

UNIVERSITY
OF
CALIFORNIA

Annual Report on Sustainable Practices

2018

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A Message From the President

For decades, the University of California has been a leader in the fight against global climate change. From translating our cutting-edge research into practical climate solutions to educating the next generation of scientists, policymakers, advocates and engaged citizens, we have wholeheartedly invested in bold action.

Over the past year, the University has expanded its sustainability efforts across sectors and borders. In February, we launched the University Climate Change Coalition, or UC3, a group of 18 leading North American research universities working to help local communities achieve their climate goals. In the coalition's first six months, UC3 universities held 12 cross-sector community forums across the United States, Canada and Mexico, bringing together more than 2,600 business and government leaders to collaborate on practical, large-scale climate solutions.

UC also announced ambitious new institutional sustainability goals that build on our campuses' work as living laboratories. UC is now aiming to procure 100 percent clean electricity across our campuses and medical centers by 2025 — the same year that we have pledged to become operationally carbon neutral. Each of UC's five health systems is now a member of Practice Greenhealth — the leading industry body for sustainable health care — and is working toward bold new waste, water use and energy efficiency targets.

These efforts build on UC's achievements in green building, with 301 LEED certifications as of this year, and our energy efficiency programs, which have allowed UC campuses to save more than \$255 million in utility costs while reducing greenhouse gas emissions.

In September, the University had a strong presence at the Global Climate Action Summit in San Francisco, which was attended by more than 4,000 climate leaders and advocates from around the world. UC joined with government, education and nonprofit partners to organize sessions focused on agricultural resilience, transportation emissions, environmental literacy among students, the role of forests in climate change mitigation and more. At events hosted by the Governor's Office of Planning and Research and the We Are Still In coalition, I spoke to hundreds of business and political leaders about UC's dynamic sustainability commitments. And in a ceremony attended by Governor Jerry Brown, UC signed a memorandum of understanding with Tsinghua University in China designed to advance research and policy exchange on climate and energy.

From forming new international partnerships to ramping up our institutional sustainability commitments and deepening our relationships with a diverse array of climate partners, the University of California remains focused on climate action and sustainability in every aspect of our operations and research.

In the coming year, we will continue our collaborations with other universities, while building bridges to government, business and community partners. We will share our knowledge and solutions with the world. And we will continue to invest in science and research that can help us turn the tide on climate change.

The task of addressing global climate change and reducing our carbon footprint is a moral imperative, and there is no more time to dally. Now is a time for action.



Janet Napolitano



Executive Summary

This 15th Annual Report on Sustainable Practices highlights the achievements of the University of California's comprehensive sustainability program over the past year. This includes progress in sustainable operations as laid out by UC's [Sustainable Practices Policy](#) and achievements related to sustainability and the University's core mission of education, research and public service. This report is provided to the UC Board of Regents each January to report on progress toward meeting the goals in the Sustainable Practices Policy.

In 2018, UC committed to even more climate goals to achieve carbon neutrality. By 2025, each campus and health system will obtain 100 percent clean electricity, and at least 40 percent of the natural gas combusted on-site at each location will be biogas.

For the second year in a row, the U.S. Environmental Protection Agency named UC among its national leaders in the use of clean, renewable energy in its Green Power Partnerships program. UC now generates more on-site renewable energy than any other university in the country. The University also funded 47 students with Carbon Neutrality Initiative Fellowships across the system during the 2017-18 school year to work on projects to support UC's climate neutrality goal.

UC's fleet continues to move toward zero-emission vehicles. At least 50 percent of all new fleet vehicles purchased in fiscal year 2017-18 at six campuses were all-electric or hybrids. Systemwide, UC provides over 840 electric vehicle charging stations, an increase of 290 stations from the previous year.

UC also updated its green building policy to specify that on-site fossil fuel combustion (e.g., natural gas) will not be used for space and water heating in new buildings or major renovations after June 2019, except in special circumstances. As UC continues to grow, green building practices will play a critical part in helping the University reach its climate and other sustainability goals. UC now has over 300 LEED-certified buildings.

Other major policy updates include a new section — Sustainability at UC Health — which recognizes the unique challenges and opportunities for implementing sustainable practices in UC's health care facilities. This year, UC Health made several climate commitments, including joining Health Care Without Harm's Health Care Climate Council, a body of institutions supporting climate policy at the national level, and the California Health Care Climate Alliance, a group of California-based health systems that are joining forces to advocate for climate policy in the state.

UC Health's five nutrition and food service departments also committed to the World Resources Institute's Cool Food Pledge and are committed to decreasing the greenhouse gas impacts of their food offerings by promoting more plant-based food options.

Systemwide, UC continues to procure sustainable food products that support healthy people, communities and the environment. Over \$33.8 million of food purchased by the campuses and health systems in 2017-18 met one or more sustainability criteria. Fifty-two students were awarded Global Food Initiative (GFI) funding in school year 2017-18. Current GFI Fellows are working on projects related to expanding sustainable food practices at UC dining halls, decreasing food waste and reducing food insecurity for UC students.

UC campuses diverted three percent more municipal solid waste this year compared to 2016-17. Additionally, the zero waste policy language was updated to emphasize waste reduction and to support the integration of waste, climate and other sustainability goals. Specifically, the language encourages reducing embodied carbon in the supply chain through the promotion of a circular economy and the management of organic waste to promote atmospheric carbon reduction.

Five campuses and the Office of the President have already met or exceeded the 2020 and 2025 goals of reducing growth-adjusted potable water consumption by 20 percent and 36 percent, respectively. Four campuses and one medical center have met the 2020 goal. This year, campuses updated their Water Action Plans to chart a course for continued progress on water savings.

All campuses have completed at least three assessments through their green laboratory assessment programs. In total, at least 52 assessments were completed across the 10 campuses in 2017-18.

Another major policy change includes a significant update to the Environmentally Preferable Purchasing section of the policy. Renamed Sustainable Procurement, the updated policy section sets measurable goals for "green spend," focused on product attributes, as well as goals for "economically and socially responsible spend," focused on supplier attributes and business practices.

The campus, health system, Lawrence Berkeley National Laboratory and UC Office of the President profiles at the end of the report show each location's progress toward all of these sustainability goals.

Overview of UC Sustainability

The University of California's [Sustainable Practices Policy](#) includes all 10 campuses, five medical centers, Lawrence Berkeley National Laboratory and the UC Office of the President. UC's sustainability commitment began in 2003 with a Regental action that led to the adoption of a Presidential Policy on Green Building Design and Clean Energy Standards in 2004. Since adopting that policy, UC has expanded the scope to include climate protection, transportation, sustainable building operations, zero waste, procurement, food, water and health care facilities. The policy can be accessed at: <http://ucal.us/suspolicy>.

1970-99

1970

UC Santa Barbara creates Environmental Studies Program

1971

UC Santa Cruz establishes Student Farm

1977

UC Davis Student Farm opens

1999

UCSB students approve student fee to create Coastal Fund

2000-09

2002

UC's first LEED certification, UCSB's Bren School, is also the first LEED Platinum laboratory building in the world.

2004

California Student Sustainability Coalition launches Education for Sustainable Living Program

President Dynes issues policy on Green Building Design and Clean Energy

2006

The Green Initiative Fund referendum passes at UCSB

UC amends Sustainability Policy to include Transportation, Building Renovation, Operations, Waste Management and Procurement

2007

All 10 UC Chancellors sign the American College and University Presidents Climate Commitment

2009

Sustainable Foodservice section added to Sustainability Policy

2010-19

2012

Goal of installing 10 MW of on-campus renewable energy met 2 years early

100th LEED certification

2013

President Napolitano announces the Carbon Neutrality Initiative, committing UC to carbon neutrality by 2025

2014

\$25 million in food purchases systemwide meet UC sustainable food criteria

President Napolitano announces the Global Food Initiative

UC commits \$1 billion for early-stage investments in clean energy innovation

2015

>35 MW on-campus renewables installed

Bending the Curve Carbon Neutrality Research Summit

UC joins Breakthrough Energy Coalition

2016

200th LEED certification

2017

Largest solar purchase by any U.S. university (80 MW) comes online

2018

UC's internal power company provides 100% clean electricity to participating locations

UC Health Sustainability section added to Sustainability Policy

300th LEED certification

2020-50

2020

Zero waste goal

Greenhouse gas emissions reduction goal of 1990 levels (scopes 1 and 2)

2025

Carbon neutrality goal (scopes 1 and 2)

Campuses to reduce potable water use per capita by 36%

2050

Carbon neutrality goal (scope 3)

Progress Toward Policy Goals

Climate and Energy



GOAL	PROGRESS
Climate neutral by 2025	UC reduced its greenhouse gas emissions by almost 5% in 2017 compared to 2016, despite campus growth.
Renewable energy	UC added 5 MW of on-campus solar in 2018.

Green Building



GOAL	PROGRESS
LEED Silver minimum for all new construction	In 2018, UC added two new LEED Silver, eight LEED Gold and five LEED Platinum certifications for a total of 301 certifications systemwide.
Certify at least one LEED EBOM project on each campus	Eight of 10 campuses and the Office of the President have at least one LEED EBOM certification with 42 total across the system.
Exceed the California building energy code by 20%	In 2017-18, UC projects exceeded the California building energy code by an average of 25%.

Waste



GOAL	PROGRESS
Zero waste by 2020	69% of campus waste was diverted from landfills in 2017-18.

Awards

Campuses received numerous awards for initiatives from greening health care to saving energy. A complete list of awards can be found here: <https://www.ucop.edu/sustainability/about/awards/sustainability-awards-and-rankings.html>.

Food



GOAL	PROGRESS
20% of UC food service spending will be from sustainable products by 2020	The majority of residential, health system and reporting retail food service operations have exceeded the 2020 goal.
Certify at least one food service facility on each campus as a green business	Seven campuses and one medical center have at least one certified green food service facility.

Transportation



GOAL	PROGRESS
50% of all new light-duty fleet vehicles to be zero-emission or hybrid by 2025	50% or more of all new fleet vehicles purchased in 2017-18 at six campuses were all-electric or hybrids.
Campuses to reduce their single-occupancy vehicle commute rate by 10% by 2025	Over half of UC campuses have made progress in reducing their single-occupancy vehicle commute rate.

Water



GOAL	PROGRESS
Reduce per capita potable water use 20% by 2020 and 36% by 2025	Five campuses and the Office of the President have already met or exceeded the 2020 and 2025 goals. Four campuses and one medical center have met the 2020 goal.

UC Irvine received a Platinum rating in the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment and Rating System (AASHE STARS), becoming the fourth campus in the world to achieve a Platinum rating. Additionally, six UC campuses have current AASHE STARS Gold ratings.

UC Sustainable Practices Policies



Climate and Energy

Policy Goals



CLIMATE ACTION

- Reduce greenhouse gas emissions to year 1990 levels by 2020.
- Achieve climate neutrality for scopes 1 and 2 sources by 2025.
- Achieve climate neutrality from specific scope 3 sources (as defined by the American College and University Presidents' Climate Commitment) by 2050 or sooner.

ENERGY EFFICIENCY

- Reduce each location's energy use intensity by an average of at least 2% annually.

CLEAN ELECTRICITY

- By 2025, each campus and health location will obtain 100 percent clean electricity. By 2018, the University's Wholesale Power Program will provide 100 percent clean electricity to participating locations.
- On-campus combustion: By 2025, at least 40 percent of the natural gas combusted on-site at each campus and health location will be biogas.

PROGRESS TOWARD GOALS

This year, UC has committed to additional clean energy goals that will move the system toward carbon neutrality by 2025. By 2025, each campus and health location will obtain 100 percent clean electricity, and at least 40 percent of the natural gas combusted on-site at each location will be biogas. By the end of 2018, the University's Wholesale Power Program will provide 100 percent clean electricity to participating locations. Each location will implement energy efficiency actions in buildings and infrastructure systems to reduce its energy use intensity (EUI)¹ by an average of least two percent annually. Each location will also install additional on-site renewable electricity supplies and energy storage systems whenever cost-effective and/or supportive of the location's Climate Action Plan or other goals.

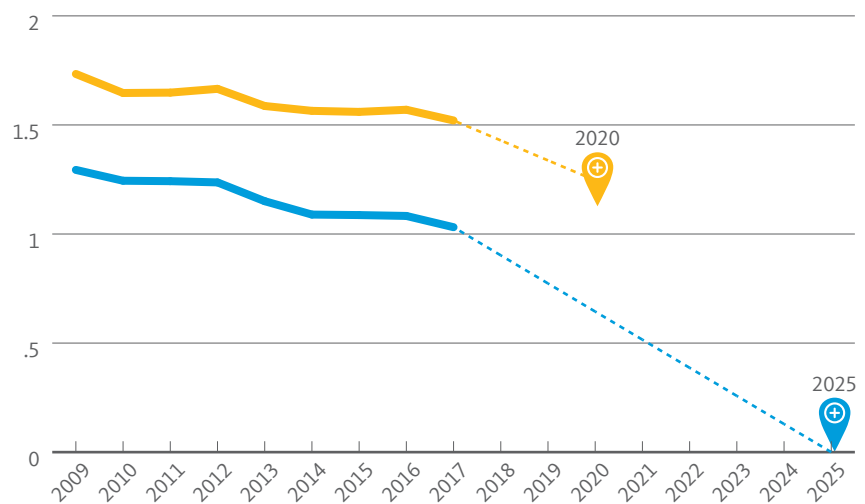
This year, significant progress was made systemwide in terms of climate action planning, renewable energy development and energy efficiency projects. Systemwide highlights include the following:

- UC reduced its greenhouse gas emissions by almost five percent in 2017 compared to 2016, despite campus growth.
- UC is now a national leader in on-site renewable energy. In October 2018, it was recognized by the Environmental Protection Agency's Green Power Partnership for

UC GREENHOUSE GAS EMISSIONS COMPARED TO CLIMATE GOALS

(Millions metric tons CO₂e)

- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)



¹ Energy use intensity (EUI) is defined as the sum of weather-adjusted energy use divided by the sum of the maintained gross square footage.

being the fifth-largest on-site green power generator in the country, with over 81 million kilowatt-hours produced annually. UC added an additional five megawatts of on-campus solar in 2018.

- UC now generates more on-site renewable energy than any other university in the country. UC's inventory of renewable energy supplies includes generation from 88 on-site systems and five off-site sources.
- Since 2004, the University of California has registered more than 1,000 energy efficiency projects with the UC and California State University (CSU) Utility Energy Efficiency Partnership program, receiving \$92 million in incentive payments and avoiding more than \$31 million in annual energy costs. In 2017 alone, 56 energy efficiency and new construction projects participated in these programs, earning \$6.1 million in incentives. At the time of this report, an additional 56 energy efficiency projects are expected to be completed in 2018, projected to avoid \$1.2 million annually in energy costs, net of project debt service.
- This year, UC unveiled the University Climate Change Coalition, known as UC3, a network of 18 leading North American research institutions representing nearly two million students. Each member committed to mobilizing its resources and expertise to accelerate local and regional climate action. In its first six months, the coalition brought together more than 2,600 leaders from the public, private and academic sectors to collaborate on innovative climate solutions. Member universities hosted events tackling climate issues from a

variety of perspectives, including a forum at the University of Washington focused on reducing the carbon footprint of the construction industry, and a transnational Boston University summit of 150 mayors dedicated to improving their cities' climate resilience.

Campus-level highlights include the following:

- UCLA created an Air Travel Mitigation Fund pilot program that exacts a carbon mitigation fee for each business-related flight itinerary. The fee is tacked on during the reimbursement process when travelers submit their expenses, and charged to the traveler's departmental full accounting unit (FAU). The fee is \$9 per domestic trip and \$25 per international trip. The pilot will run for three years, from 2018 through 2020. Generated revenue will support on-campus greenhouse gas mitigation projects, such as solar panel installations. This program is one of the first such mandatory air travel carbon mitigation fee programs at any college or university in the U.S.
- UC Davis was responsible for almost 49 percent of UC's total voluntary renewable energy production last year.
- UC Berkeley is now procuring 100 percent carbon-free electricity through the new East Bay Community Energy program for eligible campus accounts in Housing and Real Estate properties. Moving 6.5M kWh of annual electricity use to this program is reducing emissions by 1,200 metric tons of carbon dioxide equivalent (CO₂e) greenhouse gases per year.



Credit: Elena Zhukova

Systemwide Energy Programs

WHOLESALE POWER PROGRAM

Four years after beginning to provide electricity to eligible campuses as a registered Electric Service Provider, the University's Wholesale Power Program is on its way to a low carbon future by lowering its carbon intensity to approximately 150 lbs/MWh, well below the California state average. The program provides electricity directly to all (or portions of) the seven campuses and three medical centers that are eligible to procure electricity from entities other than investor-owned or publicly owned utilities. Approximately 25 percent of the University's electricity use is now served by the program. The University's direct access supply includes power generated by two solar projects located in Fresno County. To meet the University's new policy goal for 100 percent clean energy, the portfolio of energy supplies also includes power from other renewable projects and zero-carbon large hydropower projects.

ENERGY EFFICIENCY PARTNERSHIP PROGRAM

Since its inception in 2004, this groundbreaking collaboration with the California State University System and the state's investor-owned energy utilities has allowed UC campuses to save more than \$250 million in cumulative utility costs while reducing greenhouse gas emissions. The partnership has provided funding for equipment retrofits, monitoring-based commissioning, and training and education. Municipal utilities serving Los Angeles and Riverside have also agreed to join the partnership, and UCLA is now eligible to receive project incentives. Despite these historical successes, the completion of energy efficiency projects has slowed in recent years, and UC is developing an innovative pilot program with Southern California Edison to prioritize carbon reduction and ongoing, metered performance.

BIOGAS

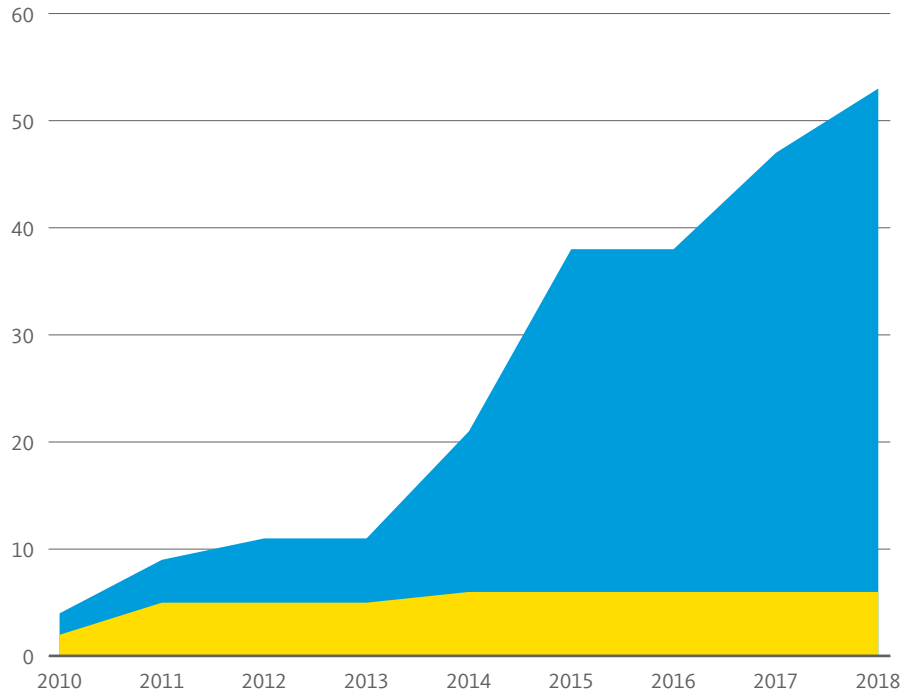
UC contracted for renewable biogas from two sources, which together will eventually offset approximately 10 percent of the University's current natural gas consumption. The contracts were initially signed in 2016, prior to development; both sources have now completed construction and are producing renewable biogas.

