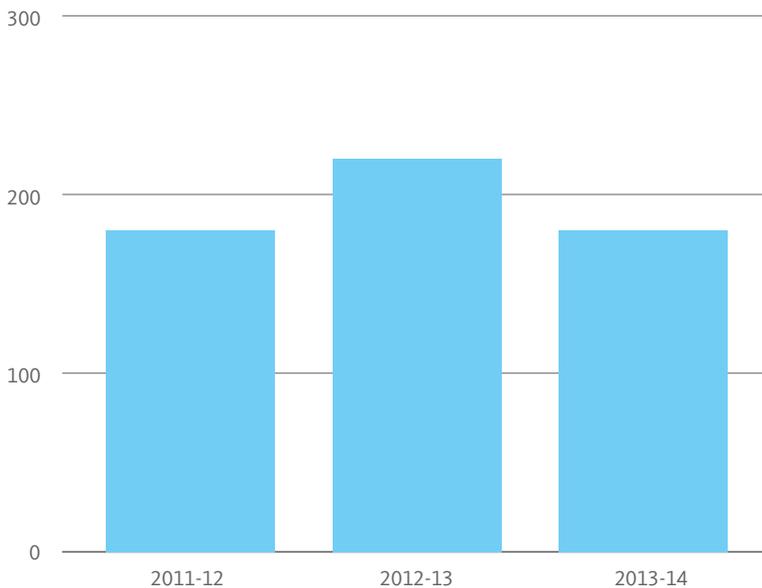
In FY 2013-14, Riverside diverted 70 percent of its waste from the landfill, a decrease of 13 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 51 percent in FY 2013-14.

Riverside is close to maintaining the 2012 policy goal of 75 percent waste diversion.

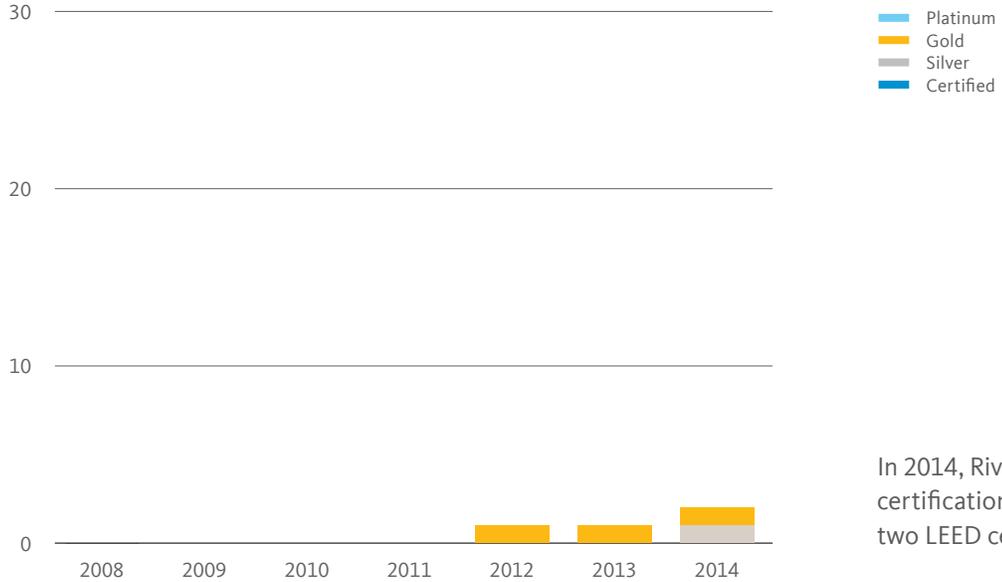
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



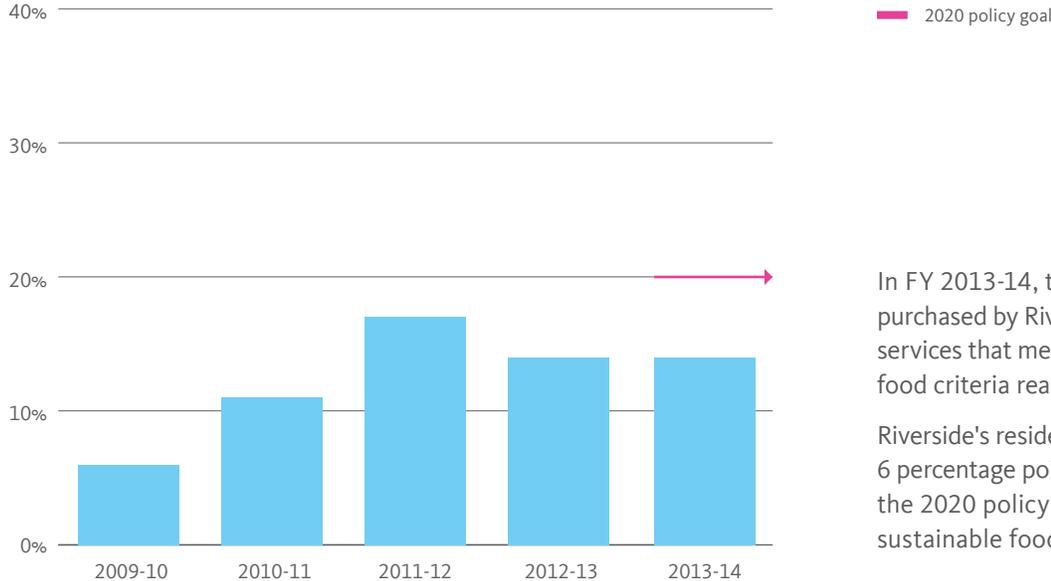
In FY 2013-14, Riverside sent 180 pounds of solid waste per capita to the landfill, 40 pounds per capita less than the prior year.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, Riverside received a LEED-Silver certification, contributing to its total of two LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Riverside's residential dining services that met one or more sustainable food criteria reached 14 percent.

Riverside's residential dining services is 6 percentage points away from meeting the 2020 policy goal of 20 percent sustainable food purchases.



The Scripps Institute of Oceanography MESOM Facility earned LEED-Platinum certification.

SAN DIEGO

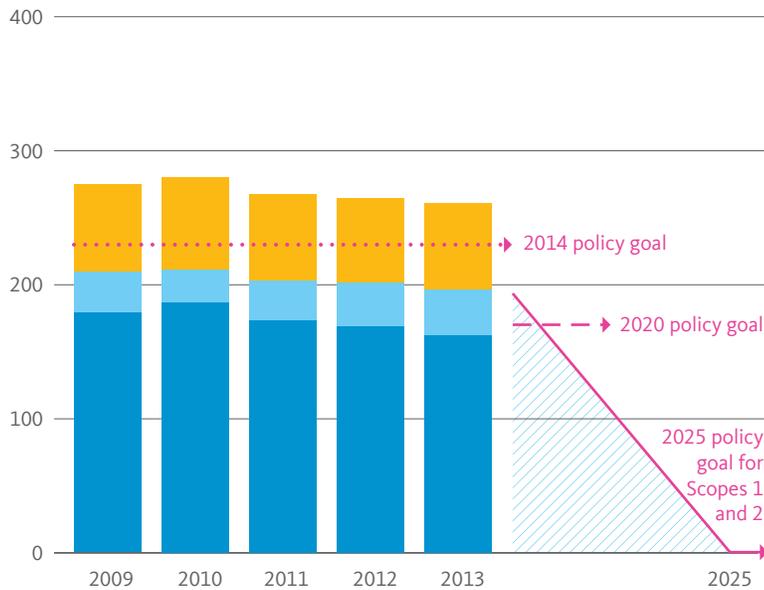
San Diego, which Sierra magazine ranked no. 17 in the nation on its “Cool Schools” list, continues to expand its sustainability leadership, including:

- Winning an Award of Merit in Sustainable Technology from the American Society of Civil Engineers for its LEED Platinum Marine Ecosystem Sensing, Observation and Modeling (MESOM) building at the Scripps Institution of Oceanography.
- Saving over 2 million kWh and \$465,000 annually through energy efficiency projects — preventing the release of nearly 2,000 metric tons of carbon dioxide.
- Installing seven rooftop solar PV systems on the main campus and completing the design of a battery system, which will be charged by renewable energy generated by an onsite fuel cell at night. This will displace high carbon-content, peak energy use during the day.
- Completing the design to extend the reclaim water system to serve the central plant cooling towers, which will reduce campus potable water usage by 25 percent and save approximately \$500,000 annually in water and sewer costs.
- Increasing residential dining’s Fair Trade purchases by 78 percent.

Future goals include finalizing an update to the university’s climate action plan and revamping and reinvigorating sustainability communications through the Sustainability Resource Center.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

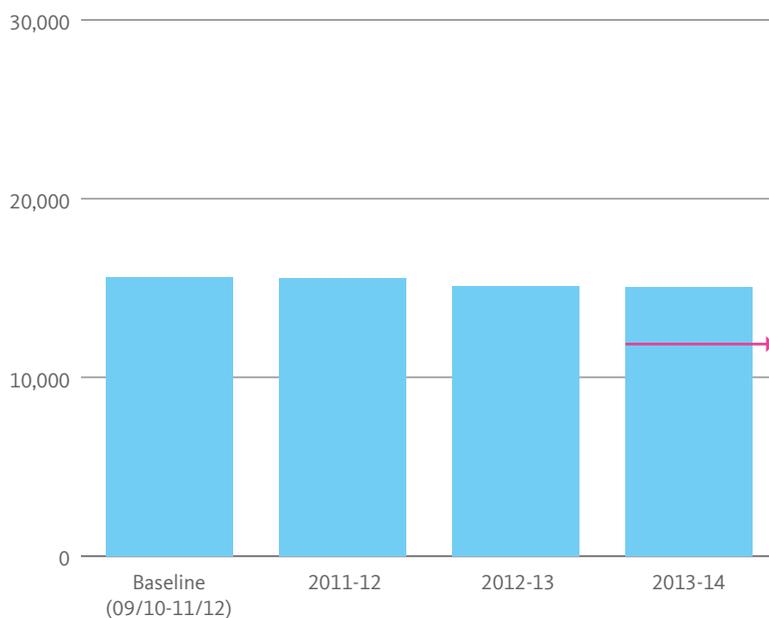
In 2013, San Diego's GHG emissions totaled 260,000 metric tons, a slight decrease from 2012.

San Diego needs to reduce its total emissions by 48,000 metric tons to meet the 2014 policy goal and 91,000 metric tons to meet the 2020 policy goal.

UC's goal for achieving carbon neutrality by 2025 requires San Diego to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

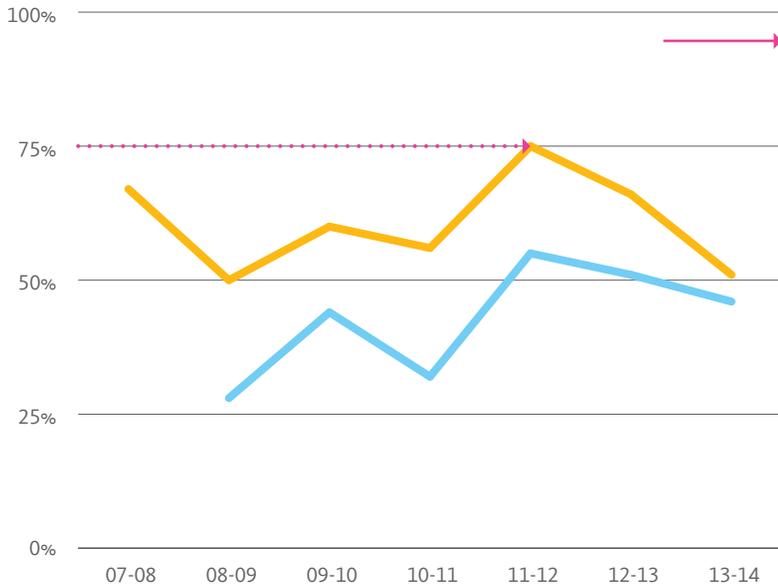
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, San Diego consumed 15,000 gallons of potable water per capita. This is a 4 percent reduction from its FY 2009-10 to FY 2010-12 baseline. The campus needs to reduce potable water another 16 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

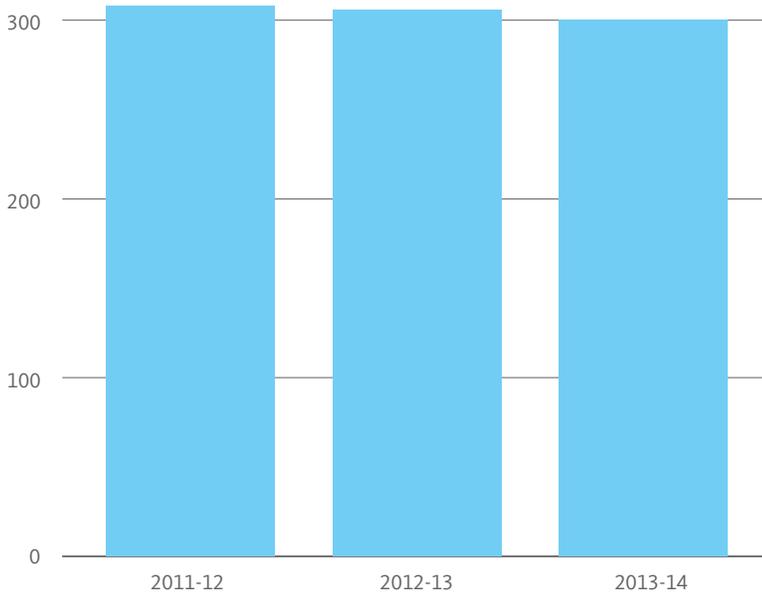
In FY 2013-14, San Diego diverted 51 percent of its waste from the landfill, a decrease of 15 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 46 percent in FY 2013-14.