OFFSETS

UC realizes that carbon offsets will need to be a part of the portfolio of solutions to achieve carbon neutrality. The University began work in 2017 to identify the offset attributes that most appeal to the UC community such as projects that directly align with UC's mission of education, research and public service. The feedback from the campus communities will help shape offset procurement guidelines.

ONSITE RENEWABLE ENERGY CAPACITY (MW)

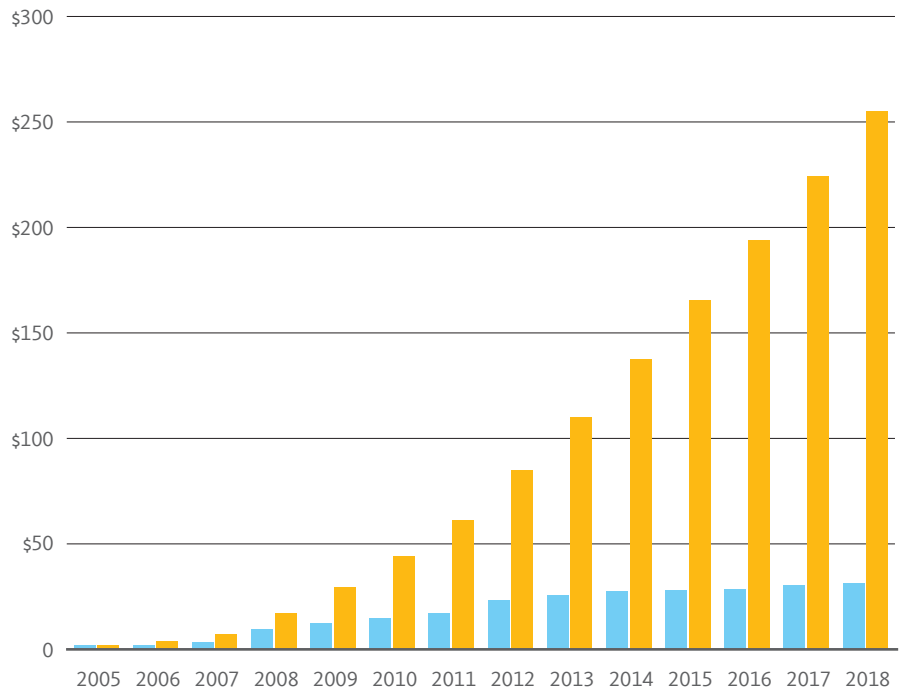
- Solar
- Biogas



COST AVOIDANCE FROM ENERGY EFFICIENCY PROJECTS

(Millions of dollars, net of debt services)

- Net Avoided Cost (cumulative annual)
- Net Avoided Cost (cumulative total)



Food

Policy Goals



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

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

PROGRESS TOWARD GOALS

The UC system is continuing its work on sustainable food procurement. Residential dining programs shifted over \$18.7 million (23 percent of total food spend), health systems shifted \$7.6 million (24 percent of total food spend) and reporting retail food operations shifted \$7.4 million (21 percent of total reported food spend) of their budgets for sustainable food. Campuses are expanding their offerings of sustainable food products, especially with the help of systemwide contracts for produce and sustainable poultry with a California-based company, Mary’s Chicken, which has made data reporting and local food procurement easier for the campuses. However, campuses still face challenges getting the data they need from product vendor and third-party food service providers.

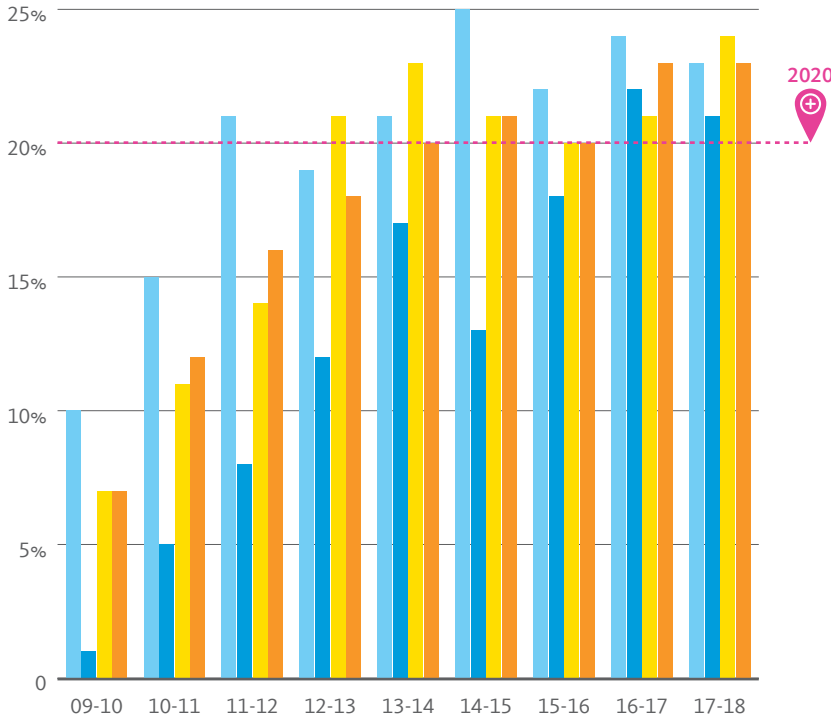
Highlights include the following:

- All five UC Health systems signed on to the World Resources Institute’s Cool Food Pledge and are committed to decreasing the greenhouse gas effects of their food offerings by promoting more plant-based food options.
- UC Santa Barbara helped students access healthy and sustainable produce through assistance with CalFresh (the state’s nutrition assistance program) applications. The campus registered 2,976 students in CalFresh in 2017-18.
- UC Merced created Pop Up Produce to offer students access to free, local and organic produce twice a month on campus.

SUSTAINABLE FOOD PURCHASES

(percent of total food spend)

- Residential Living
- Retail Dining
- Medical Centers
- Combined





Credit: Elena Zhukova

- In fall 2017, UC Berkeley's Basic Needs Committee initiated a campus Food Recovery Coalition to bring together cross-campus partners and develop a comprehensive strategy to help food-insecure students. Over the past year, the coalition has: designed a process for safely recovering prepared food from campus events for the food pantry; developed approved Food Recovery Guidelines through a collaboration with Environment Health and Safety (EHS) and the Berkeley Environmental Law Clinic; designed a process for gleaning excess and unharvested produce from nearby farms and residences; and supported the Berkeley Student Food Collective and Campus Kitchen Coalition in planning and winning a Big Ideas award for a Food Recovery Campus Kitchen that will recover surplus food from Cal Dining and repurpose it to create sliding-scale meals starting in the spring of 2019. The campus's food pantry served over 6,000 unique students (over 22,000 visits) in school year 2017-18.

Highlights from the Global Food Initiative

Launched in July 2014, the Global Food Initiative (GFI) focuses on issues related to food and hunger. In the 2017-18 school year, 52 students were awarded GFI funding to work on projects related to expanding sustainable food practices at UC dining halls, decreasing food waste and reducing food insecurity for UC students.

As the GFI enters its fifth year, here are some highlights of its accomplishments:

- It ramped up student enrollment in CalFresh, the state's nutrition assistance program, which provides up to \$192 per month in food aid. GFI is working to ensure that eligible students know how to enroll and understand that participation will not affect their financial aid packages.
- It successfully lobbied the California legislature for \$2.5 million in one-time funding to help the UC, CSU and California Community College systems become hunger-free campuses.
- It launched the Healthy Campus Network, a systemwide wellness effort that aims to boost well-being among students, faculty and staff.



Vegan Cooking Training at UC Irvine.

Green Building

Policy Goals



NEW BUILDINGS AND RENOVATIONS

- Design and construct all new buildings and major renovations to a minimum LEED-NC Silver rating as well as meet the prerequisites of the Laboratories for the 21st Century Environmental Performance Criteria.
- Design and construct all renovation projects with a cost of \$5 million or greater (except acute care facilities) to a minimum LEED-CI Certified rating.
- Energy-efficient design:

Acute care/hospital facilities and medical office buildings: outperform ASHRAE 90.1-2010 by at least 30 percent or meet UC's whole-building energy targets.

All other buildings: outperform the energy requirements of the California Building Code by at least 20 percent on all new construction and major renovation projects or meet UC's whole-building energy targets.

- No new building or major renovation approved after June 30, 2019 shall use on-site fossil fuel combustion for space and water heating (except those projects connected to an existing campus central thermal infrastructure).

EXISTING BUILDING OPERATIONS AND MAINTENANCE (EBOM)

- Each campus will submit for certification one pilot building at a LEED-EBOM Certified level or higher.
- Each campus shall seek to certify as many buildings as possible through the LEED-EBOM rating system.

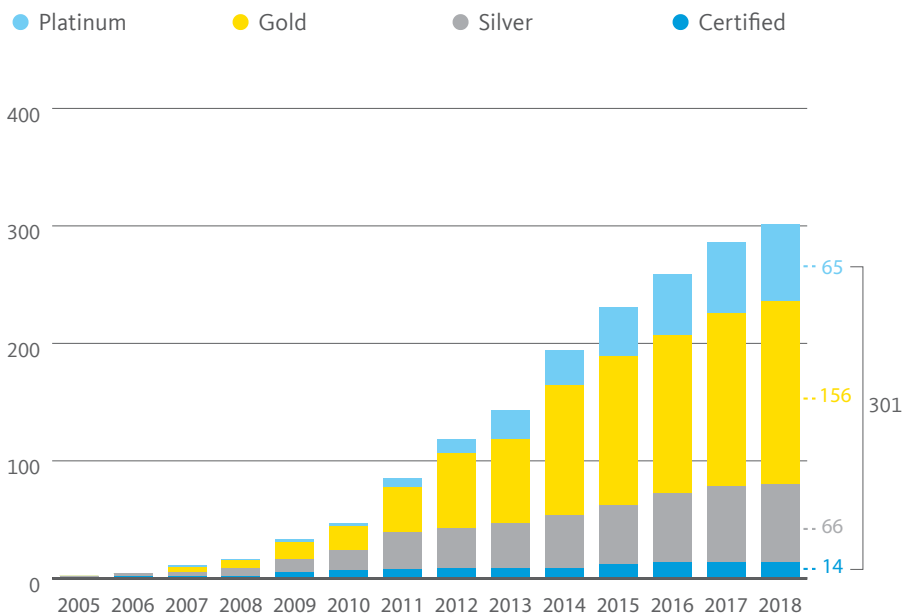
PROGRESS TOWARD GOALS

This year, UC updated its green building policy to specify that on-site fossil fuel combustion (e.g., natural gas) will not be used for space and water heating in new buildings or major renovations after June 2019, except in special circumstances. The updated policy also includes energy efficiency targets for new buildings at UC Health locations, which will be designed to outperform the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2010 standard by at least 30 percent or meet specified whole-building energy performance targets.

In 2018, UC added two new LEED Silver, eight LEED Gold and five LEED Platinum certifications for a total of 301 certifications systemwide. Eight of 10 campuses and the Office of the President have at least one LEED EBOM certification with 42 total across the system. A complete list of all the university's LEED certifications is available at: <http://ucal.us/Gpq8yU>.

The Sustainable Practices Policy requires all new construction and major renovation projects to register with a Residential or Non-Residential 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. In 2017, 16 UC projects received a total of \$2.15 million in incentives. On average, these projects exceeded the energy provisions of California's Building Code by 25 percent and are projected to save approximately \$700,000 annually in avoided energy costs.

CUMULATIVE NUMBER OF UC LEED CERTIFICATIONS BY YEAR



Highlights include the following:

- UC Davis' Plant and Environmental Sciences Building received both the first BREEAM® certification in the U.S. for an in-use academic building, and the first Excellent rating in the U.S. in asset performance.
- UC Santa Cruz's Cowell Ranch Hay Barn Restoration project was certified LEED Gold in August 2017. The 150-year-old Cowell Ranch Hay Barn is near the entrance of campus and is a key building in the Cowell Lime Works Historic District. It currently serves as the headquarters for the Center for Agroecology and Sustainable Food Systems.
- Lawrence Berkeley National Laboratory's Integrated Genomics Building will complete construction in summer 2019 and is designed to use no natural gas, offset about 15 percent of its total energy use with rooftop photovoltaics and meet deep energy efficiency targets (less than 30 percent of UC Building Energy benchmarks).
- UC Merced and UC San Diego are offering a LEED laboratory course called Evaluating Sustainable Living Spaces, which prepares students to take the LEED GA exam.
- UC Irvine received its 17th LEED Platinum rating from the U.S. Green Building Council for Mesa Court Towers, a 250,000-square-foot complex that houses over 1,000 freshmen students.



UCSF Chancellor Sam Hawgood with recipients of the [LivingGreen Office Certification](#) at the annual Sustainability Awards Ceremony.

Procurement

In 2018, UC completely updated the Environmentally Preferable Purchasing section of the Sustainable Practices Policy, renaming the section Sustainable Procurement and developing a companion [Sustainable Procurement Guidelines](#) document. The scope of the renamed section explicitly includes economic, social and environmental impacts, conforming to industry best practices.

The updated policy section sets measurable goals for “green spend,” focused on product attributes, as well as “economically and socially responsible spend,” focused on supplier attributes and business practices. Another new policy provision requires inclusion of minimum sustainability criteria in all University bids for goods and services that are competitively solicited. Effective July 1, 2019, a minimum of 15 percent of available points utilized in awarding competitive bids must be allotted to sustainability factors. While campuses have already been incorporating sustainability into their bids — for example, this past year, UCSF incorporated the Living Future Institute’s “Red List,” which prohibits the use of chemicals such as halogenated flame retardants, phthalates and formaldehyde, into a \$40 million furniture contract for nine new buildings — these changes institutionalize sustainability in all bids systemwide.

The quantitative goals for green spend refer to criteria established by commodity category, such as electronics, office supplies, indoor office furniture, compostable food service ware and water appliances/fixtures. These five categories are the first to be targeted, and guidelines for additional categories will be developed over time. The guidelines detail what the University considers to be sustainable at the product, product category, service or industry level, as well as provide detailed guidance on the implementation of policy.

To begin assessing suppliers, the University has completed a first phase of a Supplier Sustainability Scorecard pilot, which leveraged a third party system to review 57 strategic suppliers on sustainability in their supply chains and operations. The University will expand this pilot in 2019 with the intent to develop a robust supplier assessment practice for UC’s supply chain.



*Michael Simonovitch and Jeremy Meadows upgrading President Napolitano's desk lamp to LED.
Credit: David Phillips*

Million LED Challenge

As of January 2018, lightbulbs for sale in California must meet new efficiency standards.

UC Systemwide Procurement Services spearheaded a statewide procurement project known as the Million LED Challenge to replace expensive and inefficient incandescent and toxic compact fluorescent lights with energy-efficient, high-quality and cost-saving LED light sources throughout public college campuses and government buildings in California. Inspired by research conducted by the California Lighting Technology Center at UC Davis, the Million LED Challenge procurement team used specific performance criteria to evaluate and select the lightbulbs to be used.

The Million LED Challenge also includes an innovative staff- and student-buy program to help facilitate a swift transformation from outdated and expensive lighting to high-efficiency, high-quality LED lightbulbs in private residences. All UC staff, faculty, students and alumni can purchase lightbulbs on the [Million LED Challenge website](#) at nearly half the price of online competitors.

Sustainable Building Operations and Labs

PROGRESS TOWARD GOALS

The systemwide focus on sustainable building operations continues to be on resource-intensive laboratory operations. This year, campuses made progress on meeting the goals of the Sustainable Practices Policy, and all have completed at least three assessments through their green lab assessment programs. In total, at least 52 assessments were completed across the 10 campuses in 2017-18.

Highlights include the following:

- UC Berkeley successfully finished a fish pump project in the College of Chemistry this year, which is already saving over 1.3 million gallons of water annually thanks to more efficient pumps installed in six labs.
- The UC San Diego Chemistry and Biochemistry Department signed Beyond Benign's Green Chemistry Commitment in April 2018. The department joined 43 other chemistry departments from 16 U.S. states and two Canadian provinces in committing to incorporating green chemistry student learning objectives within their departments.
- Through UC San Diego's Green Labs program, Procurement, Sustainability, and Environmental Health and Safety (EH&S) worked together to integrate EH&S's Chemcycle chemical reuse program into Marketplace, the campus's online sales platform. This allows researchers to safely obtain free, reusable chemicals for use in their labs, saving researchers money while also lowering the campus's hazardous chemical disposal costs. The campus also began integrating My Green Lab's ACT Label, which evaluates the sustainability of laboratory products, into Marketplace.
- Eleven departments signed up for UC San Francisco's energy efficiency rebates of \$4,000 for Energy Star certified ultra-low-temperature (ULT) freezers. The departments received an additional \$1,000 per freezer if they changed their freezer settings from -80°C to -70°C , which can reduce energy consumption by 30 percent per freezer.
- UC Santa Cruz also retrofitted several ULT freezers and has changed the settings for 14 from -80°C to -70°C .



Students working on green labs at UC San Diego.

Transportation

Policy Goals



FLEET

- By 2025, zero-emission vehicles (ZEV) or hybrid vehicles shall account for at least 50 percent of all new light-duty vehicle acquisitions.

COMMUTE

- By 2025, each location shall strive to reduce its percentage of employees and students commuting by single-occupancy vehicles (SOV) by 10 percent relative to its 2015 SOV commute rates.
- By 2050, each location shall strive to have no more than 40 percent of its employees and no more than 30 percent of all employees and students commuting to the location by SOV.
- By 2025, each location shall strive to have at least 4.5 percent of commuter vehicles be zero-emission vehicles.
- By 2050, each location shall strive to have at least 30 percent of commuter vehicles be ZEV.

PROGRESS TOWARD GOALS

Campuses are continuing to make progress toward their 2025 and 2050 goals. At least 50 percent of all new fleet vehicles purchased in 2017-18 at six campuses were all-electric or hybrids. Emissions from campus fleet vehicles are included in UC's climate goals, so these new vehicles will move fleet emissions closer to carbon neutrality. Additionally, over half of UC campuses have made progress in reducing their single-occupancy vehicle commute rate by students and employees.

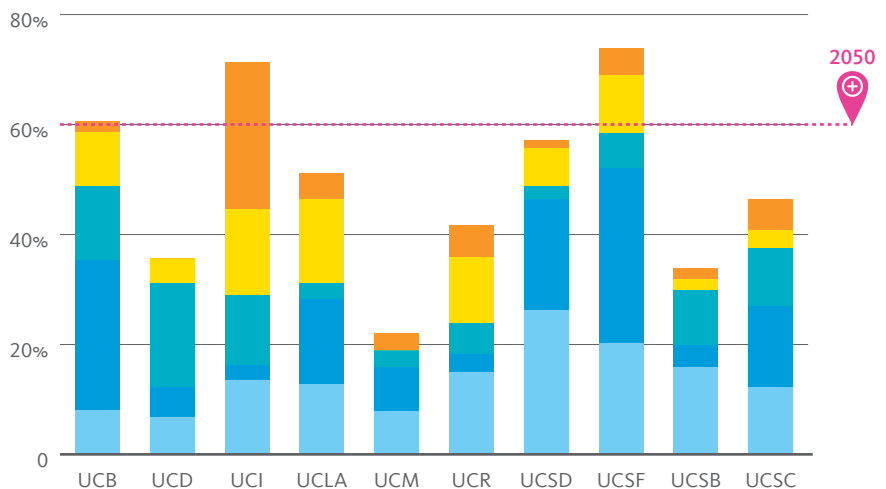
Campuses continue to introduce new alternative commuting incentive programs, such as bike sharing and commute club offers.

Highlights include the following:

- Systemwide, UC provides more than 840 electric vehicle charging stations, an increase of over 290 stations from the previous year.
- UC Irvine is the first campus in the nation to convert its shuttle service to an all-electric fleet through its student-funded Bus Love Initiative. The retired buses are being scrapped for metal and recycled instead of sold to ensure the diesel emissions are not passed on to another entity. These new clean buses will provide more than two million student rides per year.
- UCLA's Bruin Commuter Transit Benefit program provides employees and students new to public transportation with a free quarterly transit pass. Nearly 1,600

2018 EMPLOYEE ALTERNATIVE COMMUTE MODES

- Multi-Occupancy Vehicle (MOV)%
- Transit
- Bike
- Walk
- Other



commuters opted out of a parking permit to take advantage of the program since its launch in July 2017.

- UC San Diego completed a six-month, dockless, user-funded, bike-share pilot program in June 2018. More than 300 bikes are now available in key campus locations. Since the program's launch, the campus community has taken more than 91,000 rides for more than 15,600 miles, preventing the equivalent of roughly 17,100 pounds of CO₂ had these trips been taken by car.
- Regional BikeShare came to the Berkeley campus in 2018. While program membership is open to everyone, the campus offered no-cost memberships to 500 students in the Educational Opportunity Program, a program serving first-generation, low-income and underrepresented college students.



A bus from UCLA's Bruin Bus Fleet.
Credit: UCLA Transportation

UC Health

PROGRESS TOWARD GOALS

Recognizing the unique challenges and opportunities for implementing sustainable practices in health care facilities, the University updated its Sustainable Practices Policy to add a section devoted to Sustainability at UC Health.

Specific goals include the following:

- By 2025, each campus and health location will obtain 100 percent clean electricity.
- All UC Health systems will become members of Practice Greenhealth, a nonprofit dedicated to health care sustainability, and submit annual sustainability data for awards. Each UC Health system will also be developing waste and water goals that align with Practice Greenhealth's reporting requirements.
- Each UC Health system will adopt energy performance targets for acute care centers and medical office buildings.

Highlights include the following:

Demonstrating its leadership on climate action, UC Health joined Health Care Without Harm's Health Care Climate Council, a body of institutions supporting climate policy at the national level. It also joined the California Health Care Climate Alliance, a group of California-based health systems that are convening through the nonprofit Health Care Without Harm to advocate for climate policy in the state. Additionally, UC's medical and health profession schools are exploring ways to incorporate the topic of climate change into their programs.



Lab equipment at UCLA Health.
Credit: Elena Zhukova

Water

Policy Goals



Reduce growth-adjusted potable water consumption by 20 percent by 2020 and 36 percent by 2025, when compared to a three-year average baseline of FY 2005-06, FY 2006-07 and FY 2007-08.

PROGRESS TOWARD GOALS

Five campuses and the Office of the President have already met or exceeded the 2020 and 2025 goals of reducing growth-adjusted potable water consumption by 20 percent and 36 percent, respectively. Four campuses and one medical center have met the 2020 goal. This year, the campuses updated their Water Action Plans to chart a course for continued progress on water savings.

Highlights include the following:

- UC representatives serve on the advisory committee for the development of the California Water-Energy Nexus Registry being developed by the Climate Registry to meet SB 1425, which was signed by the governor in 2016.
- In collaboration with the Irvine Ranch Water District, UC Irvine retrofitted its Central Plant's cooling towers to use treated recycled water, saving approximately 80 million gallons of potable water annually.
- UCLA's Geffen Hall features the campus's first major stormwater capture system. The 10,000-gallon rainwater and condensate tank provides recaptured water to building restrooms and, along with efficient fixtures, is helping the building to save an estimated 175,070 gallons per year.
- Aerators installed in labs across UC San Diego's campus in 2017-18 are saving 926,000 gallons of potable water per year.
- UCSF has been focusing on laboratory sterilizers to reduce water use. Facilities Services offered an [incentive program](#) to help labs procure more water-efficient versions. The program provides \$5,000 toward equipment replacement, as long as the payback from water and energy savings can be achieved in one year.



Recycled water from UC Irvine Central Plant's cooling towers.

Zero Waste

Policy Goals



Achieve zero waste by 2020.

Reduce waste generation per capita to FY 2015-16 levels by 2020, 25 percent below FY 2015-16 levels by 2025, and 50 percent below FY 2015-16 levels by 2030.

PROGRESS TOWARD GOALS

Complementing the 2020 zero waste goal, revisions to the Sustainable Practices Policy set waste reduction goals for each campus. Each campus will reduce per capita municipal solid waste by 25 percent by 2025, and 50 percent by 2030, compared to its 2015-16 baseline.

Additionally, the zero waste policy language was updated to support the integration of waste, climate and other sustainability goals, including the reduction of embodied carbon in the supply chain through the promotion of a circular economy and the management of organic waste to promote atmospheric carbon reduction. In support of this goal, waste reporting will include tracking estimated scope 3 greenhouse gas emissions.²

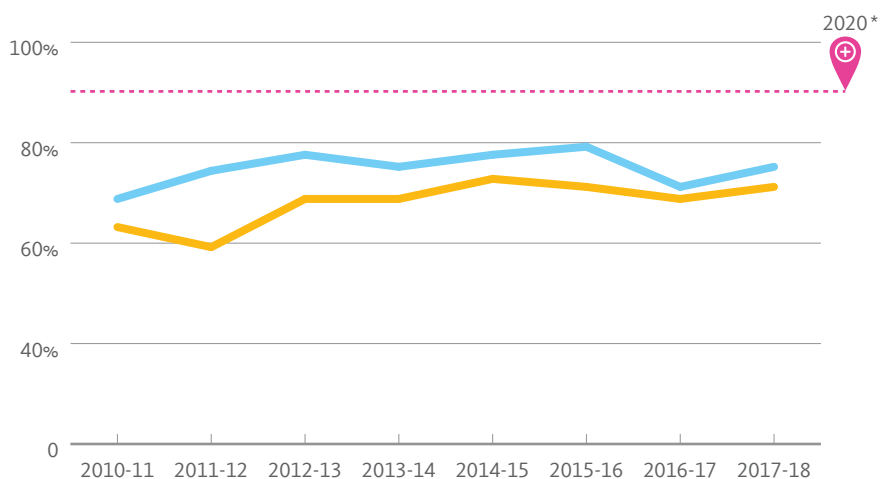
The policy revisions also clarified that minimum compliance for zero waste is 90 percent diversion of municipal solid waste from landfill, and included a prohibition on the sale, procurement or distribution of expanded polystyrene (EPS), other than that utilized for laboratory supply or medical packaging and products. Starting in 2018, EPS is no longer allowed in food service facilities for takeout containers.

Highlights include the following:

- UC campuses are continuing to increase their overall waste diversion, diverting three percent more municipal solid waste this year compared to 2016-17. Including construction and demolition debris, 69 percent of campus waste was diverted from

SOLID WASTE DIVERTED FROM LANDFILL SYSTEMWIDE

● Without construction and demolition ● With construction and demolition



* Zero waste is defined as 90 percent diversion of municipal solid waste from landfill.

² Scope 3 emissions include indirect sources of emissions resulting from the activities of an organization.

landfills in 2017-18. Campuses sent 1.6 pounds of municipal solid waste per person per day to landfill.

- More than a decade in the works, [Connie & Kevin Chou Hall](#) at the Haas School of Business at UC Berkeley opened in 2017 and is on track to become the country's first certified zero waste academic building. With no trash bins in sight, the Chou Hall Zero Waste Initiative Team of staff and students is promoting a "pack it in, pack it out" culture. A recent waste audit shows that 94 percent of the materials leaving the building can be recycled or composted.
- At UC Davis, the campus chapter of the Food Recovery Network, a national nonprofit composed of student-run chapters, donated 19,000 pounds of food to the campus pantry, student family housing and local charities.
- University Center Dining at UC Santa Barbara improved signage and education on trash receptacles and saw compost as a percentage of total waste rise from 23.9 in 2016-17 to 28.5 percent 2017-18.
- This past fiscal year, Surplus Sales at UC San Diego received and processed 700 tons of equipment and furniture for reuse through Marketplace, the campus's online sales platform.
- Lawrence Berkeley National Laboratory introduced tools to reach zero waste, including a mobile-friendly website to help staff improve waste sorting (wasteguide.lbl.gov) and expanded waste audits to better target activities. The lab made these detailed waste audit data at the building level available to the public using Google Data Studio to encourage engagement with zero waste activities and to motivate behavior change.

#MyLastTrash

#MyLastTrash (#MLT) is a systemwide communications campaign that aims to bring awareness to the 2020 zero waste goal. Focused on decreasing consumer waste on campuses, it was launched to focus on the incoming freshman class slated to graduate in 2020. Monthly themes like laboratory waste or food waste target different types of waste reduction behaviors.

The campaign includes a [website](https://zerowaste2020.universityofcalifornia.edu/) (<https://zerowaste2020.universityofcalifornia.edu/>) and waste reduction pledge. Project highlights from 2018 include a Sustainable Sports Field Day at UC Irvine, which hosted competitive activities around waste reduction, and a food recovery program at UC Riverside to divert surplus food from Dining Services to the Student Community Kitchen.



UC Irvine staff and students make waste reduction pledges.
Credit: UC Irvine Dining

Research and Education



Agriculture and Natural Resources

UC Agriculture and Natural Resources (UC ANR) is the major land-grant arm for the University of California and the state. UC ANR includes the multicampus Agricultural Experiment Station (AES) and statewide Cooperative Extension (CE). AES faculty, CE specialists and CE advisers are located at five campuses, one professional school and county offices throughout the state, enabling them to deliver programs to California's 58 counties.

UC ANR research is focused on five strategic initiatives that include ensuring the sustainability of California's food systems, natural ecosystems and water resources. An example of a sustainable food project is the CropManage online tool for growers, which provides crop-specific recommendations for nitrogen needs, helping growers reduce fertilizer use and groundwater pollution risks without sacrificing crop yield. Several water initiative projects are using wireless sensors to determine water needs in orchards to avoid overwatering. Several sustainable natural ecosystem projects are examining the impacts of climate change and extreme drought on rangelands to improve rangeland management strategies and better understand the benefits to society of protecting rangelands.

UC ANR also operates nine Research and Extension Centers (RECs), which provide premier research services to scientists and students across UC. These centers extend science-based solutions about current and relevant agricultural and natural resource sustainability topics through on-site field days and workshops. The REC system also hosts several UC ANR statewide programs, such as Master Gardeners, California Naturalist volunteers and 4-H youth programs. Master Gardeners use demonstration gardens to introduce science-based, sustainable gardening information. California Naturalists promote stewardship of California's natural resources through education and service. On-site 4-H youth development programs foster sustainability concepts.

Sustainability highlights from 2017-18 include the following:

- Over the past decade, Kearney REC has made energy efficiency improvements at its facilities, leading to a 32 percent reduction in energy use. This year, Kearney added web-controls to the greenhouse facilities, which will lead to more efficient scheduling of electric climate controls and greater energy savings.

- 4-H Sustainable You! summer camps are offered at Desert, Hansen and Hopland RECs. Youth learn what it means to be sustainable through fun, hands-on activities based on five major themes: land, water, food, air and energy. Additionally, Desert REC held a festival for nearly 1,500 K-6 students focused on Reducing-Reusing-Recycling. Students made cornstarch plastic and learned what makes a product biodegradable.
- Over 9,000 youth throughout the year visit Elkus Ranch for educational tours. This year, Elkus Ranch received a \$5,000 4R's grant from San Mateo County's Office of Sustainability to improve trash, recycling and compost systems, including child-friendly bins, educational displays and reusable snack bags for students.

INNOVATION AND ENTREPRENEURSHIP

ANR launched the Verde Innovation Network for Entrepreneurship (VINE) to cultivate regional innovation and entrepreneurship ecosystems in rural communities, where support is typically lacking and where poverty and lack of access to broadband internet also create barriers. VINE furthers UC's mission to serve as a positive catalyst for all Californians.

Apps for Food and Ag is an event series and resource network sponsored by VINE that encompasses technology, business, agriculture, food and the environment. In an Apps for Food and Ag Hackathon held at the California State Fair in 2017, entrants competed for cash prizes and assistance to turn their ideas into commercial enterprises. The hackathon brought software developers, designers, entrepreneurs and farmers together to create apps that address agricultural issues, including reducing pesticide use, increasing irrigation efficiency, reducing travel into the fields, managing people better and mitigating the huge farm labor shortage.

One startup that resulted from a previous hackathon event is Giving Garden, which empowers urban and suburban gardeners to be more successful while also combating food waste and food insecurity. The app enables gardeners to share ideas, knowledge and produce with their neighbors. The four co-founders met at Apps for Ag in 2016 in Davis and are still working on their venture.

Natural Reserve System

The Natural Reserve System (NRS) is a 756,000-acre network of 39 wildland areas including most major types of California habitats. Reserves are used primarily for scientific research, university-level instruction and strengthening public appreciation of science and nature.

In fiscal year 2017-18, reserves were visited by more than 1,800 research scientists, including faculty; 2,400 graduate students; 17,700 undergraduates; and 7,700 schoolchildren who came to study the natural environment.

The NRS is now launching the California Heartbeat Initiative (CHI), an effort to ensure a resilient future for California using information from natural landscapes. CHI will feature four major components:

1. The *Earthkit* monitoring program will apply tools to study the health of the environment across the state.
2. The *Living Atlas* online hub will communicate environmental forecasts and information about the state of the environment to the public.

3. *Research Grants* will support the best novel research into climate change and adaptation strategies.

4. The *Inclusive Participation and Leadership* effort will engage California's diverse students to participate in CHI research and pursue environmental science careers.

In December 2017, the Gordon and Betty Moore Foundation provided a \$2.179 million grant to support CHI-Freshwater. This project will deploy next-generation remote sensing technologies such as drones and microclimate weather stations, and correlate their data with standard measurements of water status in plants and soils. The resulting landscape-scale data will provide an unprecedented view of how plants are responding to climate change, identify climate refugia and provide other information crucial to California's environments.



Credit: Elena Zhukova

UC Research Initiatives

UC Research Initiatives (UCRI) supports collaborative systemwide projects that synergize expertise and leverage infrastructure to address key issues affecting California and the world. Since 2010, UCRI has invested over \$47 million to support collaborative research across UC's campuses and national laboratories in climate and sustainability research, including new awards in 2018 totaling \$11 million in research partnerships with the UC national laboratories. Funded projects improve technology, train students, inform policy and position UC as the national leader in sustainability research. In 2018, the UC National Laboratory Fees Research Program (LFRP) funded four new collaborative research and training awards in climate science. The projects include:

1. Headwaters to Groundwater: Resources in a Changing Climate, led by Jeff Dozier, UC Santa Barbara, and including four additional UC campuses as well as Lawrence Livermore and Lawrence Berkeley National Laboratories
2. The Future of California Drought, Fire and Forest Dieback, led by Alex Hall, UCLA, and including four additional campuses, Los Alamos National Laboratory, the Division of Agriculture and Natural Resources and Lawrence Berkeley National Laboratory
3. Climate Impact of Manure Management from California Dairies, led by Francesca Hopkins, UC Riverside, and including three additional campuses as well as Los Alamos and Lawrence Berkeley National Laboratories
4. Kimber Moreland's LFRP In-Residence Graduate Fellowship exemplifies the unique training opportunities at the UC-affiliated national laboratories. The fellowship provides support for the UC Merced student to pursue dissertation research at Lawrence Livermore National Laboratory on "Climatic Controls of Subsoil Organic Carbon Dynamics."

Additional compelling examples from the UCRI funding portfolio, and information about UC's systemwide funding opportunities, are provided at: <http://ucop.edu/research-initiatives/>.

SPOTLIGHT ON RESEARCH EXCELLENCE: CARBON NEUTRALITY AND ENERGY SUSTAINABILITY

UC's research enterprise is poised to address the many challenges related to carbon neutrality and sustainability in alignment with President Janet Napolitano's Carbon Neutrality Initiative and the University's goal of becoming the first major research university system to achieve carbon neutrality by 2025. UC's commitment to creating public benefit from its research endeavors incentivizes researchers to study both the causes of and the solutions to this global challenge, to engage students in this important research and to collaborate broadly across sectors toward the achievement of carbon neutrality and climate stabilization.

A series of research workshops in 2017-18 involving multi-institutional teams across the UC system, affiliated national laboratories, the CSU campuses, Caltech, Stanford and the University of Southern California identified research investment priorities, including applied science, societal transformation, governance, markets and regulations, technological solutions, and natural and managed ecosystem solutions. Important criteria for evaluation include contributions to the state's greenhouse gas reduction goals, the prospect for community co-benefits, the potential for other forms of leveraged support, or creation of an entrepreneurial- or industry-supported long-term effort. Importantly, projects will ideally demonstrate potential for technology transfer to other entities and jurisdictions in the state, the nation or worldwide. The identification of up to eight specific scalable demonstrations arising from this integrated climate solutions research framework is a key element of a University Climate Change Coalition (UC3) report that was released in September 2018 as part of the Global Climate Action Summit held in San Francisco.

UC Community Engagement and Development



Student Engagement

Students at the nine UC undergraduate campuses organized over 300 sustainability clubs and organizations in 2017-18.

THE GREEN INITIATIVE FUND

In addition to the clubs and organizations, students on eight UC campuses have access to a pool of grant money that funds student-led sustainability projects. Most campuses call these funds The Green Initiative Fund, or TGIF. Originally the result of a student referendum effort at UC Santa Barbara led by Lyft co-CEO Logan Green (when he was a student there), this voluntary student fee provides small grants for projects that advance sustainability in areas such as energy efficiency, environmental justice, food insecurity and educational outreach. Hundreds of student-led sustainability projects are funded through these programs. In total, TGIF and similar programs provide more than \$2.2 million in annual funding for student-led sustainability projects.

Project highlights from 2018 include: LEED Certification Program scholarships at UC Santa Barbara, UC Santa Cruz and UCLA; two environmental education projects for people of color aimed to empower underrepresented communities in the environmental movement at UC Berkeley; a small-scale hydrogen fuel cell system powered with local hydrogen sources at UC San Diego; a vermicomposting project at UC Riverside; a climate action-themed art gallery and speaking panel at UC Irvine; support for undergraduate student sustainability research — including a campus nitrogen footprint — at UC Davis; and a \$50,000 grant for a group of students to design, install and operate an automated hydroponics farm at UCLA.

Carbon Neutrality Fellow: Valeree Catangay, UCLA

The UC President's Bonnie Reiss Carbon Neutrality Initiative (CNI) Student Fellowship Program funds student-generated projects that support the UC system's goal to produce zero-net greenhouse gas emissions by 2025. During the 2017-18 school year, 47 students were CNI Fellows.

Valeree Catangay of UCLA is a recipient of a 2018-19 CNI Fellowship. Catangay will be serving as the student engagement fellow as well, focusing on outreach and engaging UCLA students regarding carbon neutrality. Catangay also co-founded the Environmentalists of Color Collective at UCLA, an organization that prioritizes the voices of people of color and indigenous communities, and aims to bring industry professionals, artists,

students, faculty and other community members together to find sustainable solutions. One of the collective's first initiatives was a Climate Justice Forum for the UCLA community and general public. This was followed by the release of a short documentary film highlighting unheard stories of sustainability and the concept of environmental racism.

Catangay recently received national and global recognition for her climate action leadership. In October, she was one of six young environmental leaders from across the U.S. and Canada honored by the Earth Island Institute with a Brower Youth Award. Catangay also recently won in the Best of Activism category in the global #YouthStepUp competition at the Global Climate Action Summit in 2018 for her

work with the California Allegory Youth Fellowship, a group of California youth activists and artists on the front lines of climate justice.