San Diego was not able to maintain the 2012 policy goal of 75 percent waste diversion.

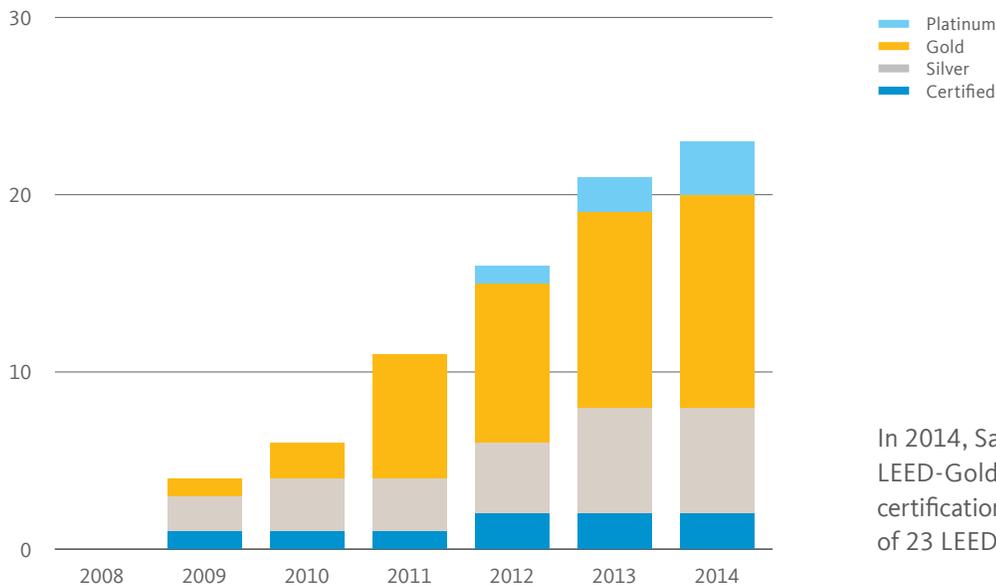
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



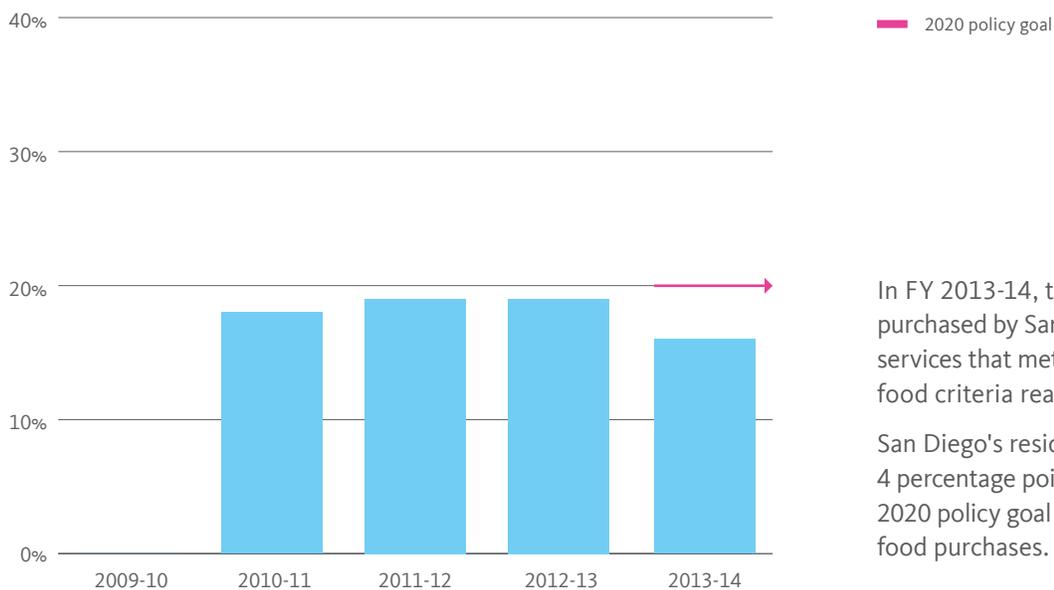
In FY 2013-14, San Diego sent 300 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



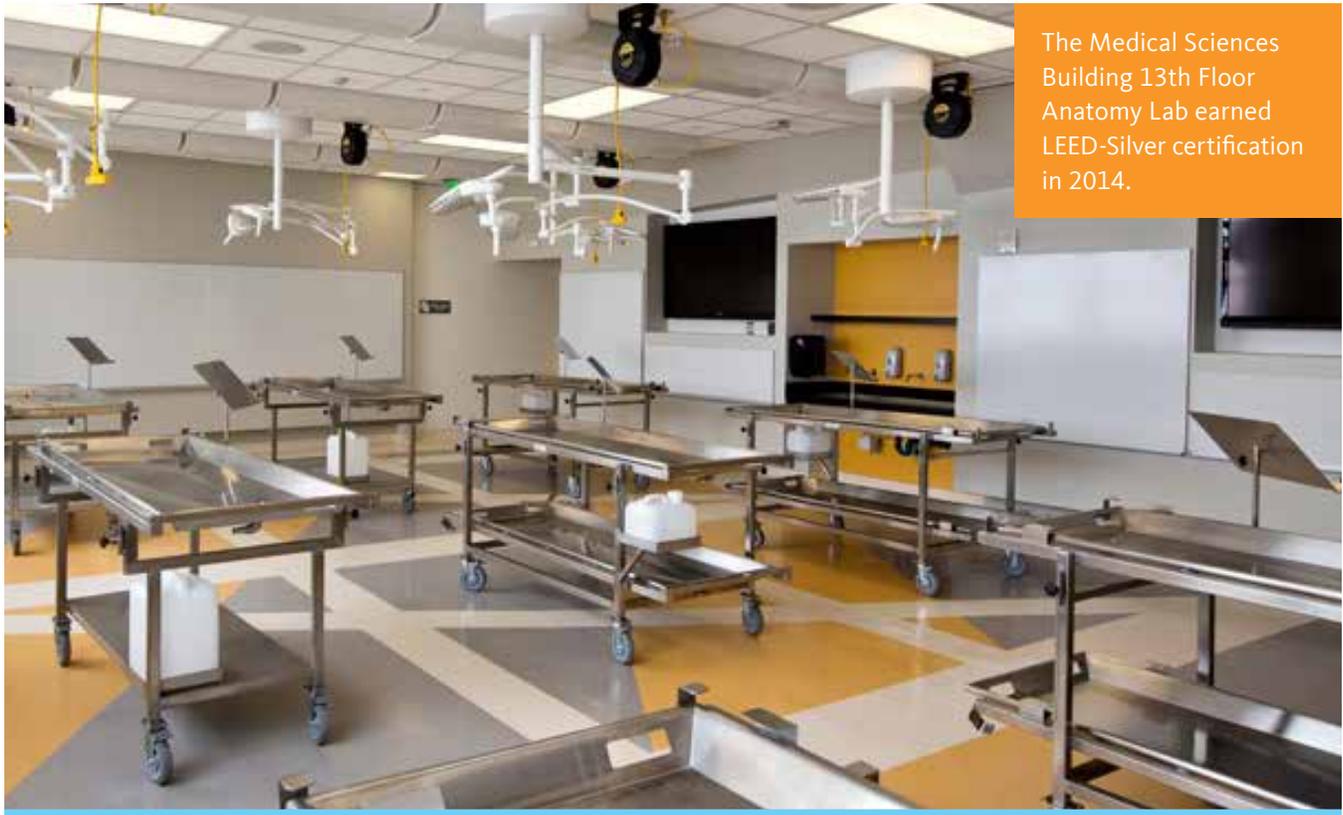
In 2014, San Diego received one LEED-Gold and one LEED-Platinum certification, contributing to its total of 23 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by San Diego's residential dining services that met one or more sustainable food criteria reached 16 percent.

San Diego's residential dining services is 4 percentage points away from meeting the 2020 policy goal of 20 percent sustainable food purchases.



The Medical Sciences Building 13th Floor Anatomy Lab earned LEED-Silver certification in 2014.

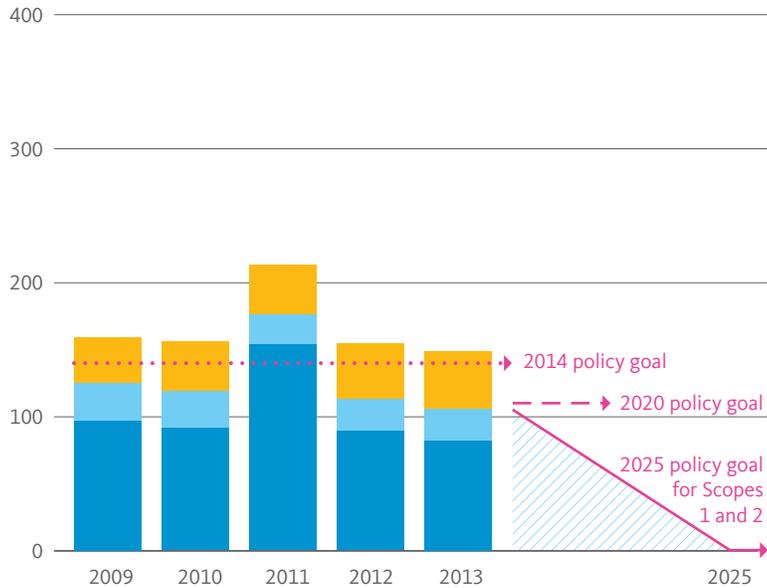
SAN FRANCISCO

UC San Francisco is committed to leadership in health and sustainability and completed several planning efforts during 2014, including the following milestones:

- Completed the UCSF Long Range Development Plan’s Greenhouse Gas Emissions Strategy: The Long Range Development Plan, approved by the Regents in November, included a Greenhouse Gas Emissions Strategy that outlined ways to reduce carbon emissions consistent with the California Environmental Quality Act and the UC Sustainable Practices Policy. The strategies aim to achieve climate action goals while incorporating plans for new campus building construction and renovation projects.
- Completed a UCSF Sustainability Action Plan and a Water Action Plan: The Sustainability Action Plan was developed by the 10 Sustainability Steering Committee work groups to identify strategies to implement goals for 2020. The plan’s goals align with the UC Sustainable Practices Policy and include toxics reduction strategies that are specific to UCSF’s healthcare focus. The UCSF Water Action Plan provides strategies to reduce per capita potable water consumption by 20 percent by 2020.
- Held a Health and Sustainability Summit: The Chancellor’s Advisory Committee on Sustainability and the Academic Senate Committee on Sustainability hosted a Health and Sustainability Summit, which gathered UCSF leadership to discuss ways to position the campus as a national leader in health and sustainability by 2025. This summit, with a welcome address by UCSF Medical Center CEO Mark Laret, evaluated recommendations from leading experts on health and climate change, toxics and operations.
- Engaged external and internal stakeholders: The LivingGreen.ucsf.edu website had more than 75,000 unique visitors during the past two years and inspired doctors and healthcare officials from Europe and Asia to visit UCSF in person. Employee engagement activities included offering a 20 percent discount on residential solar photovoltaic installations and a \$1,000 discount on Nissan Leaf electric vehicles.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- - - 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

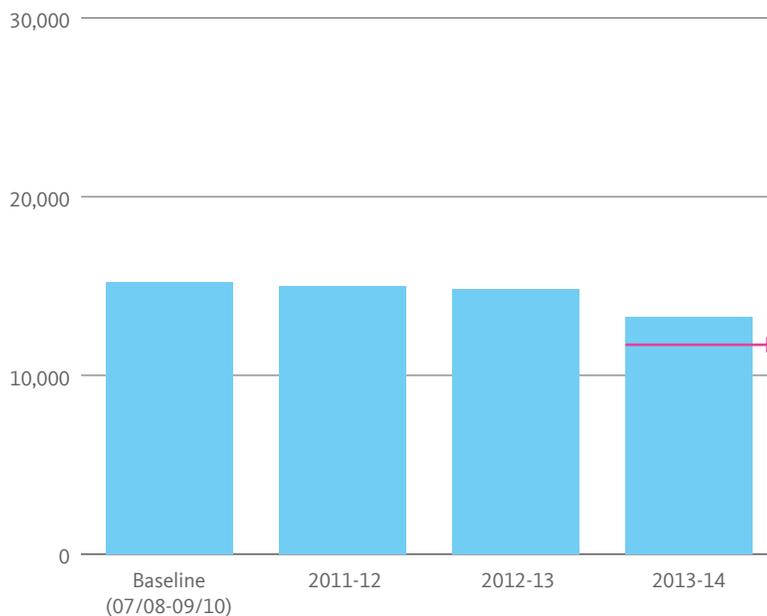
In 2013, San Francisco's GHG emissions totaled nearly 150,000 metric tons, a slight decrease from 2012.

Total emissions in 2013 were at 2000 levels and San Francisco is on track to meet the 2014 policy goal. The campus needs to reduce its total Scope 1, 2 and 3 emissions by 38,000 metric tons to meet the 2020 policy goal.

UC's goal for achieving carbon neutrality by 2025 requires San Francisco to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

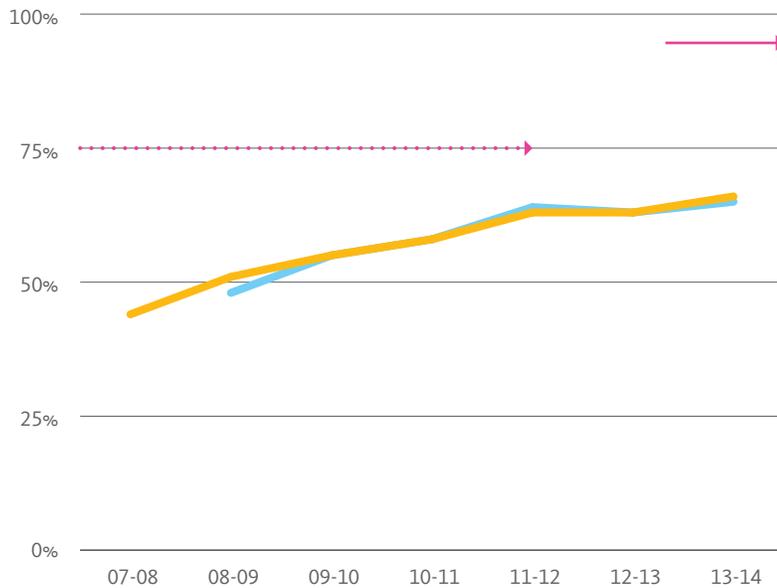
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, San Francisco consumed 13,000 gallons of potable water per capita. This is a 13 percent reduction from its FY 2007-08 to FY 2009-10 baseline. The campus needs to reduce potable water another 7 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

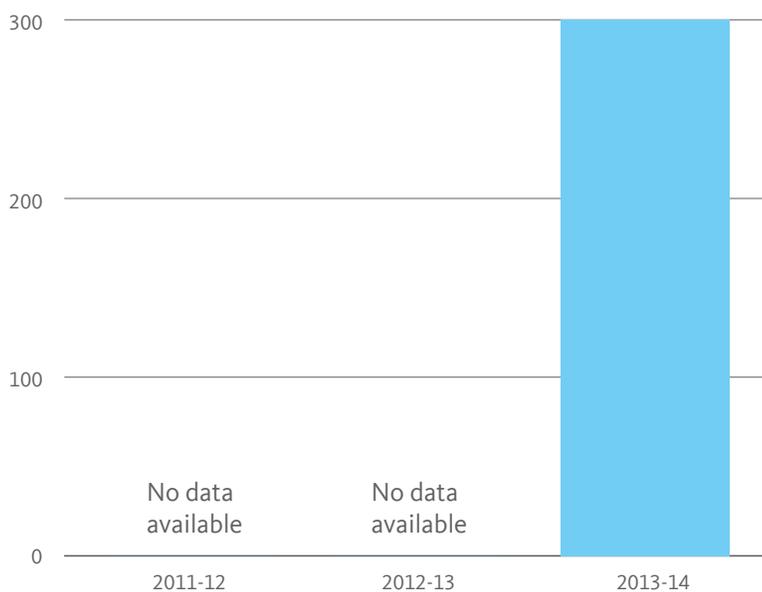
In FY 2013-14, San Francisco diverted 66 percent of its waste from the landfill, an increase of 3 percentage points from FY 2012-13.

When waste from construction and demolition (C&D) is not included, the amount of waste diverted from the landfill was 65 percent in FY 2013-14.

San Francisco has not yet met the 2012 policy goal of 75 percent waste diversion.

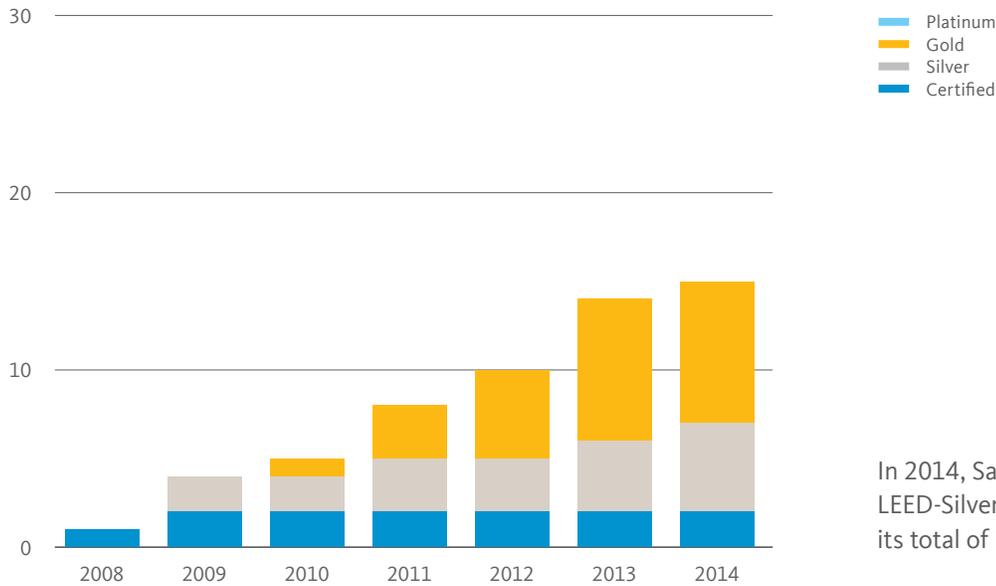
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



In FY 2013-14, San Francisco sent 300 pounds of solid waste per capita to the landfill.

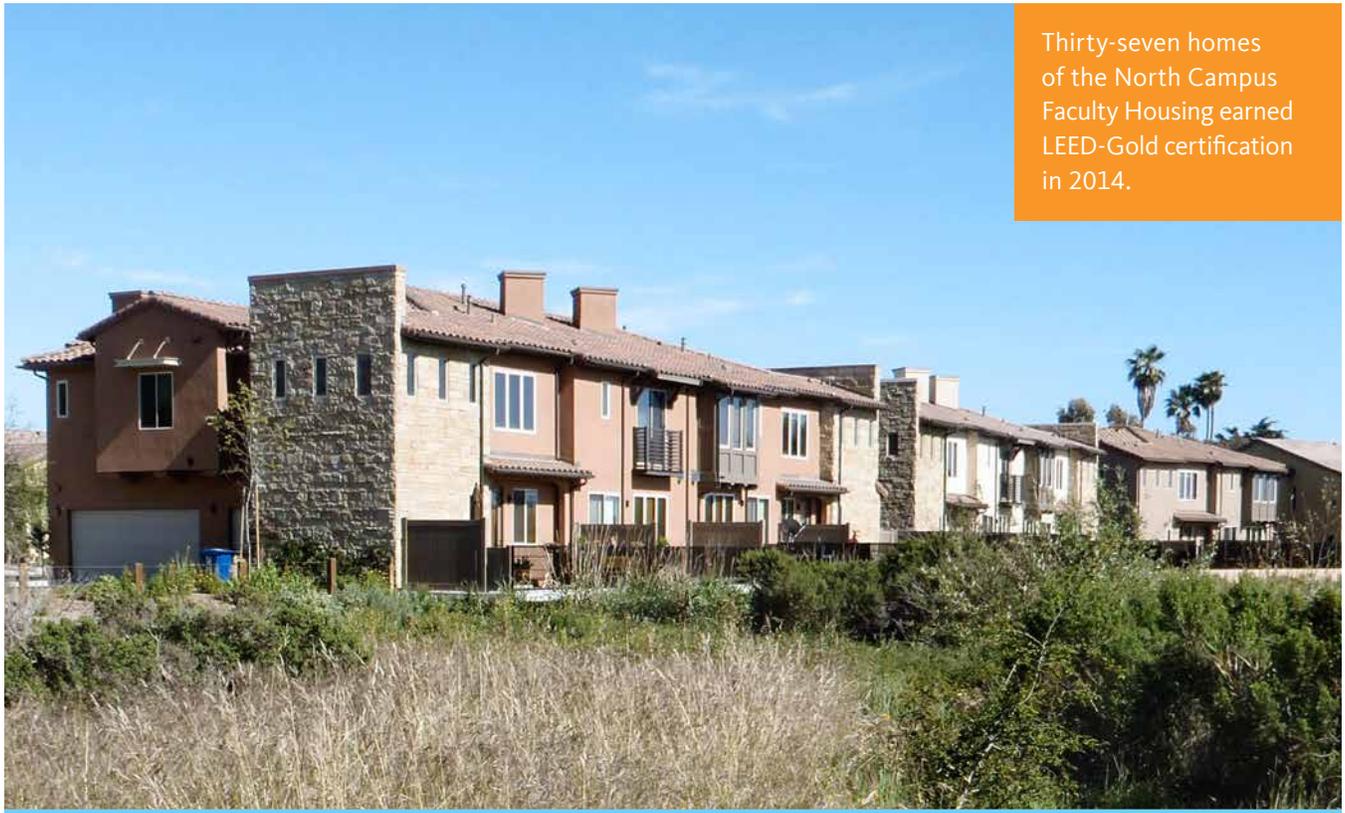
TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, San Francisco received another LEED-Silver certification, contributing to its total of 15 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING

San Francisco does not have any residential dining halls and data for sustainable food purchases at its retail operations is not available. For sustainable food purchases at the UCSF Medical Center, please see the UCSF Medical Center profile on page 95.



Thirty-seven homes of the North Campus Faculty Housing earned LEED-Gold certification in 2014.

SANTA BARBARA

Santa Barbara is committed to global leadership in sustainability through education, research and action, as is evidenced by this year's achievements. The campus received national recognition for leading the way in water conservation by the Earth Day Network, and the UCSB Extension's Green Building Certificate Program earned U.S. Green Building Council's education award.

With the past year being the driest recorded in history for much of California, Santa Barbara focused significant efforts in water conservation, leading to a 21 percent reduction from the previous year. Potable water consumption at UCSB has not been this low in over 10 years!

In November 2014, Santa Barbara more than doubled its onsite renewable energy generation by completing the largest student-funded solar array in the country — 400 kW. The campus also decreased its total natural gas usage by 15 percent over the past fiscal year.

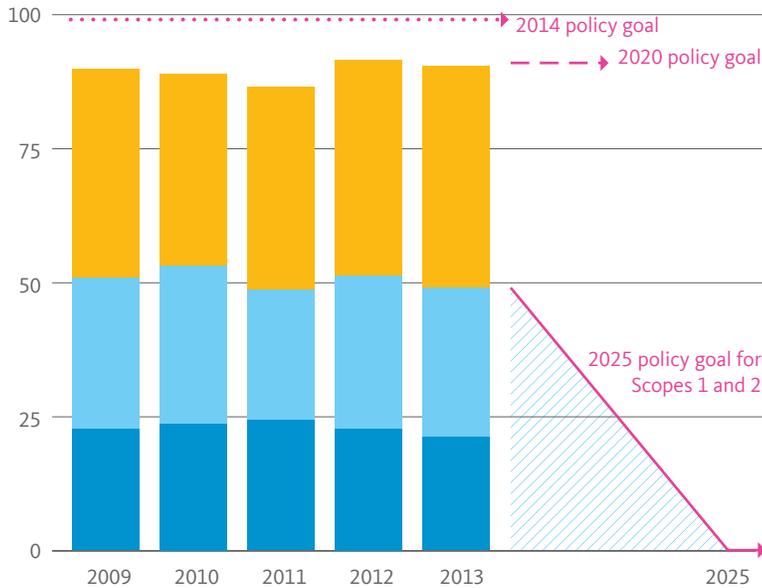
Santa Barbara placed second in the annual Campus Conservation Nationals residence hall energy competition, organized locally by Alliance to Save Energy's PowerSave Campus Program.