Valeree Catangay

Campus as a Living Lab:

UC BERKELEY

A Green Initiative Fund project at UC Berkeley called The Old Growth at Our Feet: Coastal Terrace Prairie Restoration at Richmond Field Station, with faculty, researcher, staff and student partners, is experimenting with plant-based remediation of soils while helping to restore the last intact, undisturbed native coastal terrace prairie adjacent to the San Francisco Bay shoreline. In addition to soil remediation, the project goals are to collect seeds and plant native prairie species while weeding out invasive plants to restore six acres of coastal terrace prairie. Broader aims are to increase biodiversity, sequester carbon and store water in UC Berkeley soils and preserve the terrace prairie. The project will promote leadership of women, people of color and LGBTQ communities in the environmental sciences. Students in the Sustainable Soils Research Incubator, a special field course supporting students from underrepresented groups in obtaining environmental restoration experience, are part of the team conducting the project.

UC SANTA BARBARA

Integrating sustainability with writing and project-building skills went beyond the scope of a traditional classroom in courses taught by LeeAnne Kryder in the Professional Business Writing minor at UC Santa Barbara. As part of their projects, many students chose to support UC Santa Barbara's sustainability programs, such as Food Cycling and The Green Initiative Fund (TGIF), by building marketing strategies, revising mission statements and broadening the scope of outreach operations. Alternatively, many students opted to connect the UC Santa Barbara community with nonprofits like Unite to Light, where they utilized networking and team-building efforts to support the donation of solar-powered lamps to African students in need.

These "writing for sustainability" courses, along with upper-division writing courses that fulfill the undergraduate writing requirement, have become a popular choice for students across all majors. Course projects have included application-writing for UC Santa Barbara's TGIF grant, independent research report papers and presentations, environmental narratives and magazine publications. The literature produced in class by the students can be replicated and submitted outside the classroom for research, funding or project-building purposes.

Outside of the writing department, sociology professor John Foran incorporates the concept of a 100 percent sustainable Isla Vista community, or "Eco Vista," into the curriculum of all five of his courses. By presenting a relevant scenario, Foran stimulates constructive discussions, insights and projects that go straight toward bettering the community. Two concrete examples include public education on Measure R, which Isla Vista voters approved to provide funding for the Isla Vista Community Service District, and student-led support for the creation of the Isla Vista Community Bike Center.

The Global Food Initiative

More than 270 students have participated in Global Food Initiative fellowships since the program launched in 2014. Current fellows are working on projects related to building more equitable and inclusive food systems, expanding sustainable food practices at UC dining halls and educating college students across California about the availability of food aid through the state's CalFresh program.

These efforts are producing tangible and lasting impacts on the University and its community. For example, with student help, the UC Santa Cruz farm has recently begun sending more of its fresh, organic produce to student dining halls and the free food pantries on campus. Using funds from the GFI, the farm also recently installed a number of agricultural tunnels — also known as hoop houses — so that it can grow a year-round supply of healthy, low-cost produce for UC Santa Cruz dining halls, food pantries and market pop-ups on campus.

Faculty and Staff Engagement

UC promotes excellence in sustainability through trainings and professional certifications for staff. For example, the new Sustainability Certificate Program for employees at UC Santa Cruz enrolled 70 staff participants to explore sustainability topics, issues and trends. The program offered 10 classes taught by faculty, staff and alumni on topics ranging from Sustainable Cities & Social Equity to Intersections Between Diversity & the Environment and Climate Change & Justice.

UC Sustainability Champion: Paul Watkins, Chief Administrative Officer, UCLA Santa Monica Medical Center

More than 20 percent of UC's greenhouse gas emissions come from UC's hospitals and health clinics. Those health care facilities also use a lot of water and generate a large amount of waste. This year's sustainability champion, Paul Watkins, chief administrative officer for UCLA's Santa Monica Medical Center, has managed to build momentum toward making UC's health care facilities into models of sustainable practices, despite these formidable challenges.



Paul Watkins

Watkins' leadership led to the creation of the new section on UC Health Sustainability in UC's Sustainable Practices Policy. He created the first permanent energy manager position and first full-time sustainability manager position among all five UC Health systems (at UCLA Health). He is a member of UC's Global Climate Leadership Council and has presented on sustainability and carbon neutrality to the UC Health chief administrative officers, chief operating officers and chief financial officers. He also served on UC's Task Force on Carbon Neutrality Finance and Management, leading development of the chapter on medical centers for the task force's report, "Overcoming Barriers to Carbon Neutrality."

Watkins' work has increased coordination around sustainability among the health systems, which is expected to grow, especially as he chairs the Health Sustainability Working Group, which is tackling climate and energy efficiency projects, and is also exploring waste, water, procurement and data collection projects.

Campus as a Living Lab: UC Irvine

UC Irvine's Campus as a Living Lab (CLL) internship program offers a unique opportunity for undergraduates to become sustainability leaders on campus while preparing them for green sector careers of the future. CLL pairs students with UC Irvine staff working to improve the sustainability of campus operations and systems. Students participate in year-long internships, along with a year-long class that introduces sustainability concepts and theories and how they can be applied to our most pressing environmental, social and economic challenges.

Within the past three academic years, interns have worked with a variety of campus partners to address a range of different sustainability challenges. For school year 2017-18, 12 students from multiple and diverse departments were enrolled in CLL. These students gained valuable skills in community outreach, project management, data analysis and more. For instance, interns worked with UC Irvine Dining and UC Irvine Housing to move the campus closer to zero waste, with UC Irvine-NATURE to engage the community in restoration and conservation projects in UC Irvine's protected natural areas and with UC Irvine's campus planners to develop a new "green labs" certification program.

Social Responsibility and Investments

INVESTING IN RESILIENCE

Sustainability is a priority for the Office of the Chief Investment Officer (OCIO) of the Regents. In November 2017, the Regents' Investment Subcommittee voted to include sustainability language as part of the OCIO's investment policy. As of August 2018, the investment office has invested close to \$800 million in clean or renewable energy.

Investing for a resilient and sustainable future is a cornerstone of the OCIO's award-winning Environment, Social Responsibility and Corporate Governance (ESG) program. In addition to identifying clean and renewable investment opportunities, the OCIO has taken steps to limit or cut its exposure to high-carbon businesses, including companies that make the majority of their revenues from thermal coal or tar sands. The OCIO also sold fixed-income holdings in the developers and operators of the Dakota Access Pipeline.

In December 2017 the OCIO became a signatory to the Task Force on Climate-related Financial Disclosures (TCFD), an international effort to improve reporting on climate-related risks. The OCIO is an active and committed participant in other leading ESG-related industry groups, including the Principles for Responsible Investment (PRI), Ceres, the United Nations Global Compact and the 30 Percent Coalition.

STRENGTHENING STANDARDS

In 1998, the University of California was among the first universities in the country to adopt a code of conduct (UC Code) concerning fair labor standards and practices in supply chains of companies authorized to produce products that bear the University of California name, including all UC campus names and related trademarks.

Since then, licensing directors on each UC campus have engaged in efforts to ensure inclusion of the [UC Code](#) in all license agreements and to measure levels of implementation of these standards by UC licensees. Along the way, UC has recognized that compliance is not an event but something better described as a journey of continuous improvement. On March 17, 2017, the University issued an updated UC Code that, in addition to clarifying and strengthening the standards, more clearly conveys the expectations for licensees' continuous improvement in their implementation of these standards. In order to evaluate licensees in this regard, the UC Trademarks Licensing Code of Conduct

Advisory Committee and UC campus licensing directors have explored several methodologies for measuring licensees' progress.

Results from the implementation of one such methodology were presented by UCLA Trademarks and Licensing at the 2018 California Higher Education Sustainability Conference (CHESC). These included results from a survey of licensee selection processes spanning five years that measured licensees' year-over-year performance on the following metrics: transparency, risk, mitigation, and purchasing practices.

Survey results were then included in the selection criteria for awarding new and renewing UCLA licensee contracts. Over time the UCLA licensee base results showed an overall improvement in the areas of implemented fair labor practice strategies measured. This process included awarding conditional renewal license agreements to licensees whose survey results were lower than a threshold set by the program, and at the same time tasked them with taking steps to improve their level of knowledge and engagement in order to be considered for future renewals. Additionally these licensees were pointed toward relevant resources and in some cases compulsory factory monitoring and corrective action programs. Eventually, those licensees that did not take the opportunity during a conditional renewal period to enhance their efforts were not awarded subsequent renewal contracts. Those who did and are continuing to take incremental steps to enhance their efforts are continuing to receive either conditional renewals or standard renewals, depending on the level of progress achieved.

UC is committed to selecting licensees that agree to produce products under fair, safe and humane working conditions and demonstrate management processes that enable them to achieve progress toward implementation of these standards throughout their supply chain. In addition to UC emblematic goods sold in retail stores, the UC system and each campus also purchase a substantial number of goods bearing the UC and UC campus names for internal campus use, including uniforms, giveaways, awards and gifts. These goods are also subject to the UC Code and represent a key initiative area for the advisory committee. The committee seeks to develop tools to help educate the University community on the importance of buying only from licensed resources and to foster purchasing best practices that support and reinforce the attainment of the labor standards embodied in the UC Code.

The Campuses



UC Berkeley

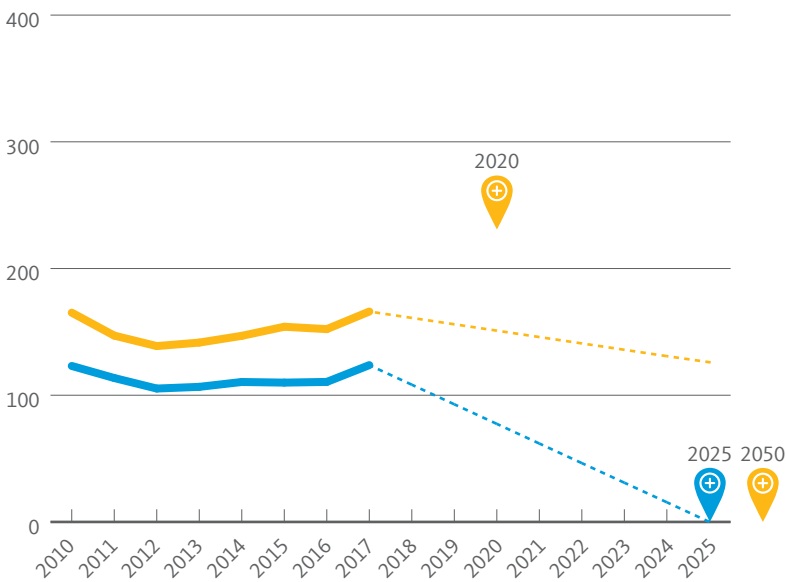


UC Berkeley has long pioneered sustainable food and transportation practices on campus, but this year, the campus has taken meaningful steps to extend those initiatives to surrounding communities. UC Berkeley has launched its Building Equitable and Inclusive Food Systems program, which shares information about available food resources with local communities. That includes identifying policies and practices that undermine food security in marginalized communities around the San Francisco Bay Area and sharing solutions. On the transportation side, hundreds of students in the Educational Opportunity Program, which serves first-generation, low-income and underrepresented college students, received no-cost memberships in UC Berkeley's BikeShare program, which offers access to a network of bicycle-sharing throughout the Bay Area.

On the energy front, this past year offered new challenges, as well as opportunities, for campus sustainability efforts. In particular, UC Berkeley regained operational control of the campus's decades-old on-site natural gas cogeneration plant. That switch offers the campus responsibility for the plant's carbon emissions — and a chance to rethink, with carbon neutrality in mind, how the campus will power its labs, classrooms and other facilities for decades to come. Many in the campus community are already working on solutions to such sustainability challenges, and they were honored at the 15th Annual Summit of the Chancellor's Advisory Committee on Sustainability. Among the award winners was the team behind the new Connie and Kevin Chou Hall at the Haas School of Business, the first zero waste academic facility in the U.S.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

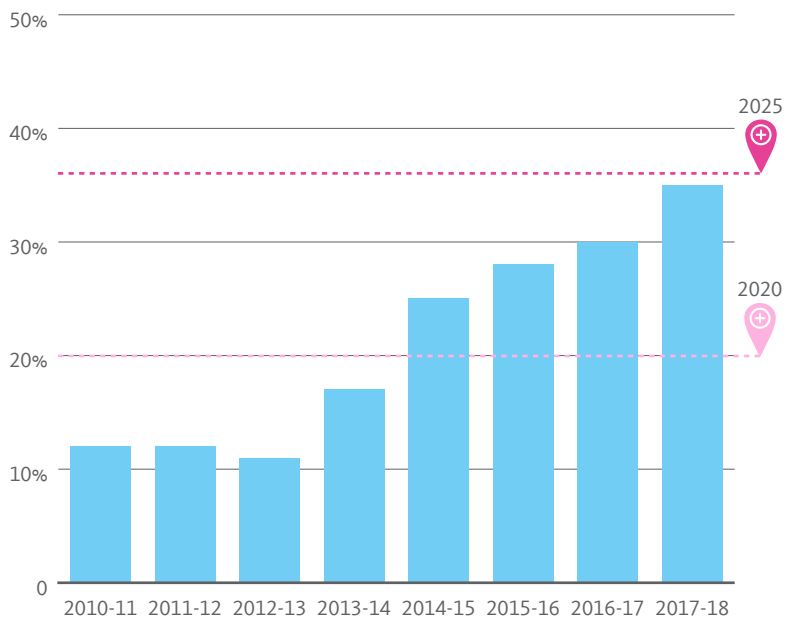
- 2020 goal met

In 2017, UC Berkeley took operational control of the campus on-site natural gas cogeneration plant and is now using both the electricity and steam from the plant instead of procuring main campus power from the local utility. Approximately 90% of the energy used by campus is now delivered by the plant.

Total renewable energy installed (MW): 0.91

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

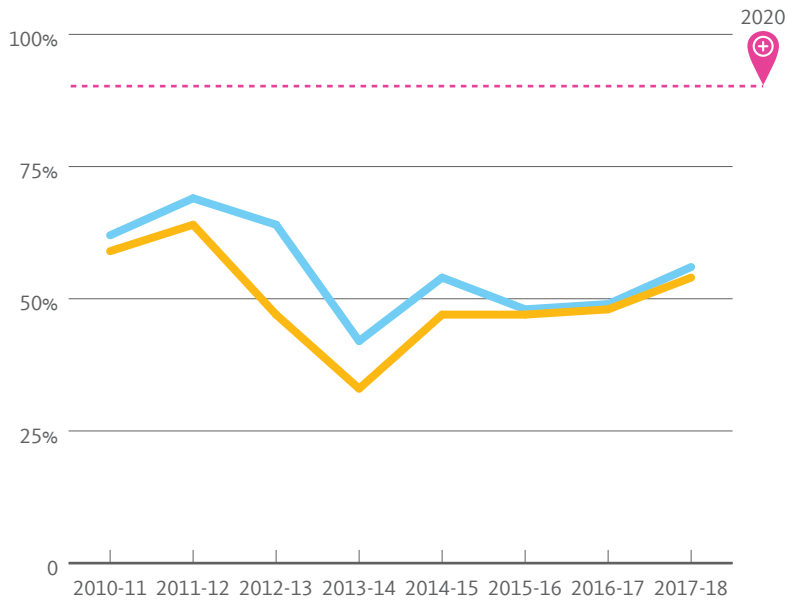
Progress:

- 2020 goal met

UC Berkeley further reduced overall water use in 2017-18 and is close to meeting the 2025 goal.

2017-18 gallons per capita: 13,291

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

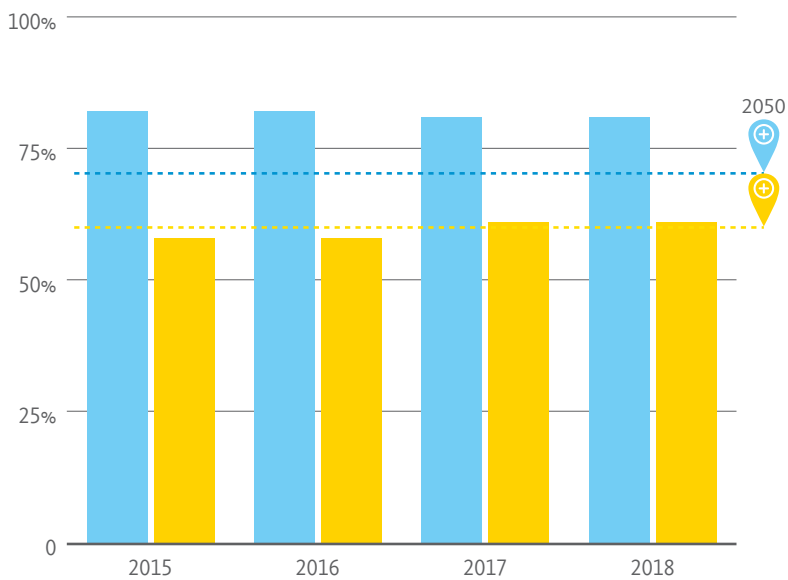
Goal:
Zero waste by 2020

Progress:
UC Berkeley increased waste diverted from landfill in 2017-18.

2017-18 lbs per capita per day: 0.97

TRANSPORTATION

(% alternative commute)



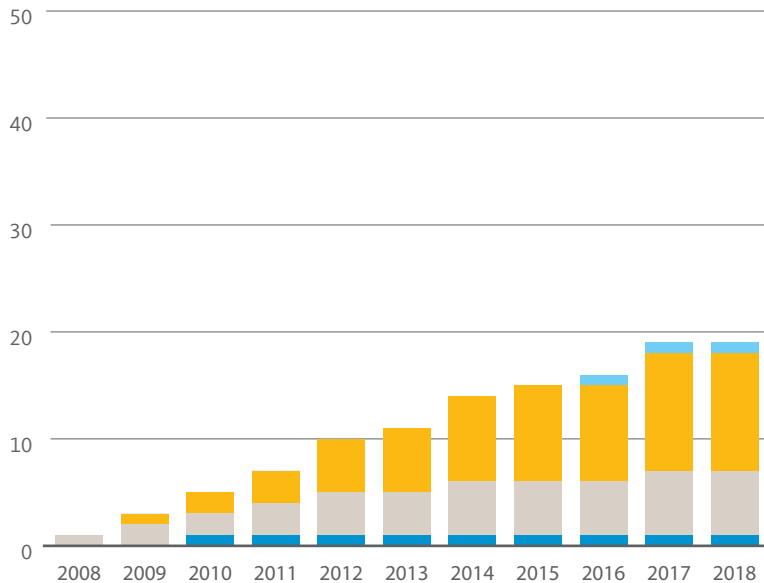
- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:

- 2050 overall goal met
- 2050 employee goal met

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovations >\$5 million
- Exceed the California building energy code by 20%

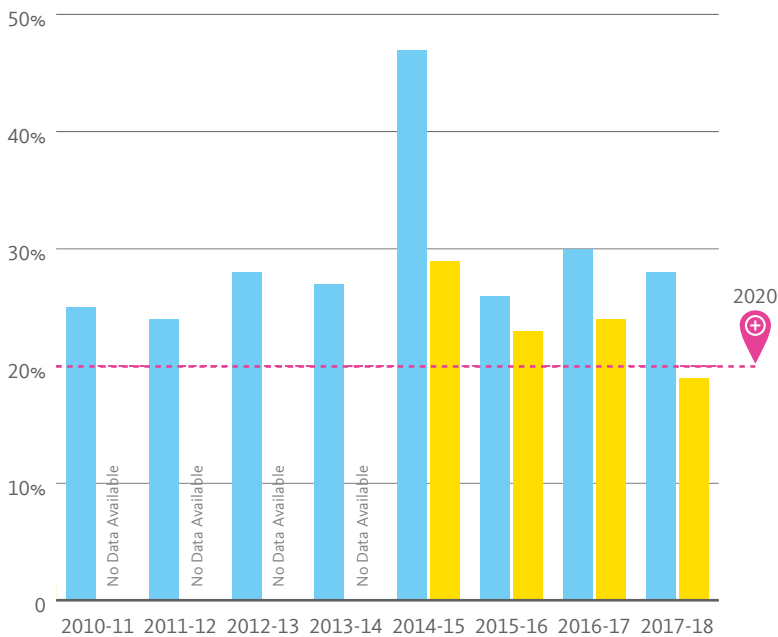
Progress:

12% of UC Berkeley's square footage is now LEED certified. In the coming year, UC Berkeley's second platinum building is expected, which will also be WELL and Zero Waste Certified.