In the past year, the campus launched the weekly Gaucho Certified Farmers' Market, providing the campus community access to affordably priced and locally grown produce.

With 35 LEED for Homes certifications, UCSB now has over 50 LEED certifications, with more than 2 million square feet of campus building space LEED certified.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

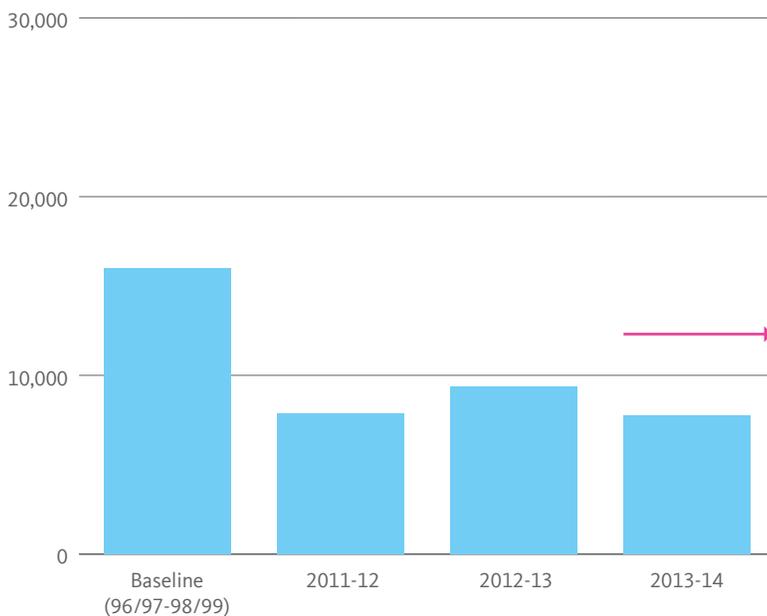
In 2013, Santa Barbara's GHG emissions totaled 90,000 metric tons, staying relatively consistent with 2012 emissions.

Total emissions in 2013 were lower than 1990 levels and Santa Barbara is on track to meet the 2014 and 2020 policy goals.

UC's goal for achieving carbon neutrality by 2025 requires Santa Barbara to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

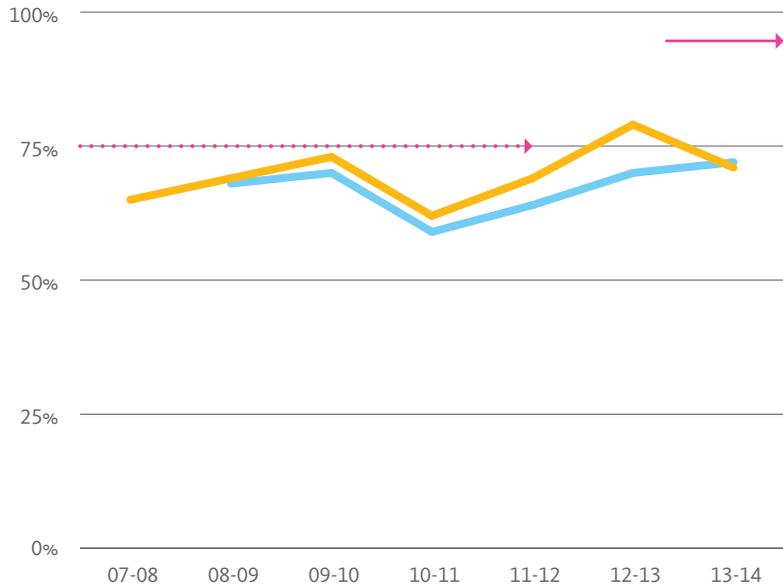
(Gallons per capita)



— 2020 policy goal

In FY 2013-14, Santa Barbara consumed 7,700 gallons of potable water per capita. This is a 51 percent reduction from its FY 1996-97 to FY 1998-99 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



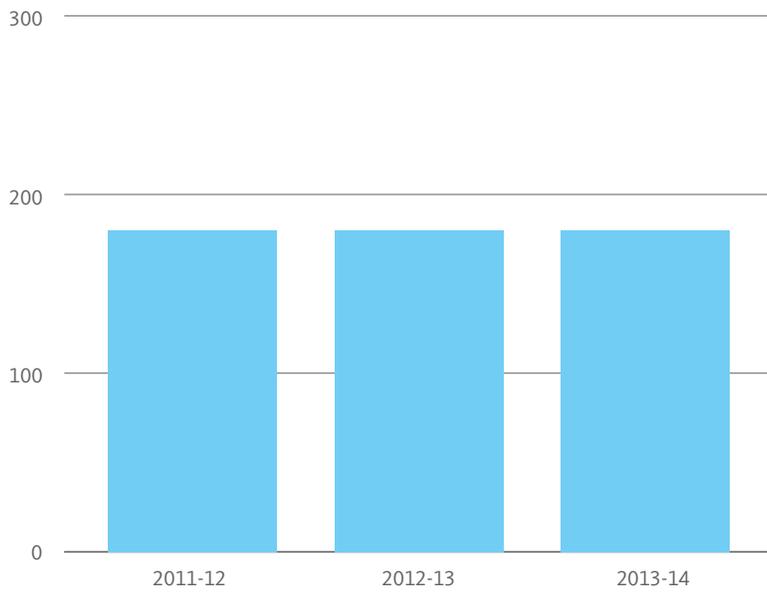
- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

In FY 2013-14, Santa Barbara diverted 71 percent of its waste from the landfill, a decrease of 8 percentage points from FY 2012-13. The decrease is due to a lack of construction and demolition projects, whose high waste diversion rate pulled up the total campus diversion rate in FY 2012-13.

Santa Barbara is close to maintaining the 2012 policy goal of 75 percent waste diversion.

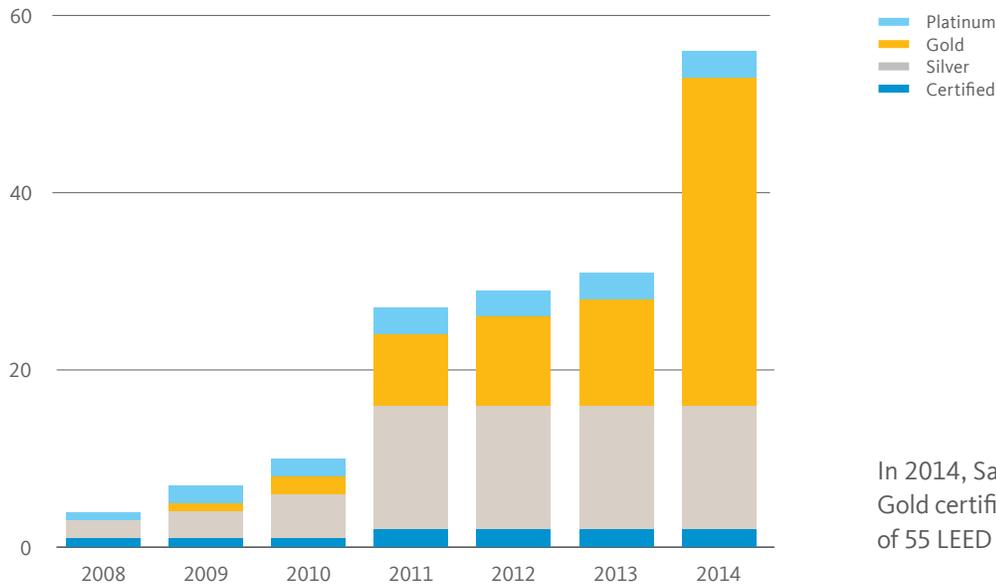
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



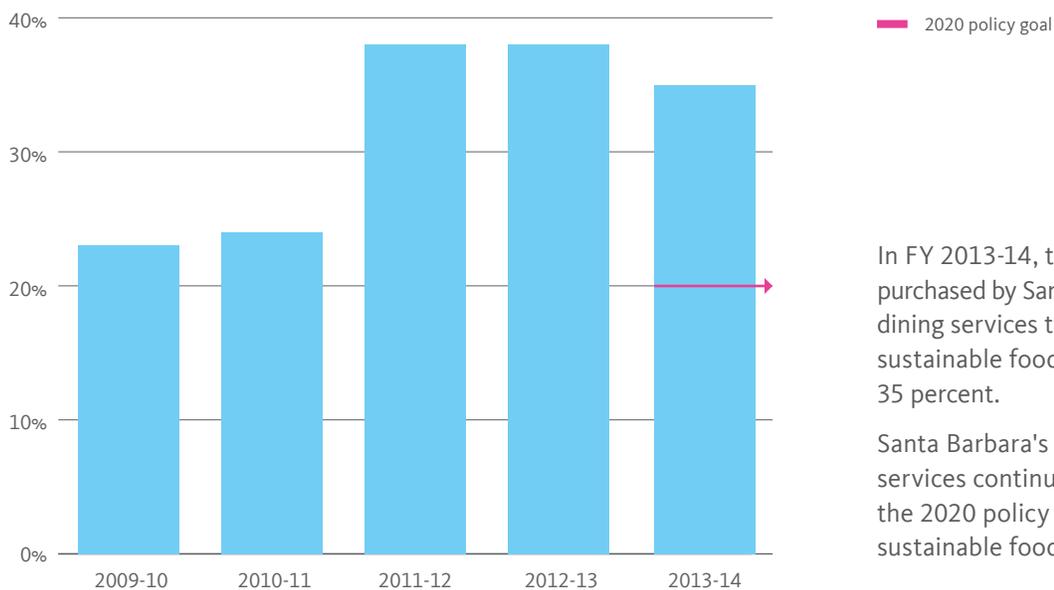
In FY 2013-14, Santa Barbara sent 180 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



In 2014, Santa Barbara received 25 LEED-Gold certifications, contributing to its total of 55 LEED certifications.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Santa Barbara's residential dining services that met one or more sustainable food criteria reached 35 percent.

Santa Barbara's residential dining services continues to outperform the 2020 policy goal of 20 percent sustainable food purchases.



The Biomedical Building earned LEED-Gold certification in 2013.

SANTA CRUZ

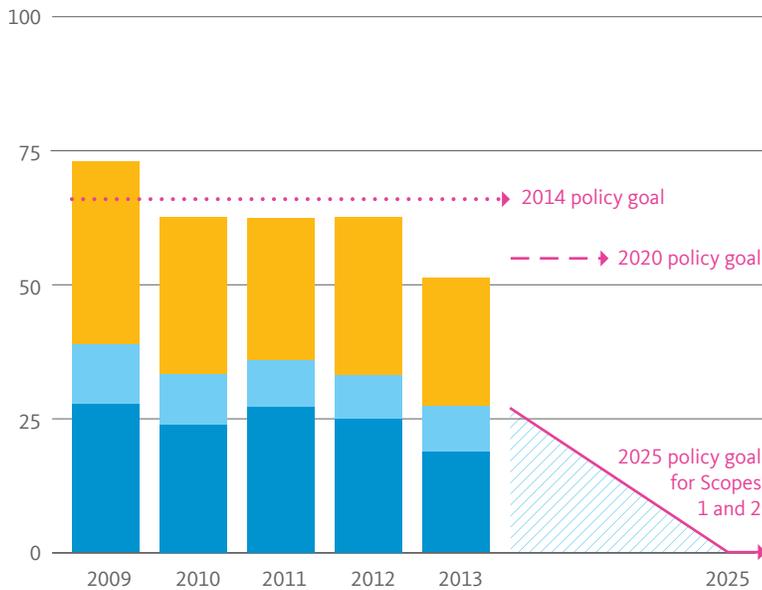
Santa Cruz made advancements in many key areas of sustainability during the 2013-14 academic year. The campus completed its first Chancellor's Sustainability Challenge, focusing on waste reduction, which resulted in over 700 personal pledges and led to the advancement of many infrastructure-related projects. A comparison of 2011 and 2014 waste assessment results indicate a 12.3 percent reduction in food scraps and compostable paper. In addition, students developed and implemented a pilot lab glove recycling program in 20 labs.

The Sustainability Office provided \$50,000 in sustainability working group funds to 13 different projects. Examples of projects include: a rainwater harvesting pilot project, a grassland bird monitoring project and a walk to class challenge day. In addition, the Carbon Fund granted over \$140,000 to 23 projects that work to reduce the carbon footprint of both the campus and the Santa Cruz community.