Average % beyond code of new projects in 2017-18: 38.5%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

- 2020 goal met for residential

UC Berkeley's retail sustainable food spending decreased this year because of a switch to an all-cooked poultry product.

Number of green certified businesses: 6

UC Davis



Credit: Elena Zhukova

With a long history of sustainability achievements, UC Davis helps lead the state and the world in climate change and sustainability science and action. In the past year, the campus's faculty research inspired the launch of the [UC Million LED Challenge](#), informed [California's Fourth Climate Change Assessment](#), led to a new partnership with Mexico's Ministry of Energy for the [Centro de Tecnología de Iluminación](#) and launched [OneClimate](#), a new campus initiative designed to leverage UC Davis's unique blend of cross-disciplinary problem-solving into scalable, repeatable networks of solutions — from the campus to the world.

From the [Learning by Leading](#) program to the [Unitrans](#) bus system run by student drivers, mechanics and dispatchers to myriad project-based classes, such as Professor Lloyd Knox's

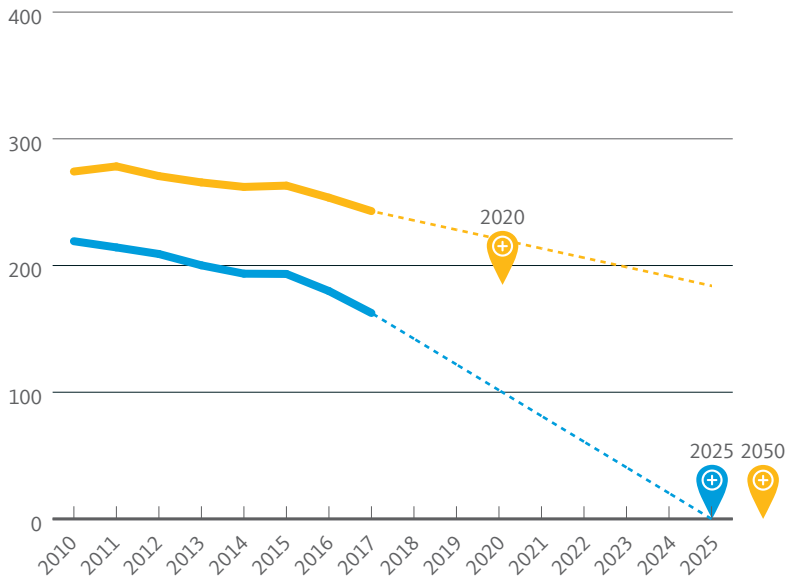
[Physics 150/250: Pathways to Climate Neutrality](#) in California, students actively learn at UC Davis using the campus as their classroom.

The [JUMP regional bikeshare program](#) launched this year, giving campus affiliates access to bikes through a very affordable annual membership, and further encouraging sustainable, active transportation on a campus already recognized for its [Platinum-level bicycling programs](#). On the climate action and renewable energy front, UC Davis was responsible for almost 49 percent of UC's total voluntary renewable energy production.

UC Davis was internationally recognized for its sustainability achievements with the December 2017 ranking of the campus as the third-greenest university in the world by the University of Indonesia [GreenMetric](#) World University Ranking.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

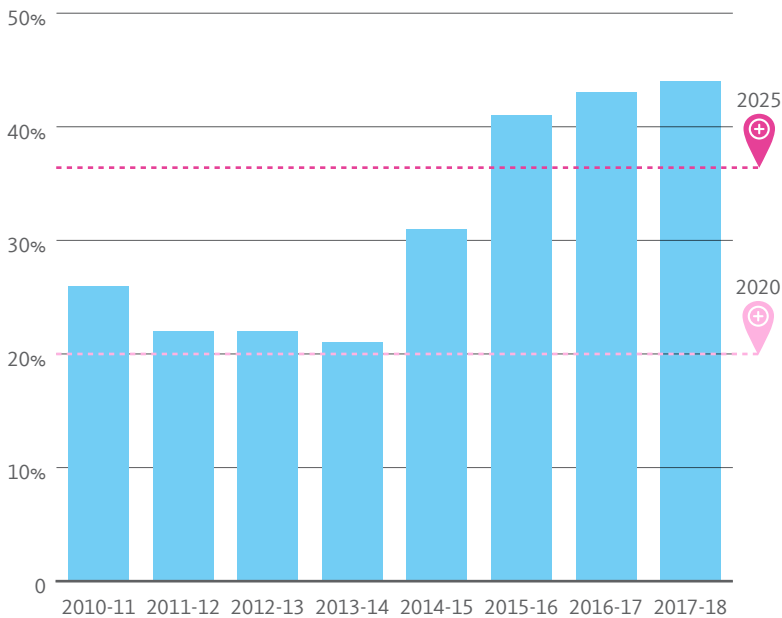
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 17.06

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

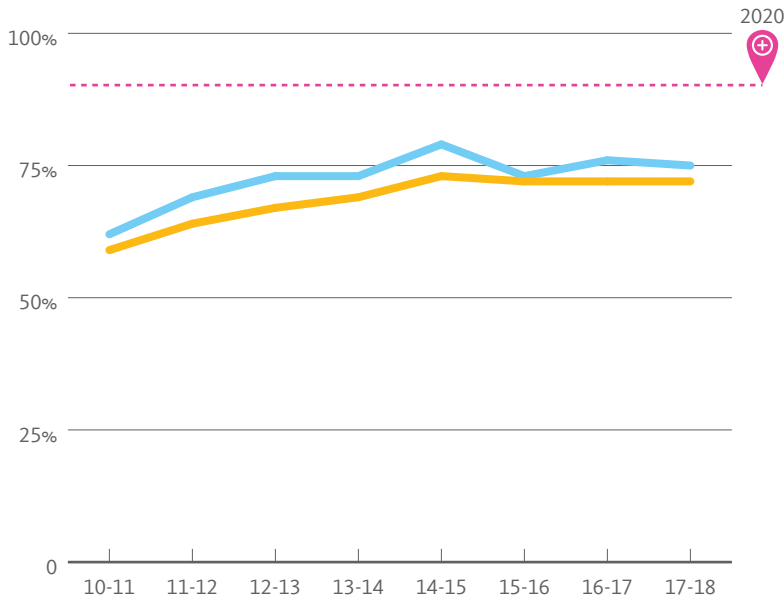
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

- 2020 goal met
- 2025 goal met

2017-18 gallons per capita: 16,128

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

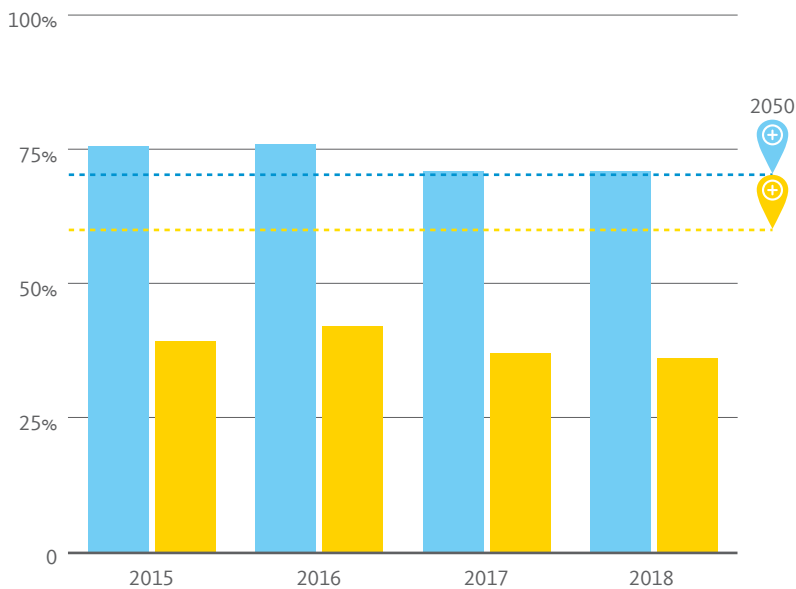
Goal:
Zero waste by 2020

Progress:
UC Davis' municipal solid waste diversion rate remained stable as compared to 2016-17 and increased slightly when construction and demolition waste is included.

2017-18 lbs per capita per day: 3.1

TRANSPORTATION

(% alternative commute)

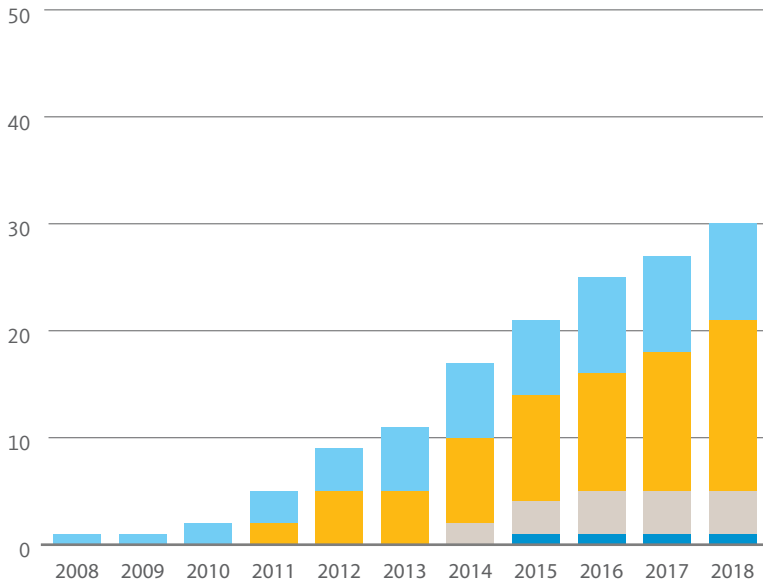


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
● 2050 campus wide goal met

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Gold
- Silver
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

Progress:

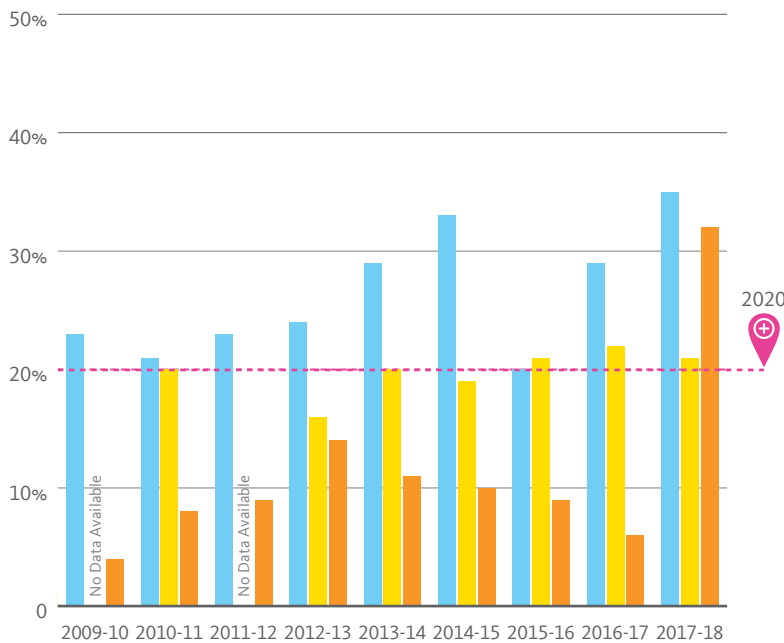
UC Davis certified one additional LEED EBOM project in 2018.

Number of LEED EBOM projects: 9

Average % beyond code of new projects in 2017-18: 27%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail (CoHO)
- Retail (Sodexo)

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

● 2020 goal met for residential and retail Dining and retail services transitioned management from Sodexo to the campus in 2017. Retail dining sustainable food spend increased 26% this year (from 6% to 32%).

Number of green certified businesses: 3

UC Irvine



In 2018, UC Irvine became only the fourth campus in the world to achieve a [Platinum rating](#) from AASHE STARS, a sustainability metrics tool for higher education. UC Irvine earned this significant sustainability distinction through its excellence in academics, engagement, operations, planning and administration, and innovation and leadership. The campus also earned its third No. 1 spot in *Sierra* magazine's Cool Schools rankings.

Another highlight of this past year was the retrofitting of the central plant's cooling towers to use treated recycled water, saving approximately 80 million gallons of potable water annually. Completed in partnership with the Irvine Ranch Water District, the conversion will help the campus achieve its stretch goal of reducing per capita drinkable water use by 50 percent by 2025, putting the campus ahead of the UC goal to cut water usage by 36 percent by then.

Mesa Court Towers continues to gain prominence, earning the 2017 Project of the Year award by the Design-Build Institute

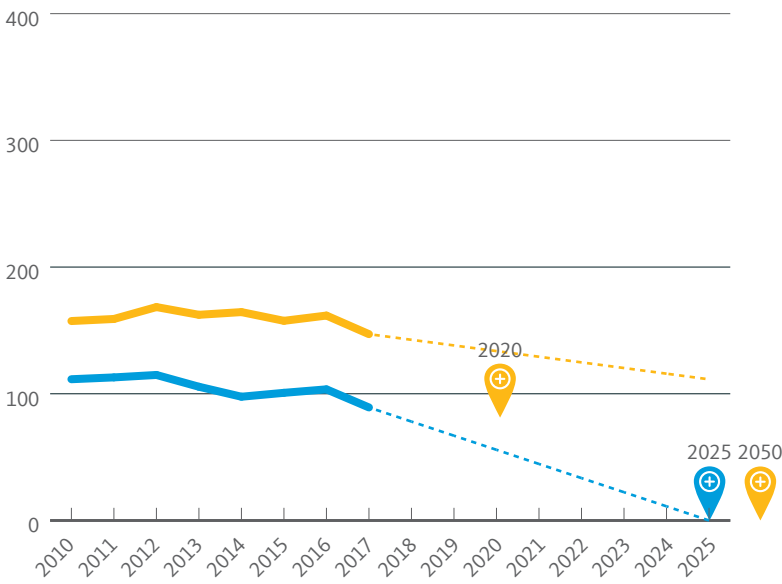
of America. The towers house as many as 1,016 student residents and were designed to create a residential living-learning community, providing a safe and fulfilling campus living environment. This past year, Mesa Court Towers also obtained a LEED Platinum rating from the U.S. Green Building Council, bringing UC Irvine's total to 17 Platinum buildings.

UC Irvine became the first campus in the nation to convert its student shuttle fleet, the Anteater Express, from biodiesel to pure electric transit buses. These clean buses will provide more than two million student rides per year.

Additionally, UC Irvine completed the pilot phase of its Green Labs program, certifying its first five campus laboratories that have demonstrated growth and understanding in sustainable lab practices. With the successful completion of the pilot, UC Irvine Green Labs is now officially available to all 300 laboratories across campus.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

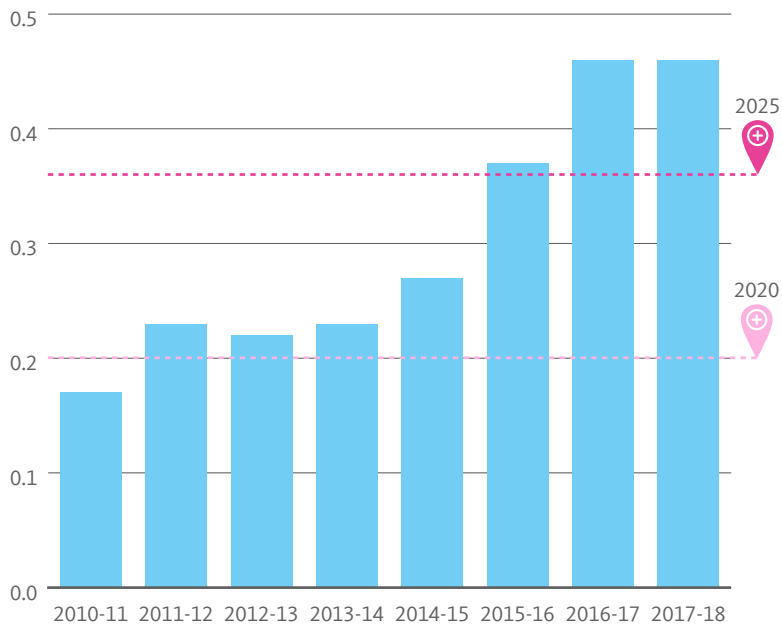
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 4.42

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

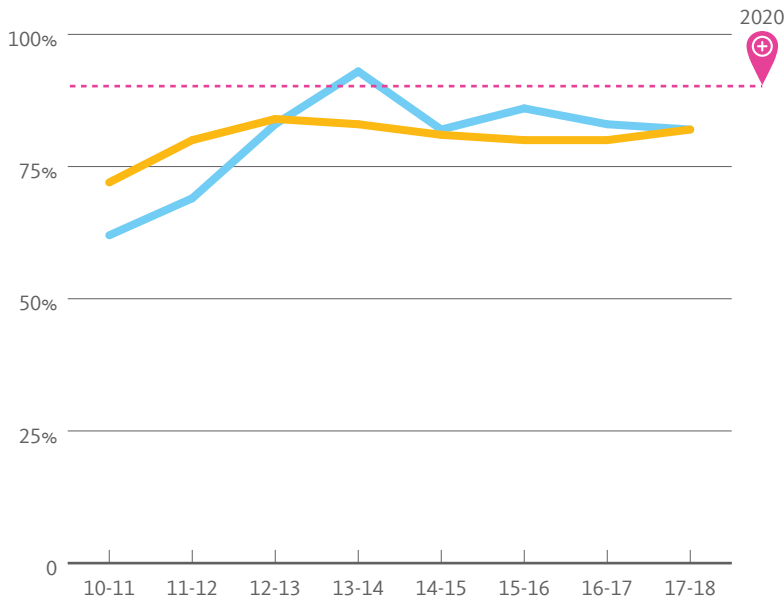
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

- 2020 goal met
- 2025 goal met

2017-18 gallons per capita: 10,336

SOLID WASTE DIVERTED FROM LANDFILL



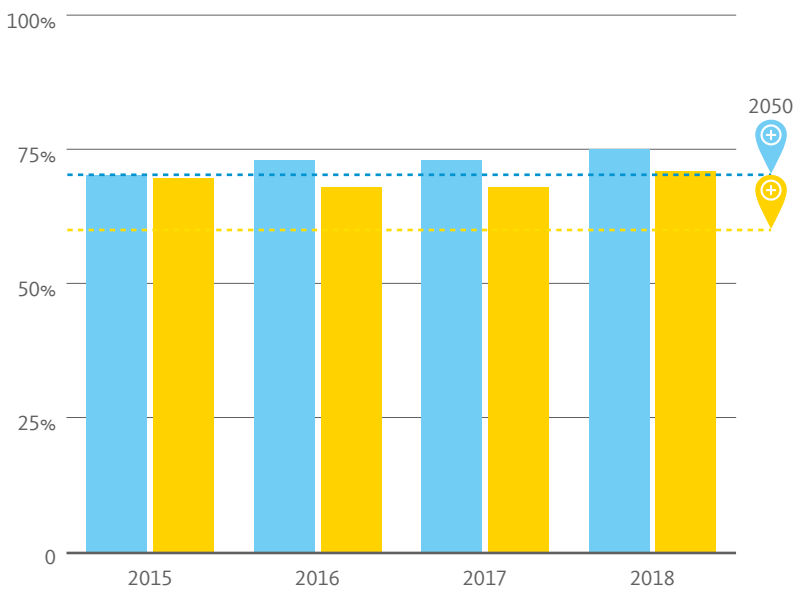
- Without construction and demolition
- With construction and demolition