Additional efforts to reduce campus carbon emissions are being developed through an integrated climate and energy strategy (ICES). ICES will include a campus-wide audit for energy efficiency opportunities and renewable energy with the goal of developing a path for reaching carbon neutrality by 2025. ICES will also integrate educational opportunities for students.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



- Scope 1 (natural gas, campus fleet, fugitive)
- Scope 2 (purchased electricity)
- Scope 3 (campus commute, business air travel)
- 2014 policy goal: 2000 levels for Scopes 1, 2 and 3
- 2020 policy goal: 1990 levels for Scopes 1, 2 and 3
- 2025 policy goal: carbon neutrality (zero-net emissions) for Scopes 1 and 2

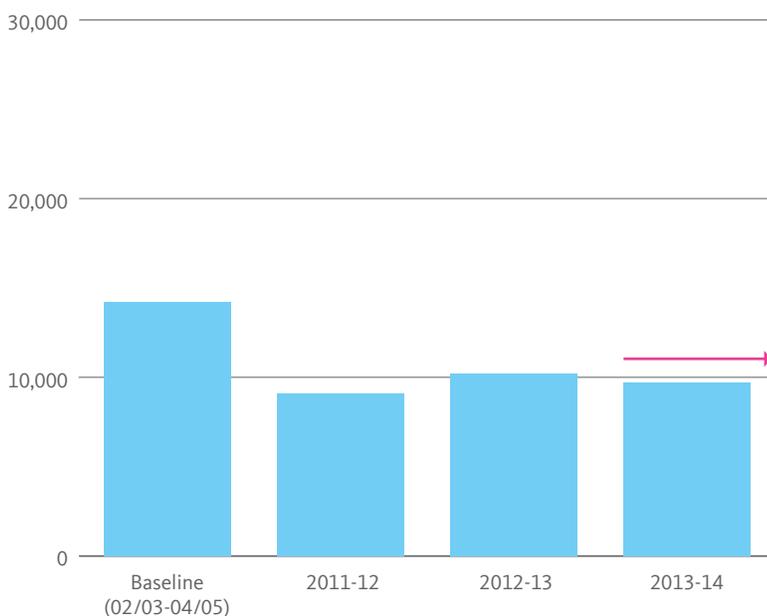
In 2013, Santa Cruz' GHG emissions totaled 51,000 metric tons, a decrease in Scope 1 emissions by 24 percent and in Scope 3 emissions by 19 percent, while Scope 2 emissions increased 6 percent from 2012.

Total emissions in 2013 were lower than 1990 levels and Santa Cruz is on track to meet the 2014 and 2020 policy goals.

UC's goal for achieving carbon neutrality by 2025 requires Santa Cruz to reduce all of its Scope 1 and 2 emissions.

POTABLE WATER CONSUMPTION

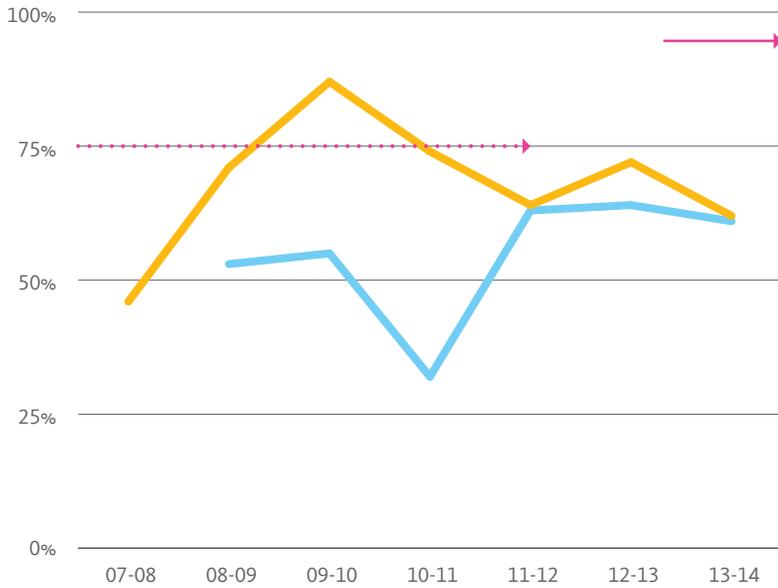
(Gallons per capita)



- 2020 policy goal

In FY 2013-14, Santa Cruz consumed 9,700 gallons of potable water per capita. This is a 31 percent reduction from its FY 2002-03 to FY 2004-05 baseline. The campus has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

SOLID WASTE DIVERTED FROM LANDFILL



- With construction and demolition
- Without construction and demolition
- 2012 policy goal
- 2020 policy goal

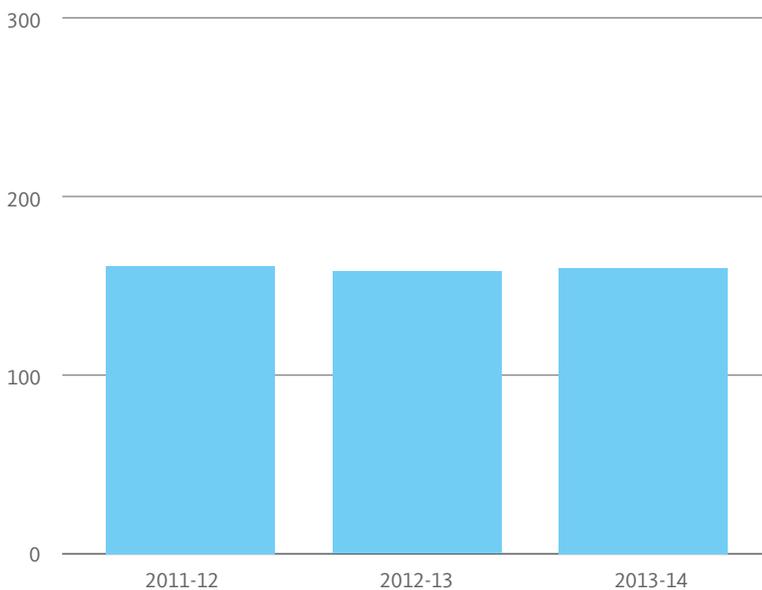
In FY 2013-14, Santa Cruz diverted 62 percent of its waste from the landfill, a decrease of 10 percentage points from FY 2012-13.

Construction and demolition (C&D) waste did not affect the diversion rate in FY 2013-14 because there were few C&D projects.

Santa Cruz was not able to maintain the 2012 policy goal of 75 percent waste diversion.

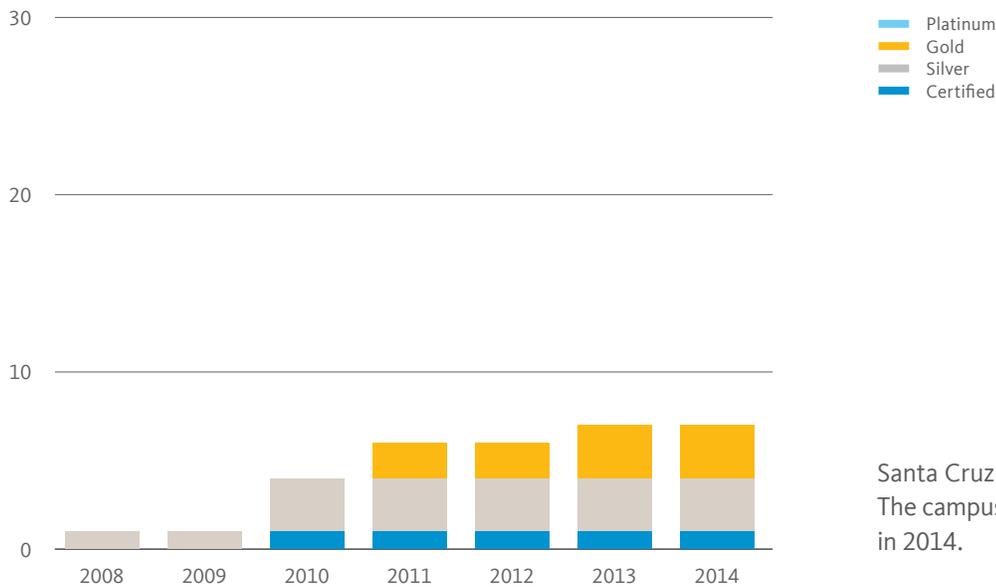
LANDFILL WASTE (NOT INCLUDING C&D)

(Pounds per capita)



In FY 2013-14, Santa Cruz sent 160 pounds of solid waste per capita to the landfill.

TOTAL NUMBER OF LEED CERTIFICATIONS



Santa Cruz has seven LEED certifications. The campus received no new certifications in 2014.

SUSTAINABLE FOOD PURCHASES FOR RESIDENTIAL DINING



In FY 2013-14, the amount of food purchased by Santa Cruz's residential dining services that met one or more sustainable food criteria dropped slightly due to some contracting changes. The campus anticipates that the percentage will increase again in FY 2014-15.

Santa Cruz's residential dining services continues to outperform the 2020 policy goal of 20 percent sustainable food purchases.



THE MEDICAL CENTERS

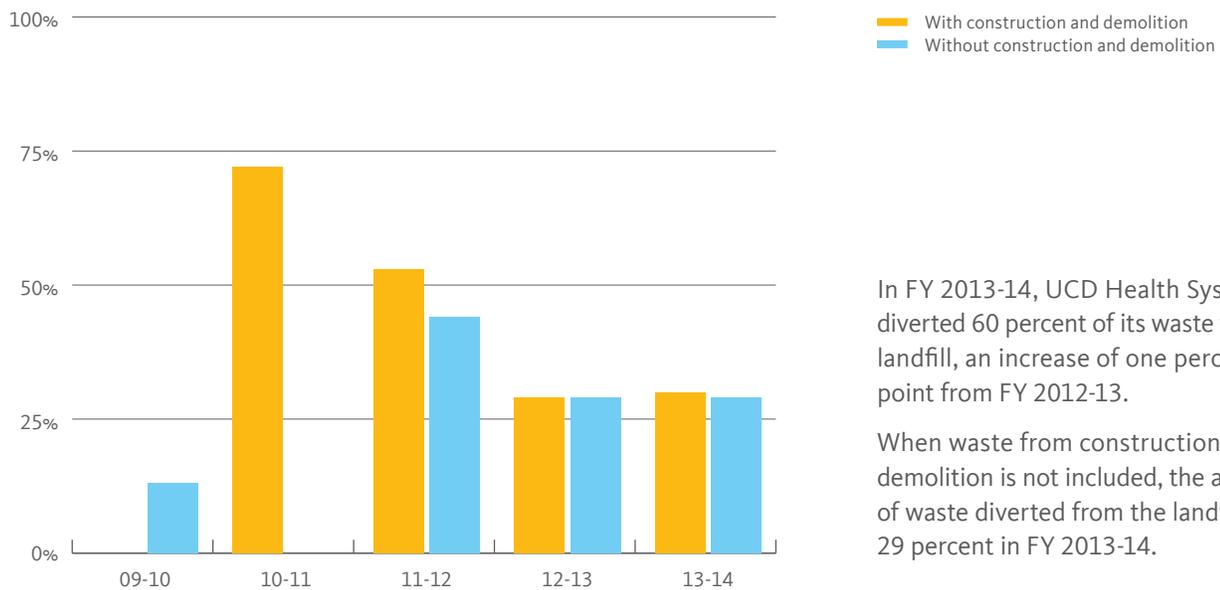
2013-14



DAVIS MEDICAL CENTER

Fiscal year 2013-14 was a transition year for the UC Davis (UCD) Health System Sustainability Program. Established programs continued to have an impact, including reprocessing of single-use medical devices, collection of surplus medical supplies for the MedShare program and general sustainability efforts within Food & Nutrition Services. A trial program to use the UCD Health System waste management contractor for construction and demolition waste management resulted in better than 90 percent waste diversion for a hospital renovation project. Of significance was the move of the sustainability program to Facilities Design and Construction, essential for enhanced program support and direct access to energy efficiency and green building projects. The Sustainability Subcommittee received full Hospital Committee status, boosting the sustainability program’s visibility. Several energy efficiency and green building initiatives have either been launched or are in the planning stages, with many coming to fruition over the coming months. Fiscal-year 2014-15 should bring significant sustainability progress to UCD Health System.

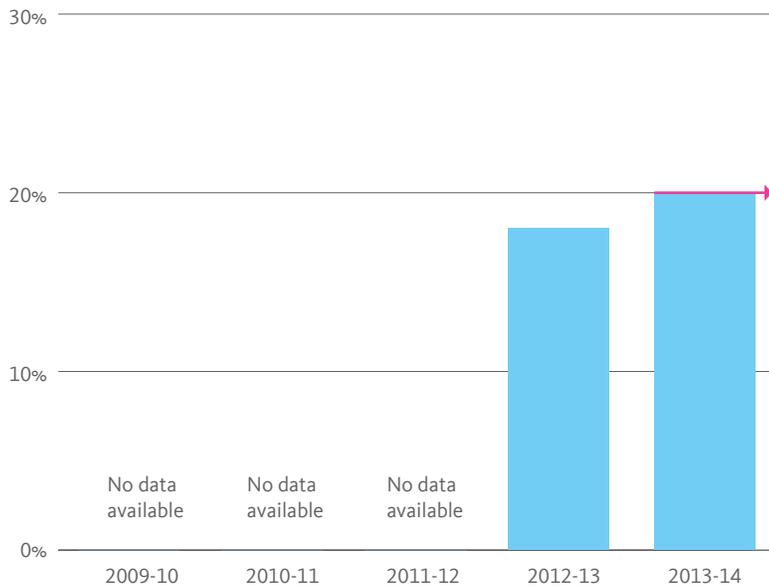
SOLID WASTE DIVERTED FROM LANDFILL



In FY 2013-14, UCD Health System diverted 60 percent of its waste from the landfill, an increase of one percentage point from FY 2012-13.