Goal:
Zero waste by 2020

Progress:
2017-18 lbs per capita per day: 1.32

TRANSPORTATION

(% alternative commute)



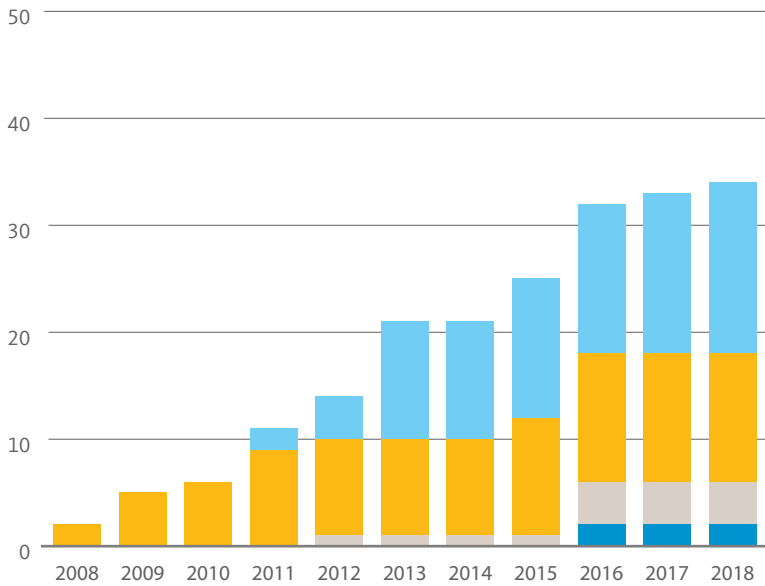
- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:

- 2050 employee goal met
- 2050 overall goal met

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Gold
- Silver
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

Progress:

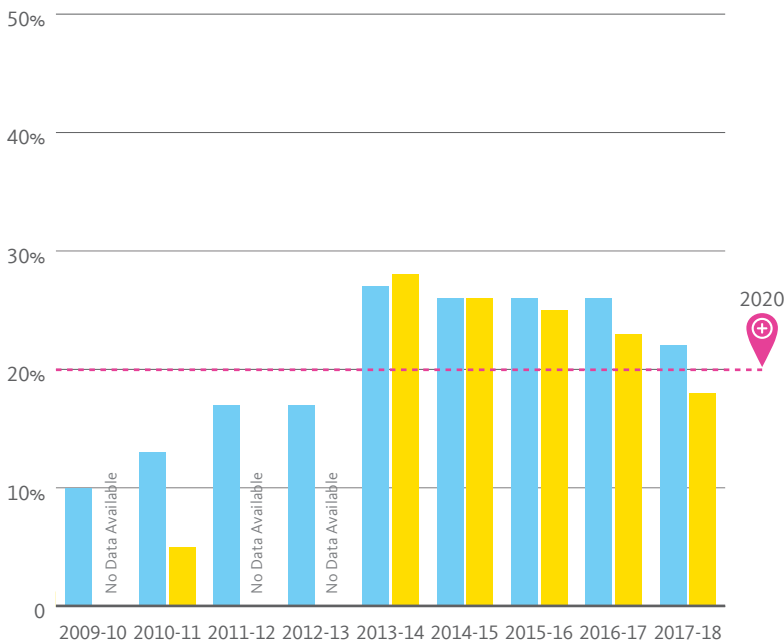
UC Irvine added one new LEED Platinum Building Design + Construction certified project in 2018.

Number of LEED EBOM projects: 7

Average % beyond code of new projects in 2017-18: 36%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

Number of green certified businesses: 3

UCLA



*Bruin Bike Share Launch.
Credit: UCLA Transportation*

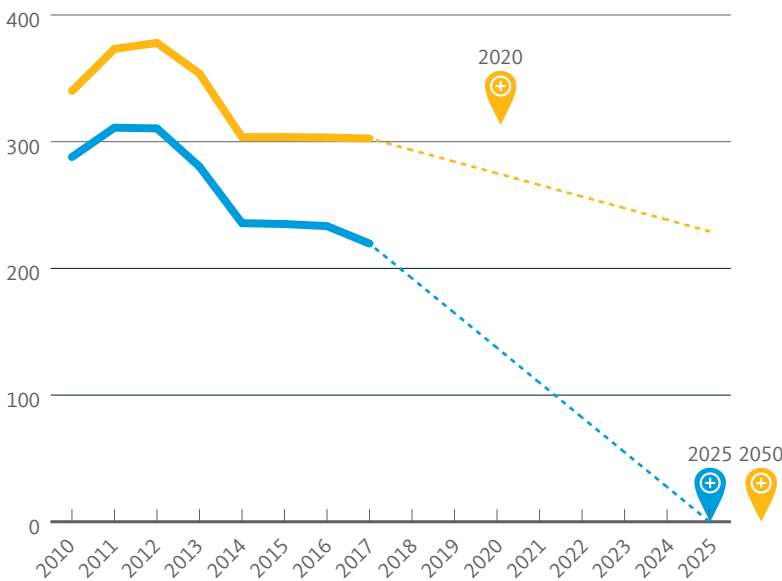
UCLA's leadership in sustainability education took another step forward at the start of spring quarter 2018 with a new bachelor's degree in climate science. Housed in the Department of Atmospheric and Oceanic Sciences — which was tied for the No. 1 department of its kind in rankings by the National Research Council — the program is among the first major programs in climate science worldwide.

Working to transform the carbon impact of one of the most common construction materials, a team of UCLA engineers,

scientists and policy experts has advanced to the finals of the \$20 million NRG COSIA Carbon XPRIZE by successfully creating a nearly carbon dioxide neutral version of concrete, called CO2NCRETE. The international competition, which began in 2015 and is scheduled to conclude in 2020, challenged teams to develop carbon technologies that convert carbon dioxide emissions from power plants and industrial facilities into viable products.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



● Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)

● Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

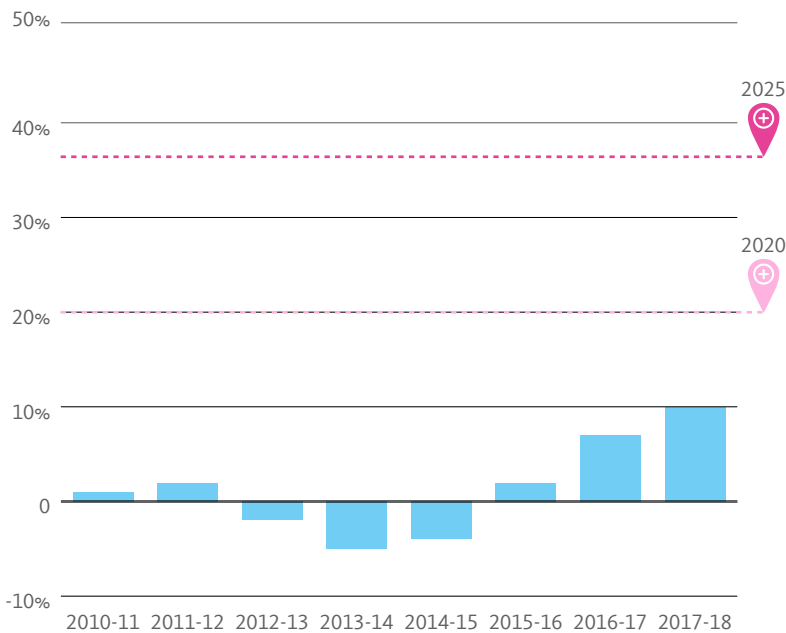
● 2020 goal met

In 2018, UCLA's GHG emissions were roughly the same as the previous two years.

Total renewable energy installed (MW): 0.18

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



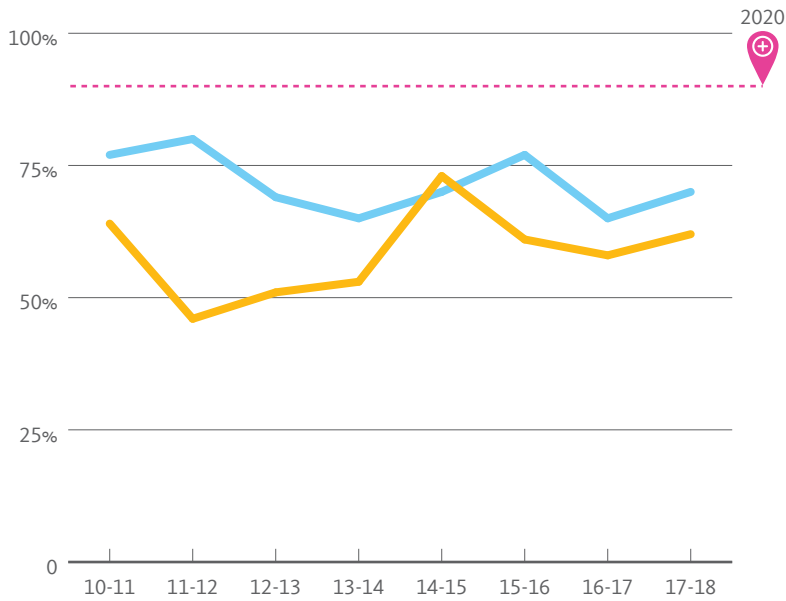
Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

2017-18 gallons per capita: 13,986

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

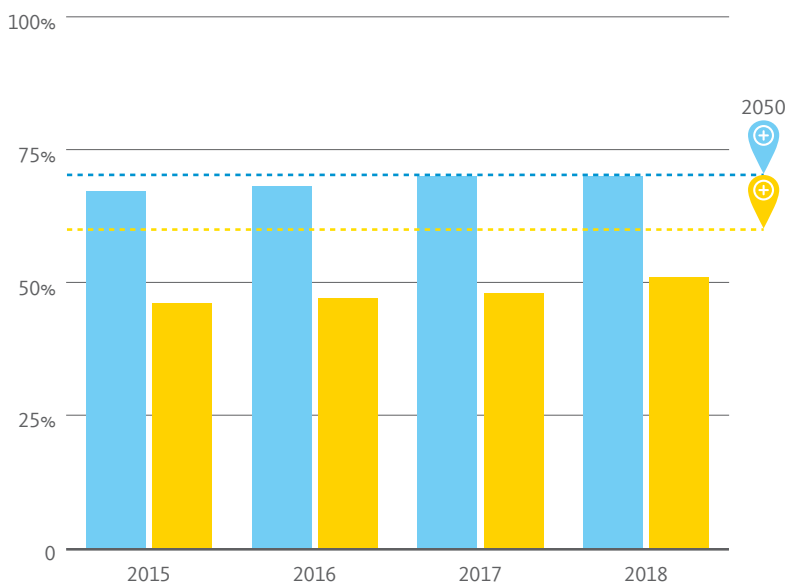
Goal:
Zero waste by 2020

Progress:
In 2017-18, UCLA's municipal solid waste diversion rate increased slightly over last year.

2017-18 lbs per capita per day: 2.21

TRANSPORTATION

(% alternative commute)

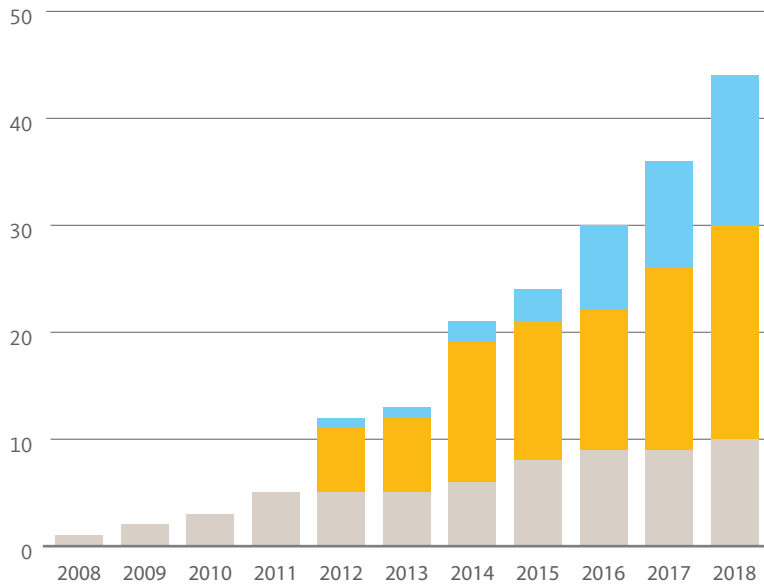


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
● 2050 overall goal met

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

Progress:

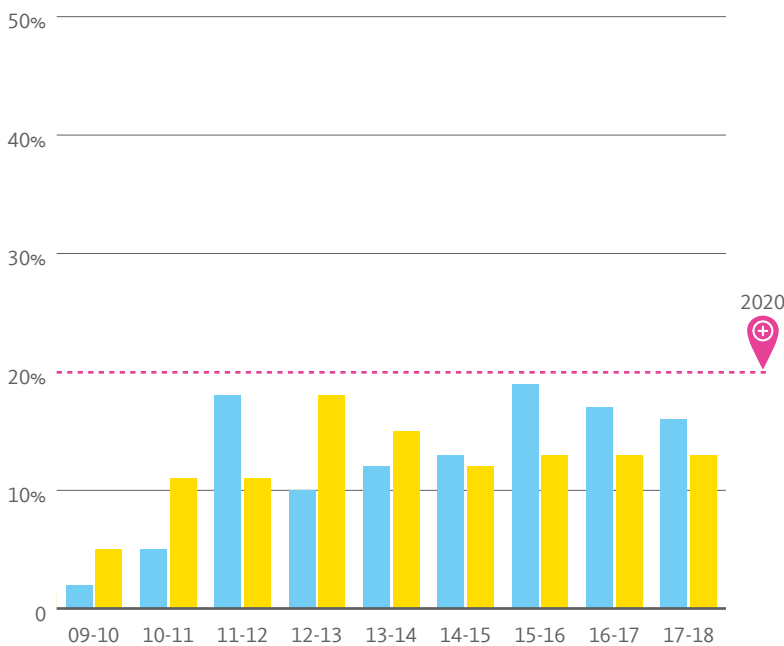
UCLA added 7 new LEED certified projects this year, including 1 new LEED Silver, 3 new LEED Gold and 3 new LEED Platinum.

Number of LEED EBOM projects: 1

Average % beyond code of new projects in 2017-18: 20%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

Number of green certified businesses: 3

UC Merced

UC Merced launched a Green Offices Program, which recognizes departments, units and offices that have integrated sustainability practices into their workspaces. After an initial self-assessment questionnaire is completed by participants, offices are notified on the state of their workspaces. Currently, two departments have been certified under the newly established program.

Downtown Campus Center, UC Merced's newly constructed building, is completely electric and features a hydronic radiant heating system, which uses water flow piping underneath

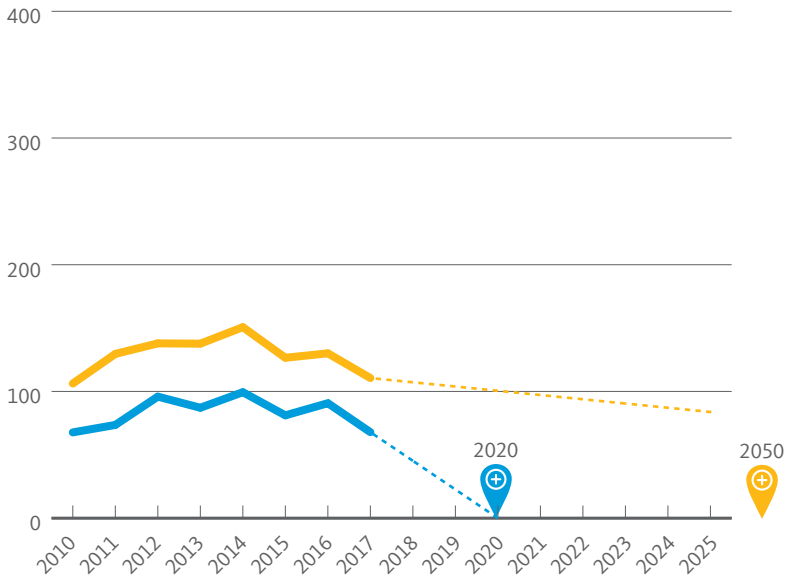
concrete floor slabs for heating and cooling without the need for gas. The building is currently pursuing a LEED Gold rating. Other sustainable features include LED lighting in the interior and exterior of the building along with occupancy sensors, which are motion detectors that turn lights on or off accordingly.

UC Merced is also installing a four-megawatt solar array system on campus that will come online at the beginning of 2019. The system is expected to provide 50 percent of the campus electricity load.



GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

As UC's newest campus, UC Merced has set a more aggressive goal to achieve climate neutrality for scopes 1 and 2 sources by 2020.

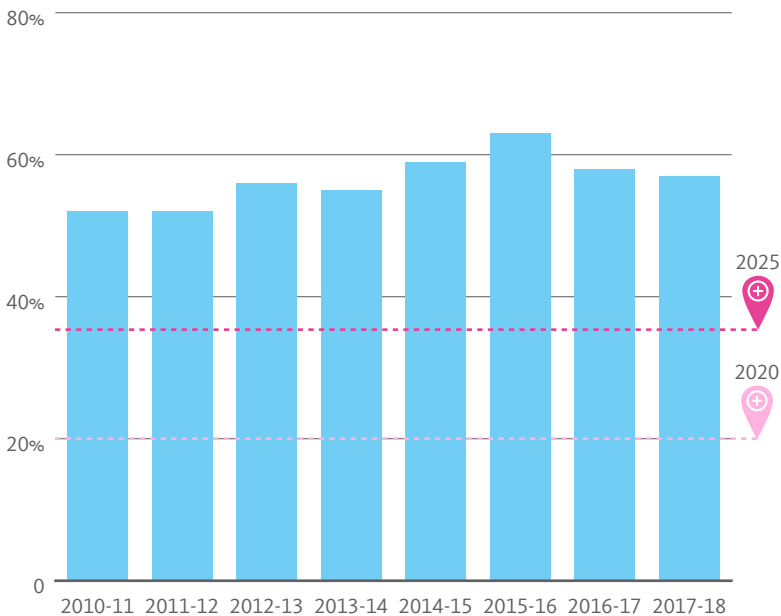
Progress:

UC Merced's reduction in emissions for 2017, from 2016, is due to a reduction in the carbon content of power the university sources, a strategy the campus has used to reduce its emissions output.

Total renewable energy installed (MW): 1

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

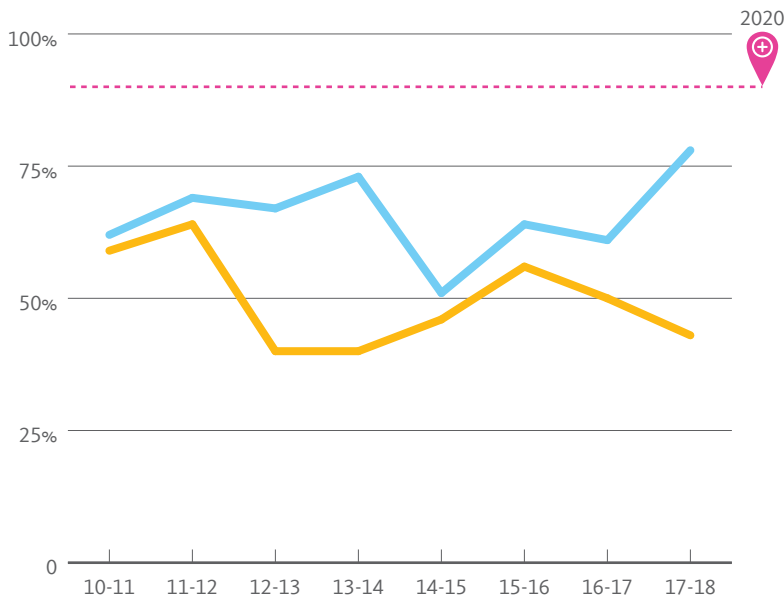
Progress:

- 2020 goal met
- 2025 goal met

UC Merced has met these goals through a number of practices that have included, but are not limited to, a reduction in landscape watering times, implementation of the hydrogel system and behavioral conservation practices.

2017-18 gallons per capita: 12,826

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

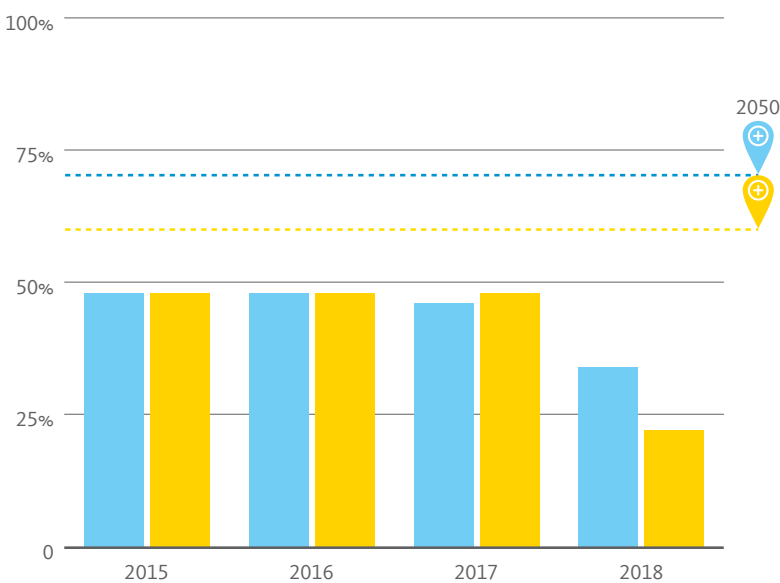
Goal:
Zero waste by 2020

Progress:
The campus has achieved a 43% diversion rate without construction and demolition, a decrease from the previous performance year. This has been due to the campus expansion and enrollment growth.

2017-18 lbs per capita per day: 0.51

TRANSPORTATION

(% alternative commute)

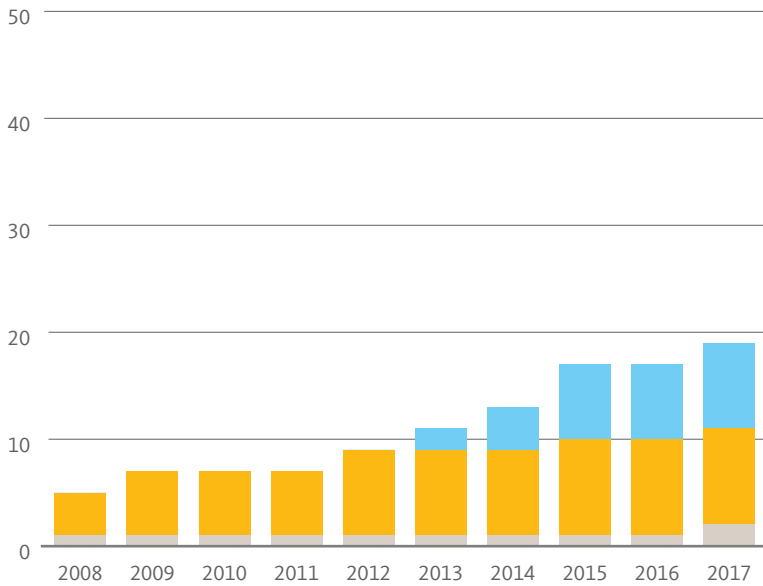


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
The campus is continuing to promote its sustainable transportation options.

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

Progress:

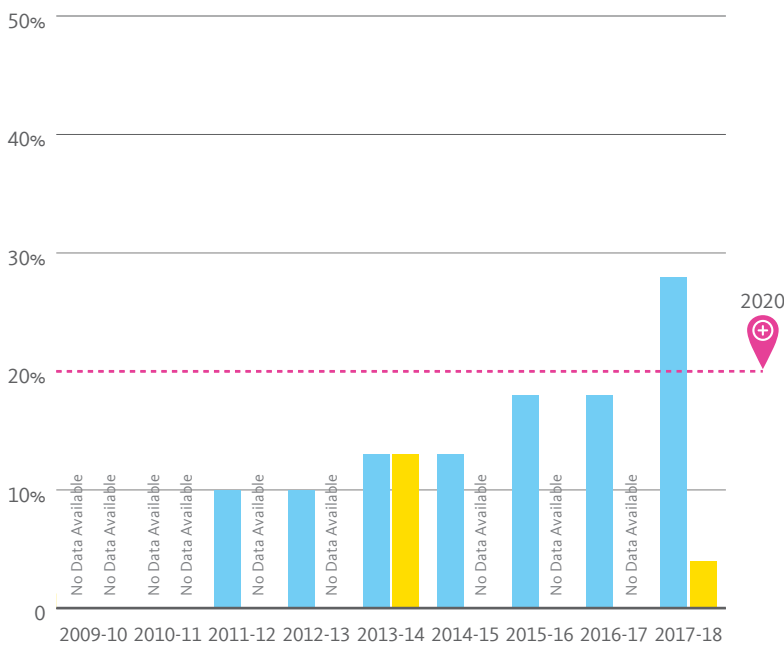
UC Merced has a total of 20 LEED certified buildings. The campus added one LEED Gold certification for Existing Buildings, Operations and Maintenance in 2018.

Number of LEED EBOM projects: 3

Average % beyond code of new projects in 2017-18: 34%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

● 2020 goal met for residential
 This has been achieved through dining services sourcing produce from local farmers.

UC Riverside



Credit: Elena Zhukova

In 2018, UC Riverside made major gains in sustainability initiatives and programs on campus. The campus revamped its Office of Sustainability, hiring new dedicated staff and creating a new organizational structure that includes both operations-focused staff as well as an academic-focused faculty position. This newly formed Office of Sustainability is eager to move the campus further along with new sustainability initiatives and programs coming in the near future.

The campus was proud to gain occupancy of the first LEED Platinum laboratory building, the Material Research Building. The building will feature solar trash compactors that will reduce the volume of trash and thus the number of trips that refuse workers make in their vehicles.

The R'Garden program expanded in 2018, moving to having two full-time staff focusing on field education and program coordination. Working with the campus pantry program, R'Pantry, as well as UC Riverside Dining, the R'Garden has expanded from three to approximately seven acres. The

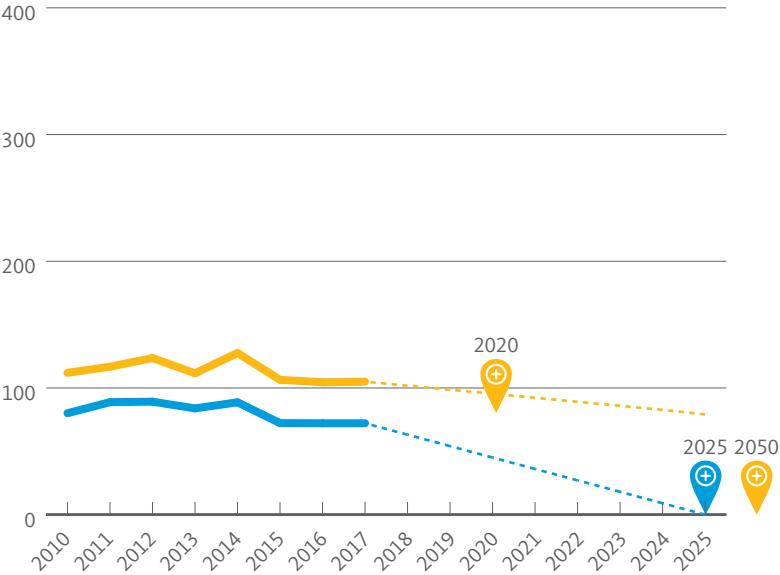
increased acreage will be dedicated to providing both the R'Pantry and Dining with fresh produce grown on campus by students. The Barn restaurant will also receive deliveries to supply its kitchens with campus-grown produce when the renovations are complete.

Additionally, the campus had a successful pilot year of a new bicycle share program, which saw 17,357 rides, representing 3,760 hours of ride time. This program was a collaboration between the Green Campus Action Plan and Transportation and Parking Services.

Lastly, the campus received news that the California Air Resources Board (CARB) had chosen UC Riverside as the location of its new state-of-the-art facility, slated for opening in 2021. This partnership marks the beginning of a strong collaboration between the different agencies and institutions involved in developing strategies for reducing the air pollution in the region and the state.

GREENHOUSE GAS EMISSIONS

(Thousand metric tons CO2e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

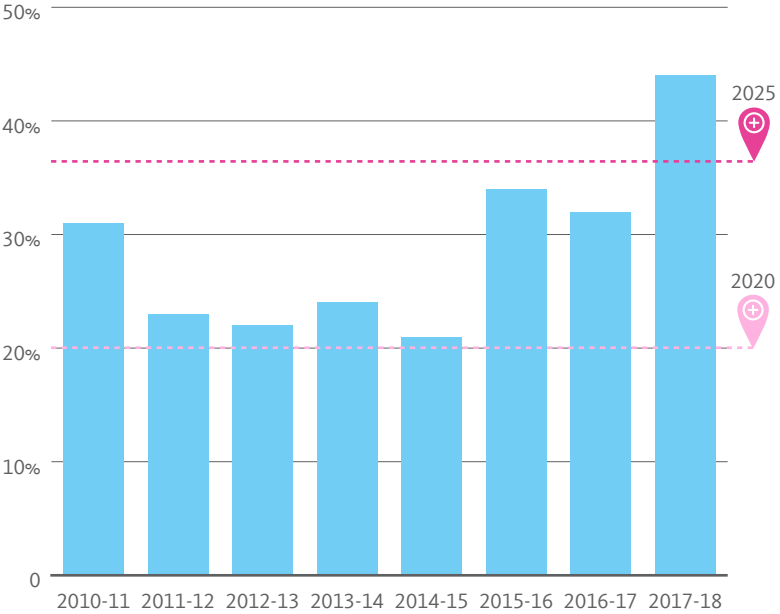
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 7.84

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

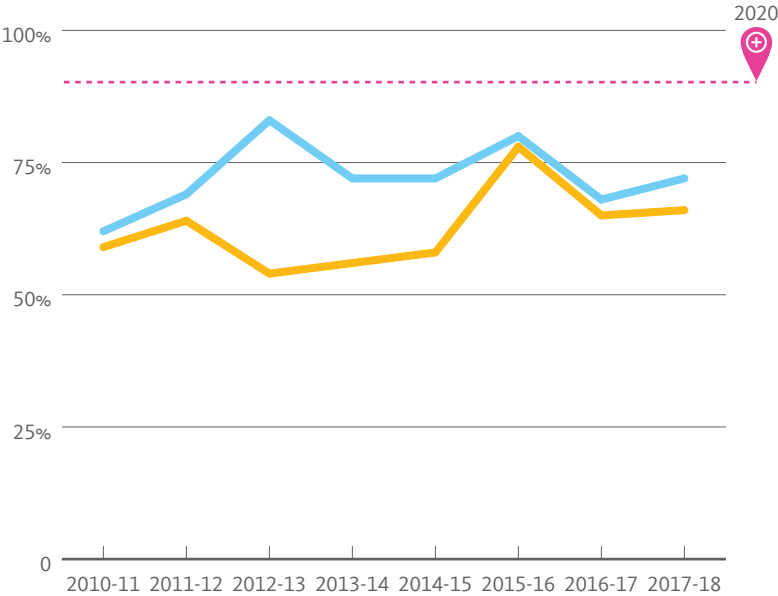
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

- 2020 goal met
- 2025 goal met

Progress:

2017-18 gallons per capita: 13,713

SOLID WASTE DIVERTED FROM LANDFILL



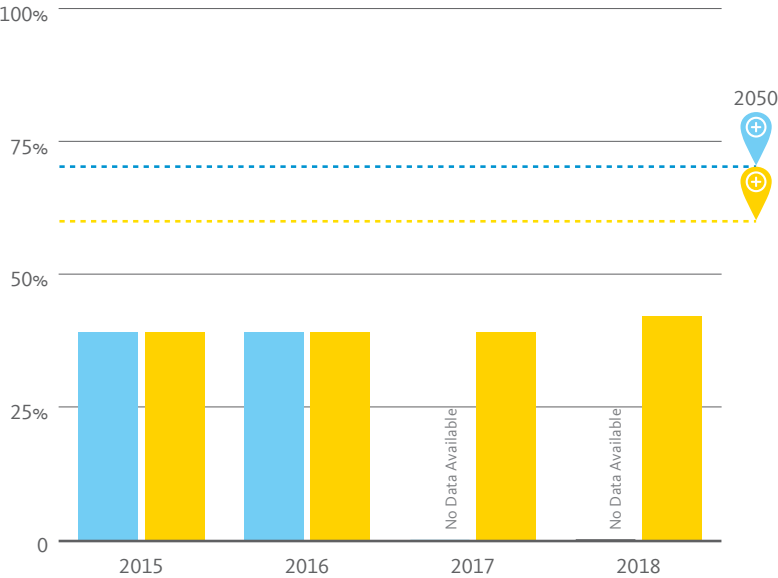
- Without construction and demolition
- With construction and demolition

Goal:
Zero waste by 2020

Progress:
2017-18 lbs per capita per day: 1.01

TRANSPORTATION

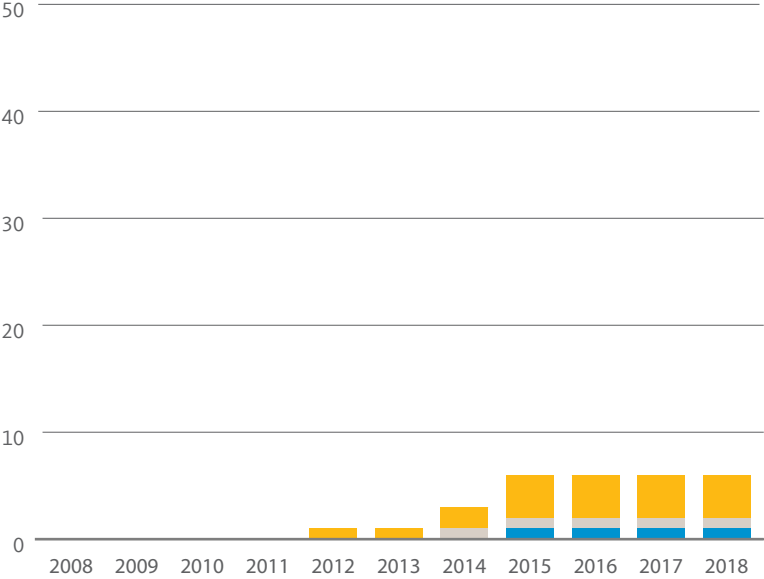
(% alternative commute)



- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

TOTAL NUMBER OF LEED CERTIFICATIONS



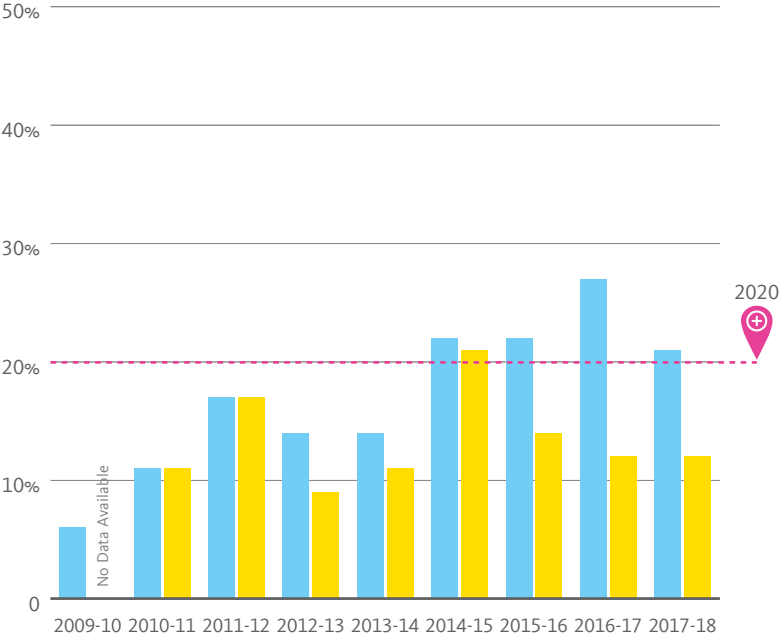
- Platinum
- Gold
- Silver
- Certified

- Goal:**
- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
 - Certify at least one LEED EBOM project
 - Exceed the California building energy code by 20%

Progress:
Number of LEED EBOM projects: 2

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

- Goal:**
- 20% of food service spend will be from sustainable products by 2020
 - Certify at least one facility as a green business

Progress:
 ● 2020 goal met for residential

UC San Diego



Credit: Elena Zhukova

Honored with the 2018 Grid Edge Innovation Award from Greentech Media for serving as an epicenter for research, development and commercialization of smart electric vehicle charging, UC San Diego continues to lead on sustainability. Additionally, UC San Diego's main La Jolla campus received its second AASHE [STARS Gold rating](#).

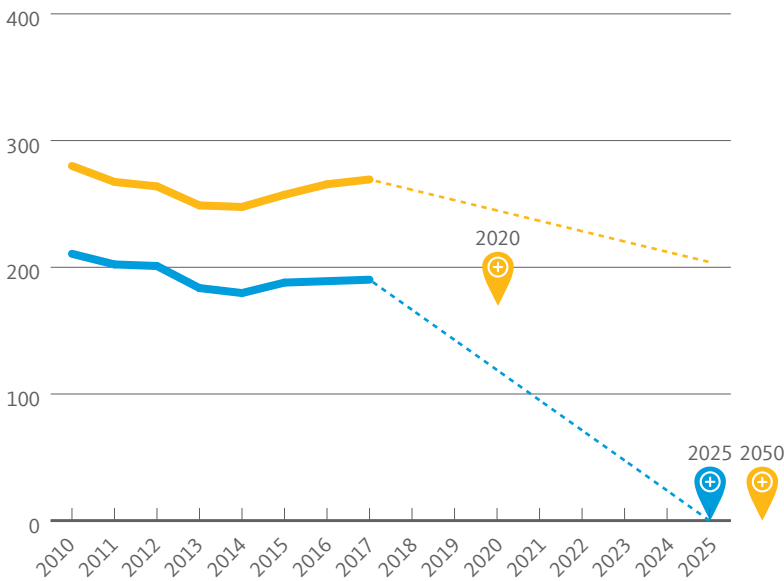
The growing campus reached another milestone by certifying its 50th green lab. While Tritons are well-known for their cutting-edge research centered on protecting the planet, this year they

expanded their sustainability leadership outside the lab, opening [The Hub for Basic Needs Services](#), which connected over 2,500 pounds of prepared meals recovered from the campus farmers market and faculty club to nearly 2,000 students in just its first few months of operation. What's more, the campus composted over 340,000 pounds of pre-consumer food waste, part of its commitment to achieving zero waste.