When waste from construction and demolition is not included, the amount of waste diverted from the landfill was 29 percent in FY 2013-14.

SUSTAINABLE FOOD PURCHASES



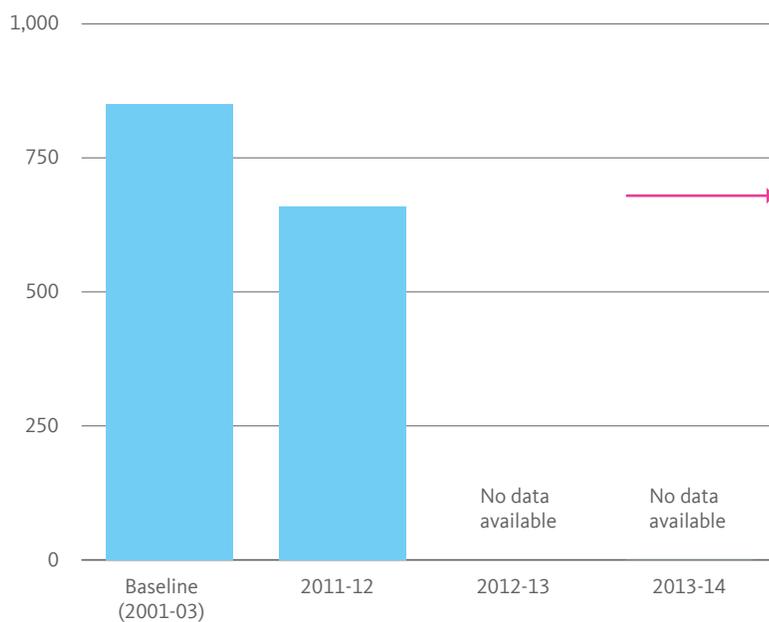
2020 policy goal

In FY 2013-14, 20 percent of the food purchased at the UCD Health System met one or more sustainable food criteria, an increase of 2 percentage points from FY 2012-13.

The UCD Health System has met the 2020 policy goal of 20 percent sustainable food purchases seven years early.

POTABLE WATER CONSUMPTION

(Gallons per capita)



2020 policy goal

In FY 2013-14 the UCD Health System consumed 110 million gallons of potable water, a decrease from the 190 million gallons consumed in FY 2012-13.

Population data (in adjusted patient days) was not available for FY 2013-14 and 2012-13. Therefore, UCD Health System's water consumption for these years can not be shown in relation to the 2020 policy goal.

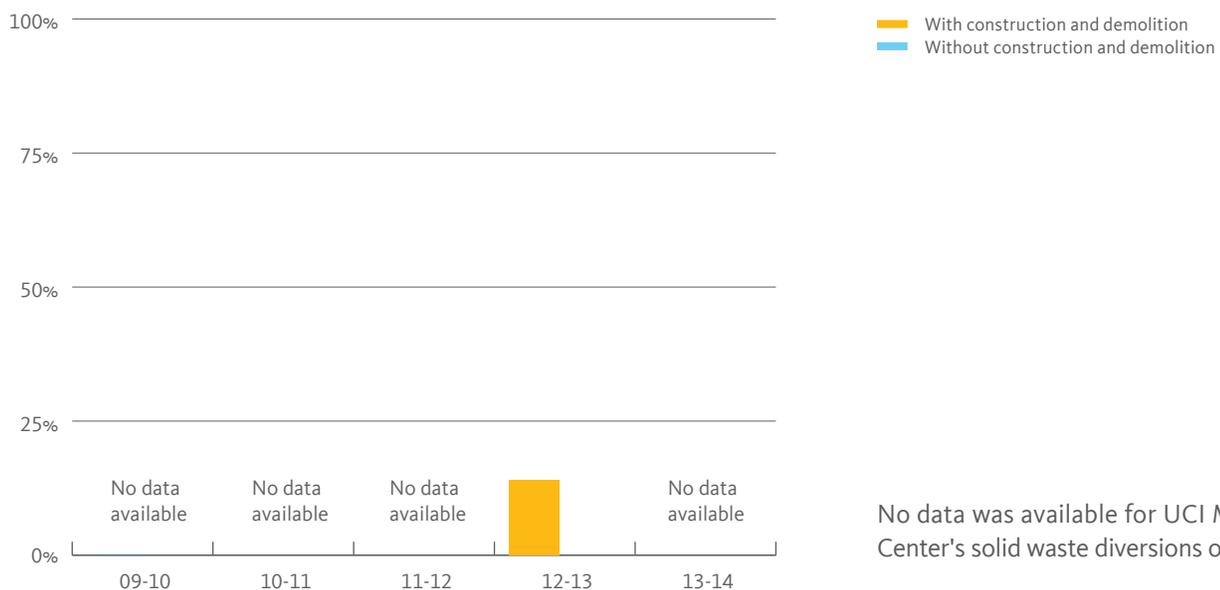
IRVINE MEDICAL CENTER

UC Irvine (UCI) Medical Center continued to improve and expand sustainability within its organization in 2014. It completed a comprehensive indoor water audit, which identified water savings potential of over 14 million gallons per year or 19 percent of baseline water consumption. Water efficiency projects include replacing old bathroom fixtures and washing and sterilization equipment with newer, more efficient models.

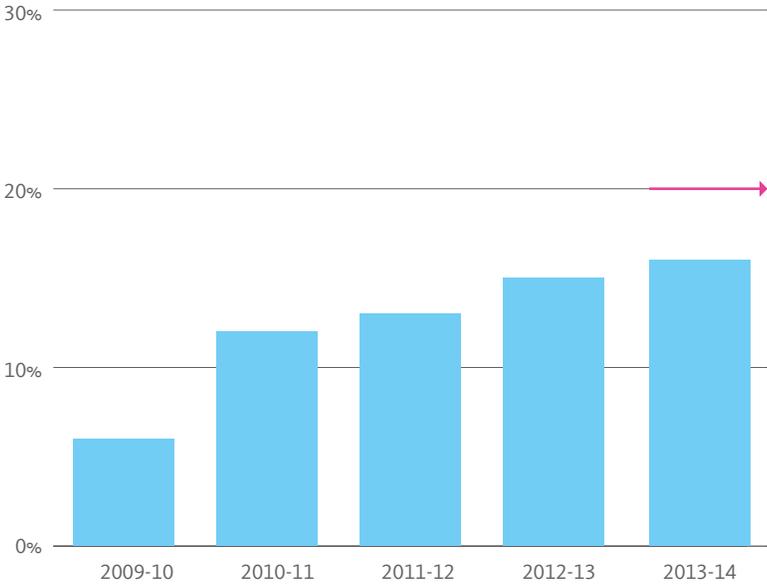
In 2014, UCI Medical Center received its first LEED certification — the Clinical Lab Building earned LEED-Gold certification.

UCI Medical Center increased the percentage of sustainable food purchases meeting one or sustainability criteria to 16 percent. To raise awareness of the health and environmental benefits of reducing meat consumption, the medical center offers meatless days every week.

SOLID WASTE DIVERTED FROM LANDFILL



SUSTAINABLE FOOD PURCHASES



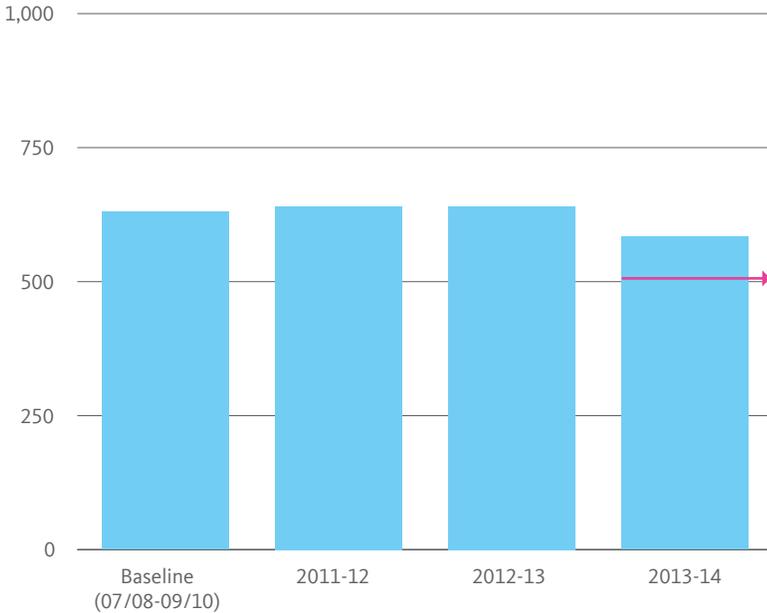
2020 policy goal

In FY 2013-14, 16 percent of the food purchased at the UCI Medical Center met one or more sustainable food criteria, an increase of one percentage point from FY 2012-13.

The UCI Medical Center is 4 percentage points away from meeting the 2020 policy goal of 20 percent sustainable food purchases.

POTABLE WATER CONSUMPTION

(Gallons per capita)



2020 policy goal

In FY 2013-14, the UCI Medical Center consumed 580 gallons of potable water per capita. This is a 7 percent reduction from its FY 2007-08 to FY 2009-10 baseline.

The medical center needs to reduce its potable water consumption by 13 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

UCLA MEDICAL CENTER

UCLA Health is a national leader in sustainable health care and made significant progress in sustainable food service, waste reduction and community engagement over the past year.

UCLA Health increased its sustainable food procurement to 30 percent in FY 2013-14. Some beef and poultry served to patients and visitors at UCLA’s Ronald Reagan and Santa Monica Medical Centers is now antibiotic-free. Ronald Reagan Medical Center Dining Commons received a city of Los Angeles Green Business certification for its sustainable operations.

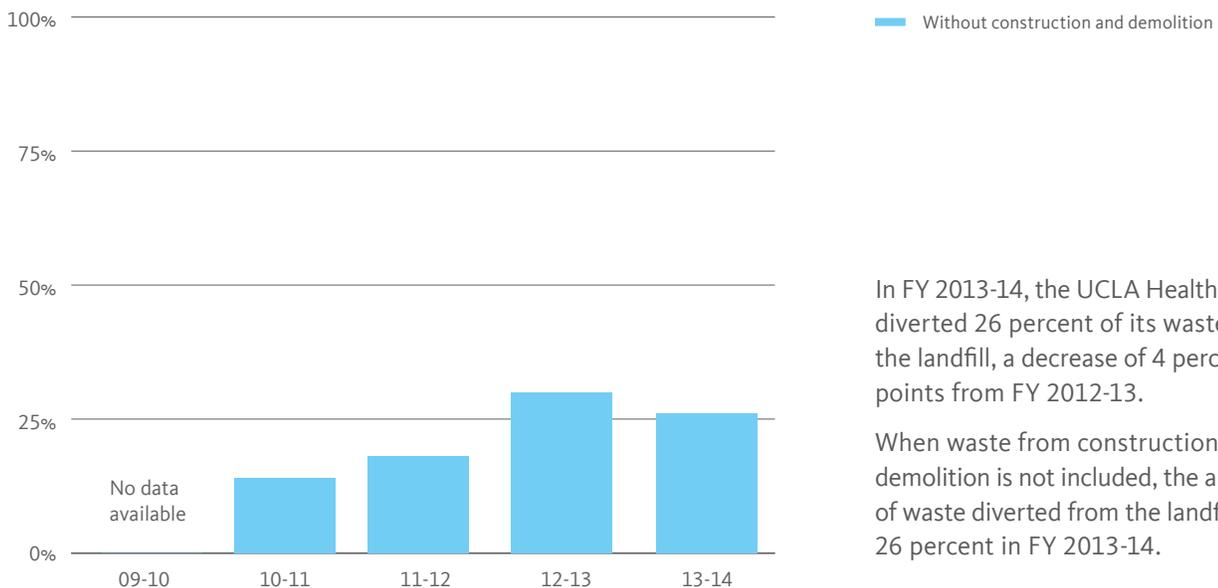
UCLA Health is expanding its washable isolation gowns program, diverting 190 tons of disposable gowns from the landfill and saving over \$710,000 since the program began in May 2012. Changes to the policy describing

when isolation gowns are required to be worn has led to a 50 percent decrease in their use. Additionally, this past year UCLA Health partnered with a company called Shred-It to start recycling blue wrap, the material used for wrapping surgical instruments for sterilization.

To engage its community, UCLA Health created a Sustainability Liaison Program, which includes representation by nurses, clinic managers, human resources, IT and administrative staff, among others. UCLA Health also created a sustainability website which includes its commitment statement, goals and progress, news, events, resources, a feedback form and social media.

In 2014, Practice GreenHealth presented UCLA Health with a Partner for Change award for the fourth year in a row and a first-time Making Medicine Mercury-Free award.

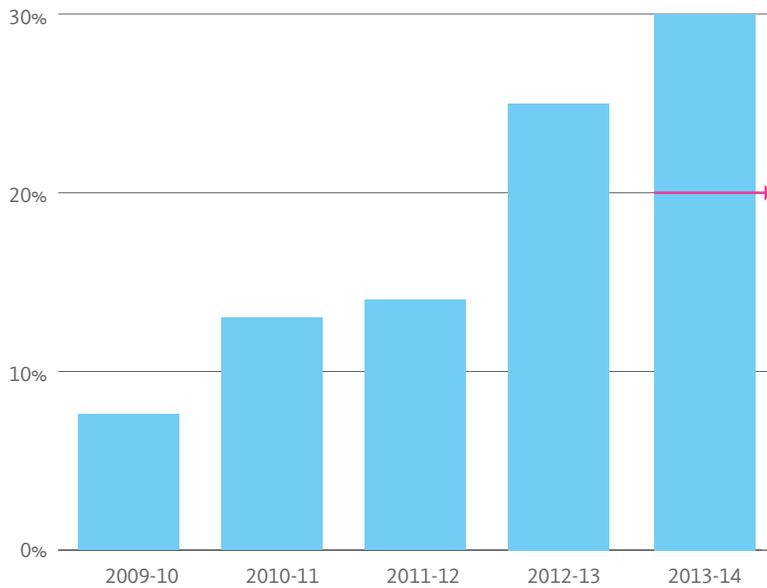
SOLID WASTE DIVERTED FROM LANDFILL



In FY 2013-14, the UCLA Health System diverted 26 percent of its waste from the landfill, a decrease of 4 percentage points from FY 2012-13.

When waste from construction and demolition is not included, the amount of waste diverted from the landfill was 26 percent in FY 2013-14.

SUSTAINABLE FOOD PURCHASES



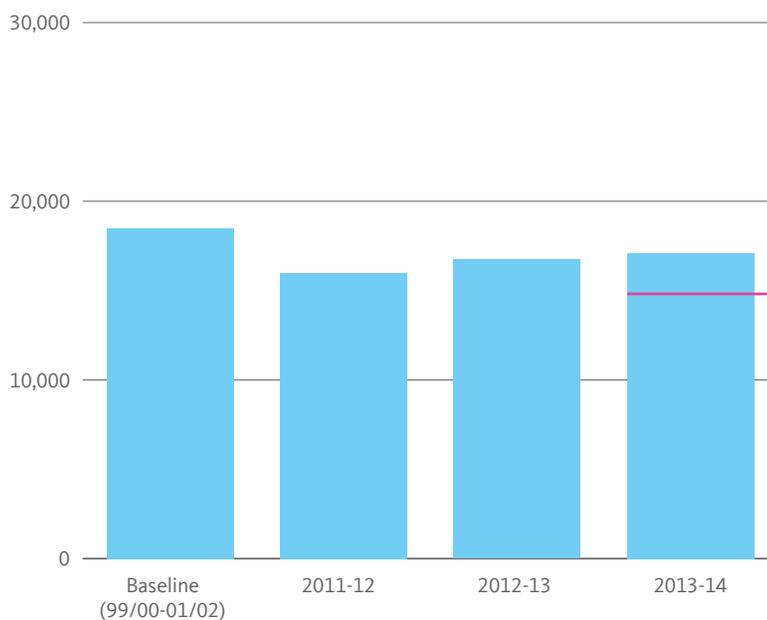
2020 policy goal

In FY 2013-14, 30 percent of the food purchased at the UCLA Health System met one or more sustainable food criteria, an increase of 3 percentage points from FY 2012-13.

The UCLA Health System has outperformed the 2020 policy goal of 20 percent sustainable food purchases seven years early.

POTABLE WATER CONSUMPTION

(Gallons per capita)



2020 policy goal

In FY 2013-14, the UCLA Campus and Health System consumed 17,000 gallons of potable water per capita. This is a 7 percent reduction from its FY 1999-00 to FY 2001-02 baseline.

UCLA needs to reduce potable water consumption by another 13 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

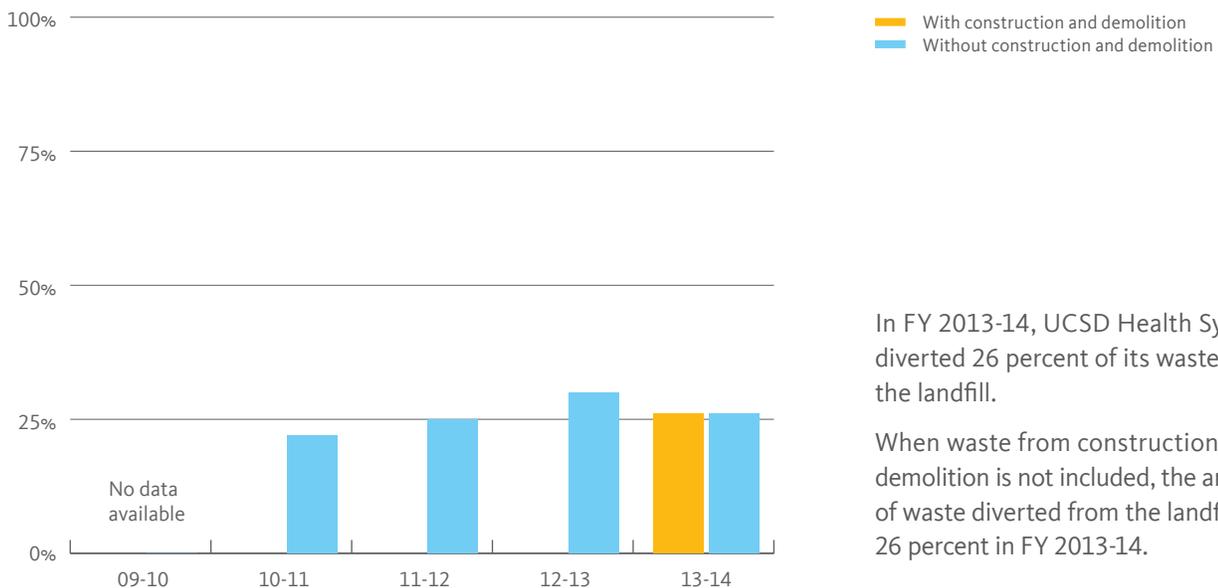
SAN DIEGO MEDICAL CENTER

UC San Diego (UCSD) Health System has continued making progress in sustainability over the past year.

The UCSD Health System implemented several waste reduction efforts including a new print management program, better waste sorting and an increase in the number of recycling containers. UCSD Health System received a Gold Award “for outstanding performance in reducing environmental harm and improving overall hospital quality through medical device remanufacturing and reprocessing,” from its primary medical supply reprocessing vendor. In 2013, reprocessing prevented nearly 14,000 pounds of waste.

Director of Environmental Services, Greg May, completed his final year on the Novation Environmental Advisory Group. During May’s service, this group reduced product packaging; identified, reduced and eliminated chemicals of concern; and identified sustainable food options for Novation’s network of health care providers.

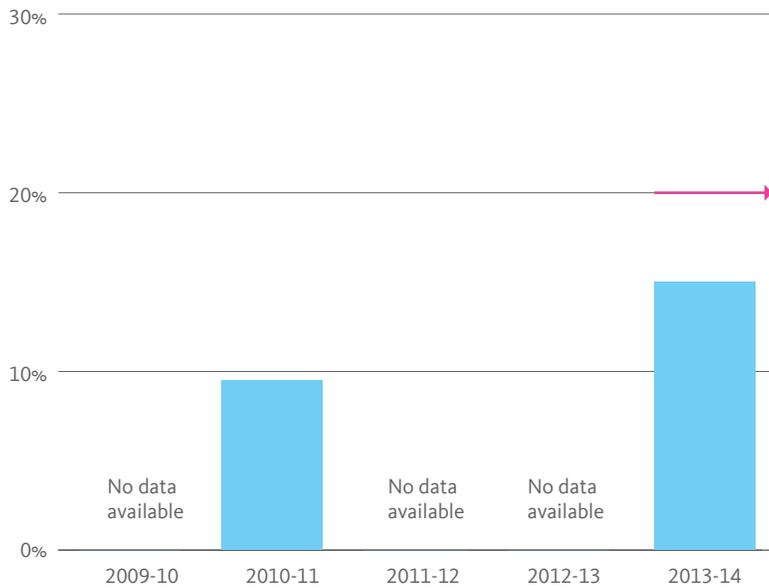
SOLID WASTE DIVERTED FROM LANDFILL



In FY 2013-14, UCSD Health System diverted 26 percent of its waste from the landfill.

When waste from construction and demolition is not included, the amount of waste diverted from the landfill was 26 percent in FY 2013-14.

SUSTAINABLE FOOD PURCHASES



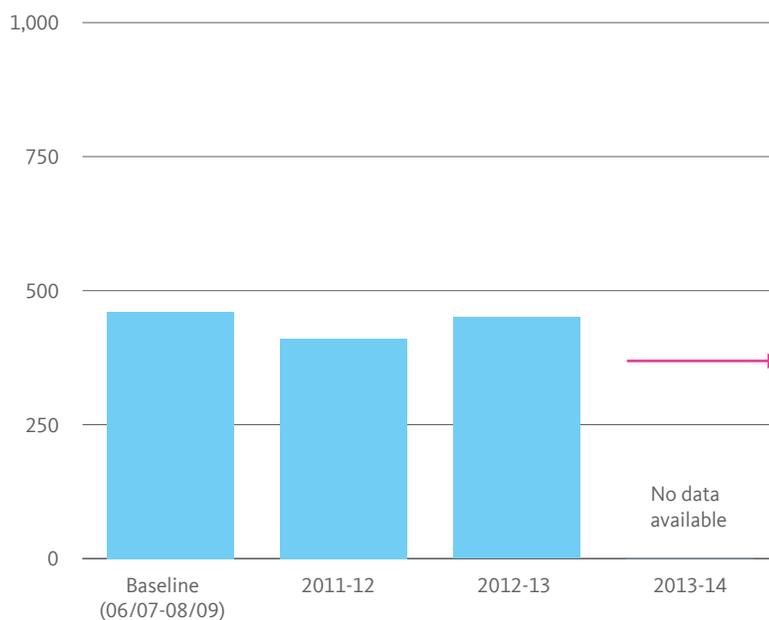
2020 policy goal

In FY 2013-14, 15 percent of the food purchased at the UCSD Health System met one or more sustainable food criteria, an increase of 5 percentage points from FY 2010-11.

The UCSD Health System is 5 percentage points away from meeting the 2020 policy goal of 20 percent sustainable food purchases.

POTABLE WATER CONSUMPTION

(Gallons per capita)



2020 policy goal

In FY 2012-13, the UCSD Health System consumed 448 gallons of potable water per capita. This is a 2.2 percent reduction from its FY 2006-07 to FY 2008-09 baseline.

The medical center needs to reduce its potable water consumption by another 18 percentage points to meet the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

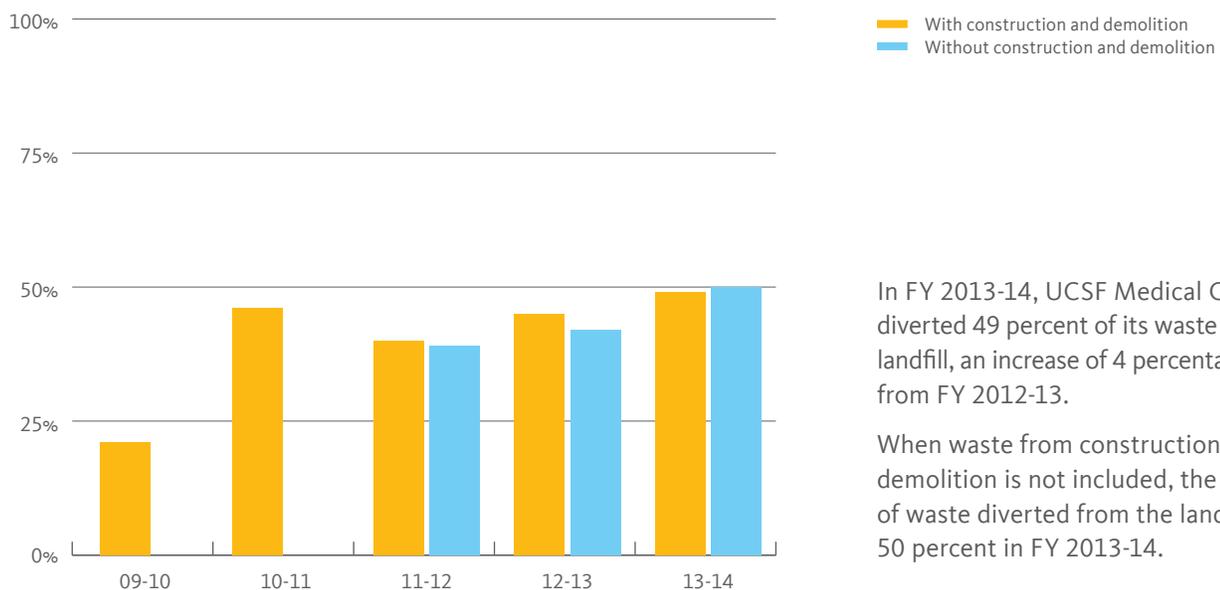
Data for FY 2013-14 is not available.

SAN FRANCISCO MEDICAL CENTER

Multiple national and global awards programs recognized UC San Francisco Medical Center’s (UCSFMC) sustainability efforts in 2014. The University Healthcare Consortium (a group of 450 academic medical centers and affiliate hospitals worldwide) presented UCSFMC with its second annual Sustainability Award. Practice GreenHealth presented UCSFMC with an Emerald award and two Circles of Excellence awards in the categories of Climate (for its greenhouse gas emissions tracking and reporting) and Green Building (for construction of its Medical Center at Mission Bay, which is pursuing a LEED Gold rating). UCSFMC also received Stryker’s first annual Healthy Hospital Award for maximizing reprocessing of single use devices. Since FY 2012-13, UCSF Medical Center has benefitted from over to \$1.7 million in savings by transitioning to reusable devices.

Significant sustainability projects in 2014 include reduced use of toxic flame retardants in the new medical center and the following infrastructure retrofit improvements. New medical air compressors reduced chilled-water loop flow by approximately 25 gallons per minute, significantly decreasing pump energy demand. At the Mt. Zion campus, an air-cooled chiller refurbishment reduced the load on the central gas-powered chillers at the Cancer Treatment Center. A chilled beam cooling system at the Ambulatory Care Center is part of a floor-renovation project seeking a LEED-Gold for Commercial Interiors certification.

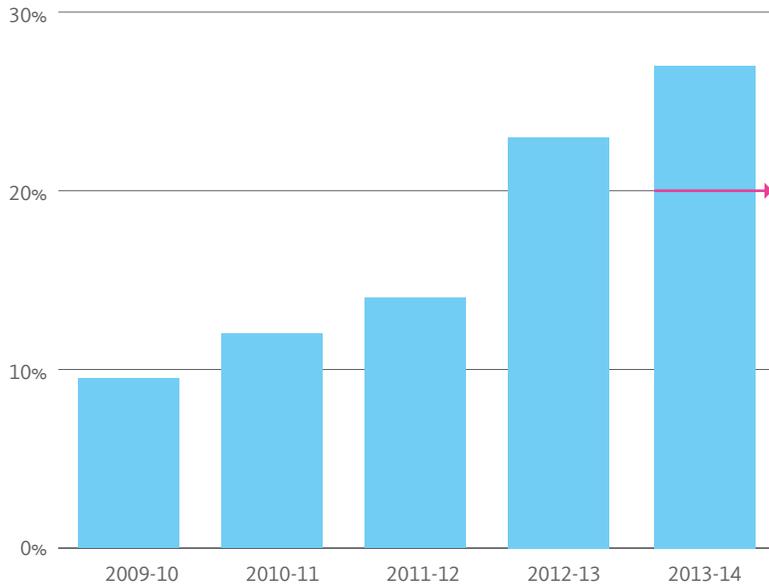
SOLID WASTE DIVERTED FROM LANDFILL



In FY 2013-14, UCSF Medical Center diverted 49 percent of its waste from the landfill, an increase of 4 percentage points from FY 2012-13.

When waste from construction and demolition is not included, the amount of waste diverted from the landfill was 50 percent in FY 2013-14.

SUSTAINABLE FOOD PURCHASES



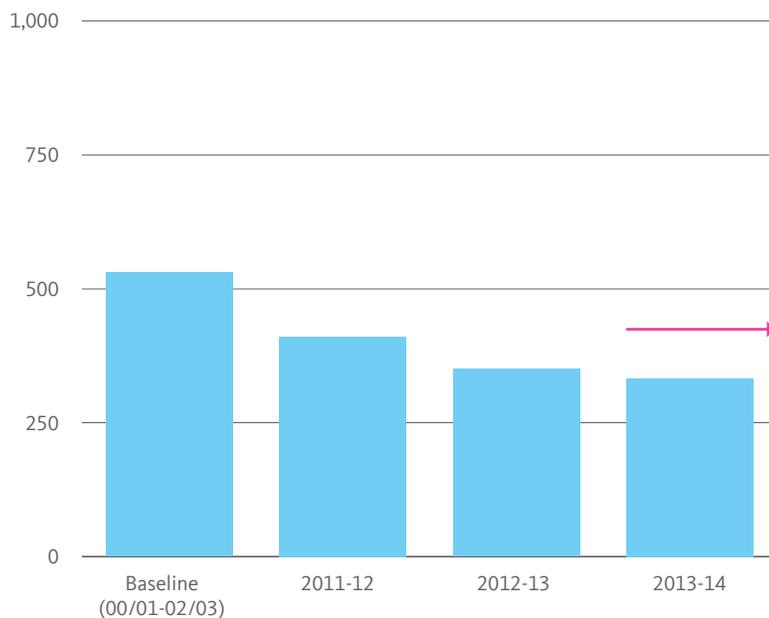
2020 policy goal

In FY 2013-14, 27 percent of the food purchased at the UCSF Medical Center met one or more sustainable food criteria, an increase of 4 percentage points from FY 2012-13.

The UCSF Medical Center has outperformed the 2020 policy goal of 20 percent sustainable food purchases seven years early.

POTABLE WATER CONSUMPTION

(Gallons per capita)



2020 policy goal

In FY 2013-14, the UCSF Medical Center consumed 330 gallons of potable water per capita. This is a 37 percent reduction from its FY 2000-01 to FY 2002-03 baseline.

UCSF Medical Center has outperformed the 2020 policy goal of reducing potable water consumption by 20 percent below the baseline.

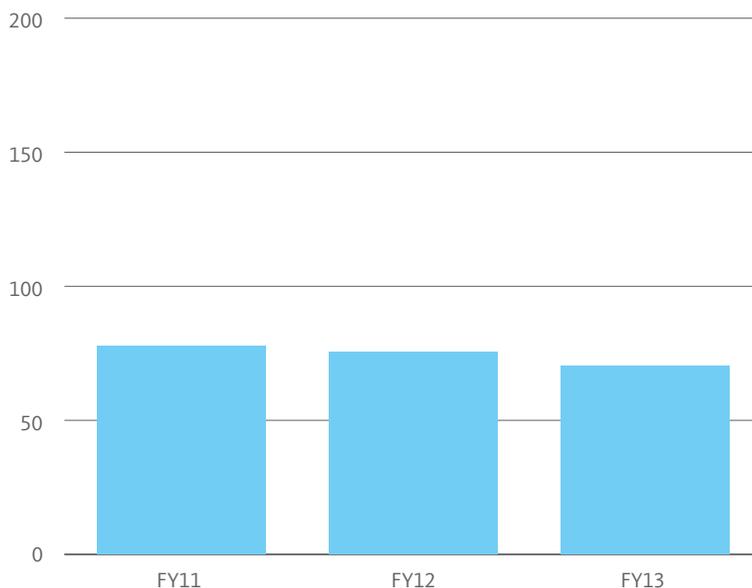
LAWRENCE BERKELEY NATIONAL LABORATORY

The Lawrence Berkeley National Laboratory (Berkeley Lab), which is operated for the Department of Energy (DOE) by the University of California, has a broad sustainability strategy with key initiatives in new construction, energy management and retrofits, renewable energy, water, electric vehicle readiness, employee engagement and material sustainability (including waste diversion). Berkeley Lab is subject to a series of sustainability goals defined by U.S. presidential executive order and provides full, public reporting against those goals. The federal goals and the goals outlined by the UC Sustainable Practices Policy are similar in scope, but differ in many details. Berkeley Lab is, for the first time, providing partial sustainability reporting to UC with data that are generally comparable to other campuses, but may be developed using different reporting protocols. Berkeley Lab plans to coordinate with UC to streamline and expand sustainability reporting in the future.

Key sustainability accomplishments for the Lab in the last year include achieving LEED Platinum certification for a major renovation laboratory project, use of whole building performance targets in new building design, progress implementing a water action plan, expansion of a new electric vehicle charging program, a new employee engagement "eco-advocate" program and wide deployment of a new waste diversion program (that includes composting) across most of the Lab's main site.

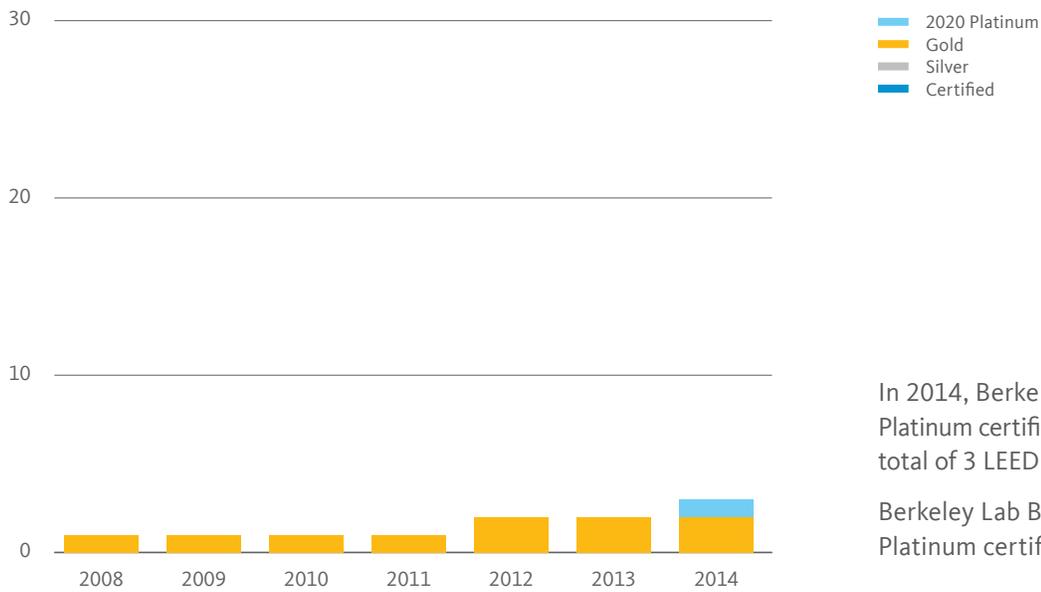
GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO₂e)



In DOE FY 2013, Berkeley Lab greenhouse gas emissions totaled 70,000 metric tons, a 7 percent decrease from the previous year.

TOTAL NUMBER OF LEED CERTIFICATIONS

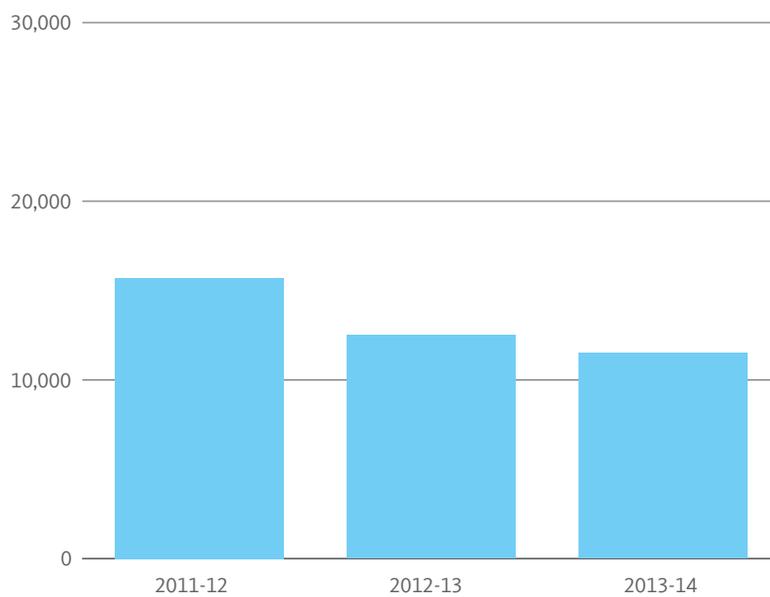


In 2014, Berkeley Lab received a LEED-Platinum certification, contributing to its total of 3 LEED certifications.

Berkeley Lab Building 74 earned LEED-Platinum certification in 2014.

POTABLE WATER CONSUMPTION

(Gallons per capita)



In FY 2013-14, Berkeley Lab consumed 11,500 gallons of potable water per capita, an 8 percent decrease from the previous year.



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