Finally, UC San Diego was responsible for 25 percent of UC's total voluntary renewable energy production last year.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

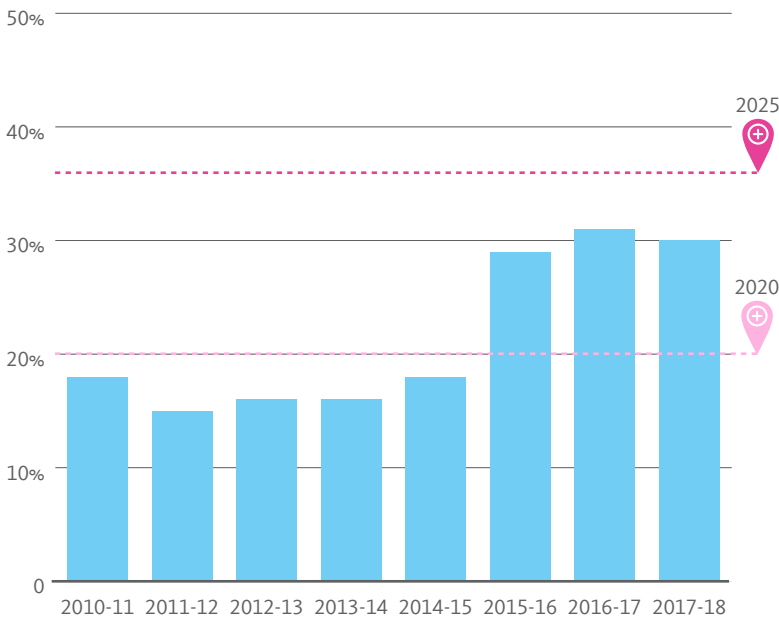
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 2.97

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

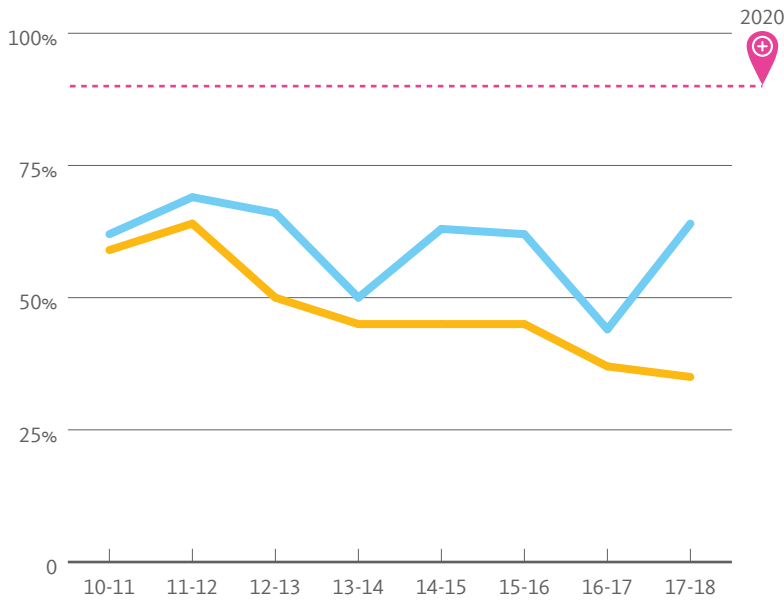
Progress:

- 2020 goal met

UC San Diego has met the 2020 goal due to the use of recycled water in the cooling towers across campus.

2017-18 gallons per capita: 16,011

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

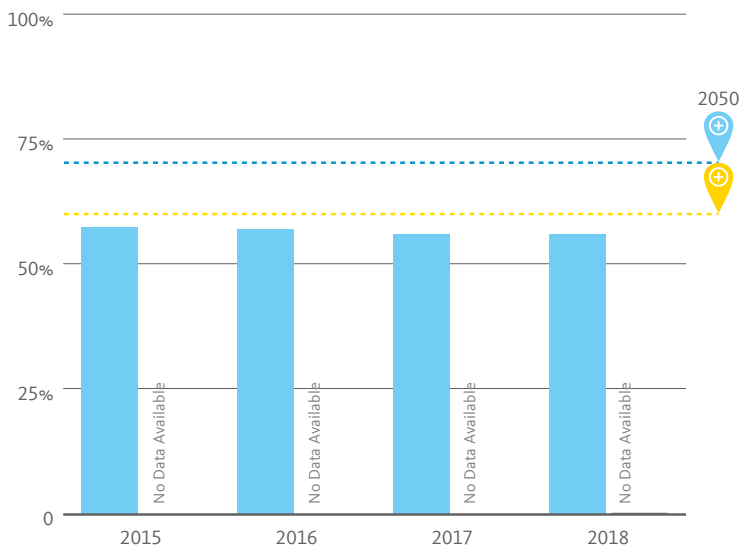
Goal:
Zero waste by 2020

Progress:
UC San Diego is in the process of updating its zero waste plan and strategies, from improving the accuracy of data reporting to expanding training and outreach.

2017-18 lbs per capita per day: 1.31

TRANSPORTATION

(% alternative commute)

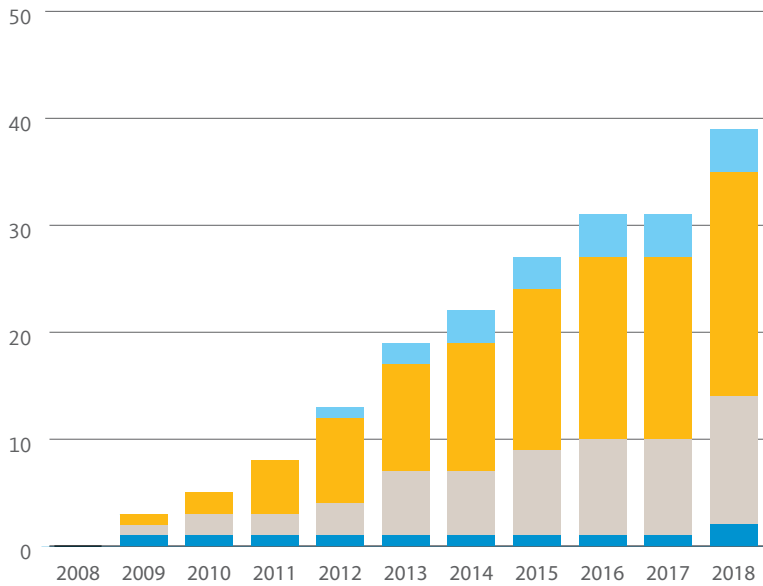


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
Improvements in commuting options — from dockless bike share to incentive trial transit programs for employees — have been offset by growth in the campus population. Light Rail Transit stations on campus, under construction during fiscal year 2018, will increase transit ridership.

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

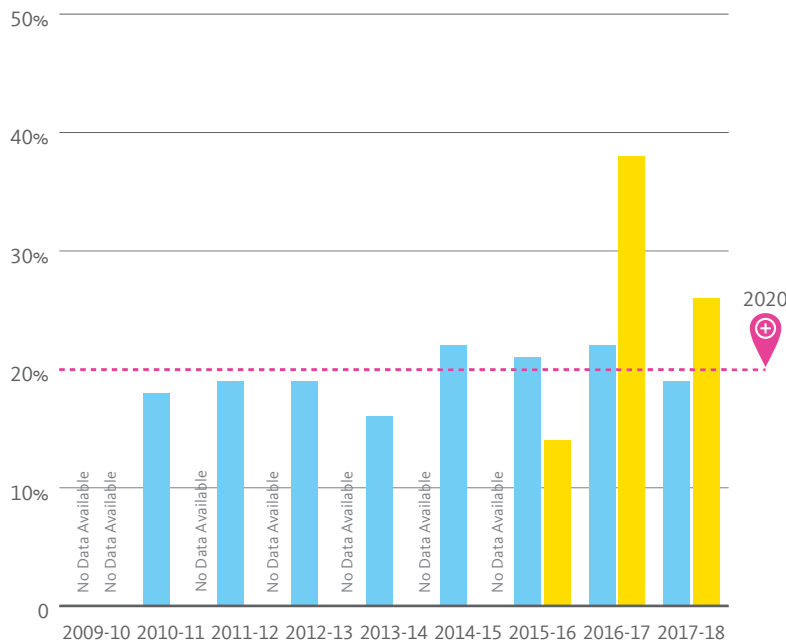
Progress:

Number of LEED EBOM projects: 4

Average % beyond California building energy code: 19%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

● 2020 goal met for retail

UC San Diego Dining and University Centers improved the accuracy of the data collected from suppliers and vendors in 2018, allowing for more accurate reporting of local and third-party certified spend. As a result, spend numbers went down in 2018 but are still on track to meet or exceed the 20% goal.

Number of green certified businesses: 2

UC San Francisco



Credit: Elena Zhukova

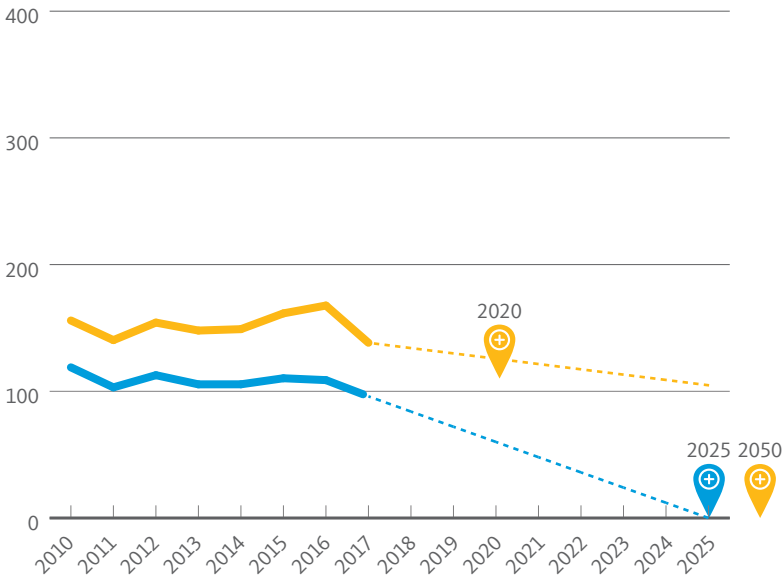
UC San Francisco is a leading university dedicated to promoting health worldwide through advanced biomedical research, graduate-level education in the life sciences and health professions and excellence in patient care.

For the past several years, UCSF has been responding to the growing body of evidence that documents the lifelong role of the environment in shaping human health by working to [integrate environmental health into its curriculum](#) for medical students. The UCSF School of Medicine's Bridges Curriculum, a visionary four-year course of study launched in 2016, has already incorporated environmental health material into its Life Stages Block and its Core Inquiry Curriculum.

In a major step toward reducing the carbon footprint of its vehicle fleet, the campus purchased 15 all-electric shuttle buses and installed eight electric vehicle bus charging stations. Students also spearheaded a campaign to get UCSF's School of Medicine to commit to [avoid purchasing beef and lamb](#) both to reduce health impacts associated with red meat consumption and the climate impacts of meat production. Furthering its work on food waste, the university created a web-based tool called Food4UCSFStudents to offer excess catered food from events to students for free. The app disseminates information based on students' proximity to an event, allowing them to obtain leftover food quickly. Typically, students arrive with their own take away containers within ten minutes after the text is sent.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

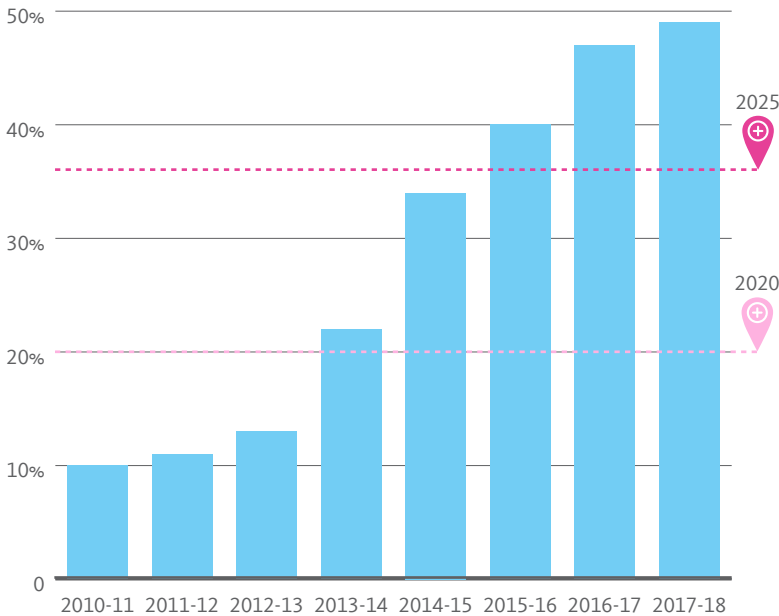
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 0.25

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

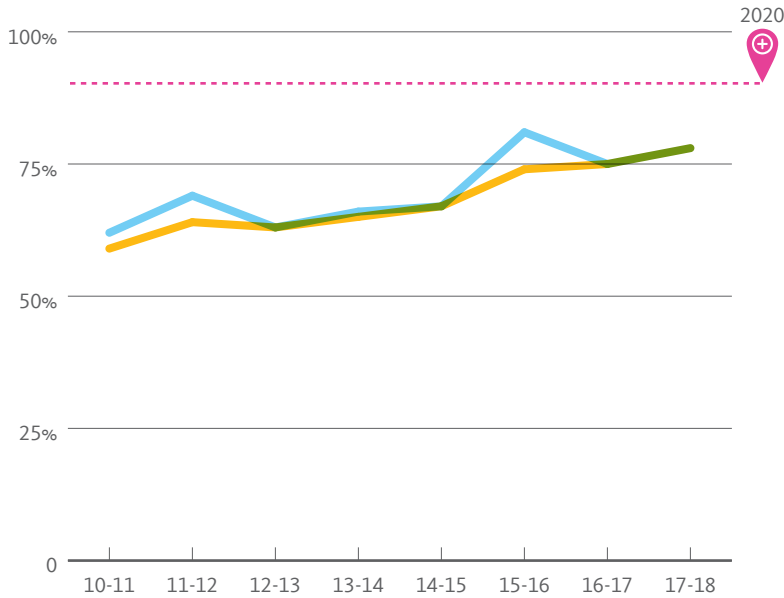
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

- 2020 goal met

2017-18 gallons per capita: 9,124

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

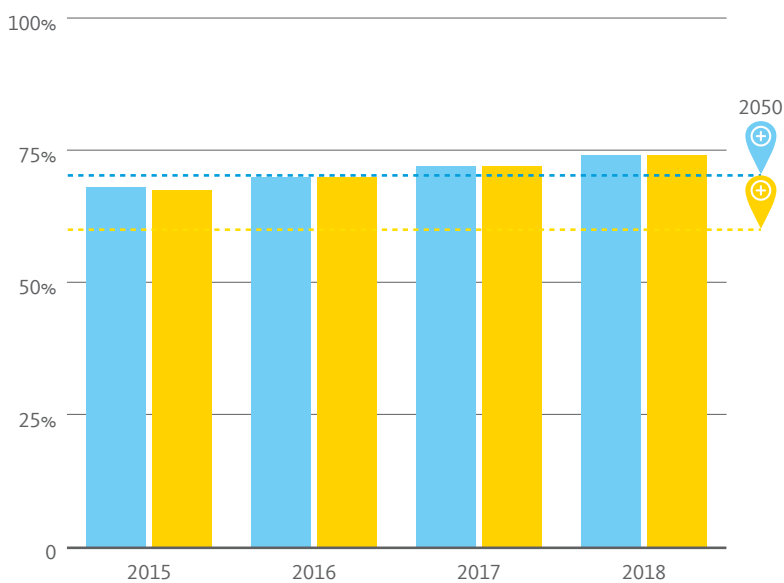
Goal:
Zero waste by 2020

Progress:
UC San Francisco's municipal solid waste diversion rate increased in 2017-18 over the previous year.

2017-18 lbs per capita per day: 1.87

TRANSPORTATION

(% alternative commute)

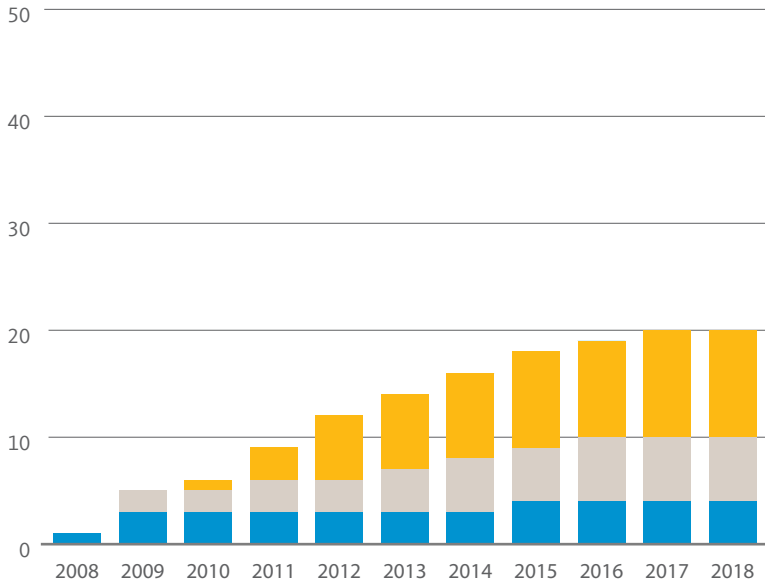


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
2020 overall commute goal met.

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

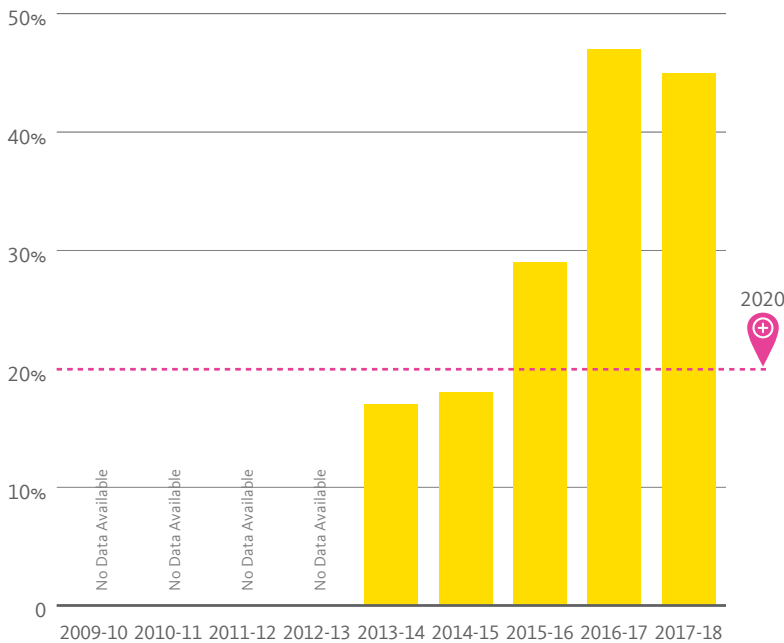
Progress:

UC San Francisco certified one new LEED Gold for Interior Design + Construction project in 2017.

Number of LEED EBOM projects: 2

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020.
- Certify at least one facility as a green business.

Progress:

- 2020 goal met for retail

Number of green certified businesses: 1

UC Santa Barbara



Credit: Elena Zhukova

UC Santa Barbara is committed to global leadership in sustainability through education, research and action. The campus won many sustainability awards in 2018. For example, UC Santa Barbara won a 2018 Best Practice Award in the annual Energy Efficiency and Sustainability Awards contest presented at the California Higher Education Sustainability Conference (CHESC) for its project to increase on-site renewable energy-generating capacity tenfold through a multisite power purchasing agreement. The League of American Bicyclists has recognized UC Santa Barbara as a Gold Level Bicycle Friendly University. The campus has held the designation since 2011, when the awards program first launched.

Last year, UC Santa Barbara also received three more LEED Platinum Certifications in New Construction for its new

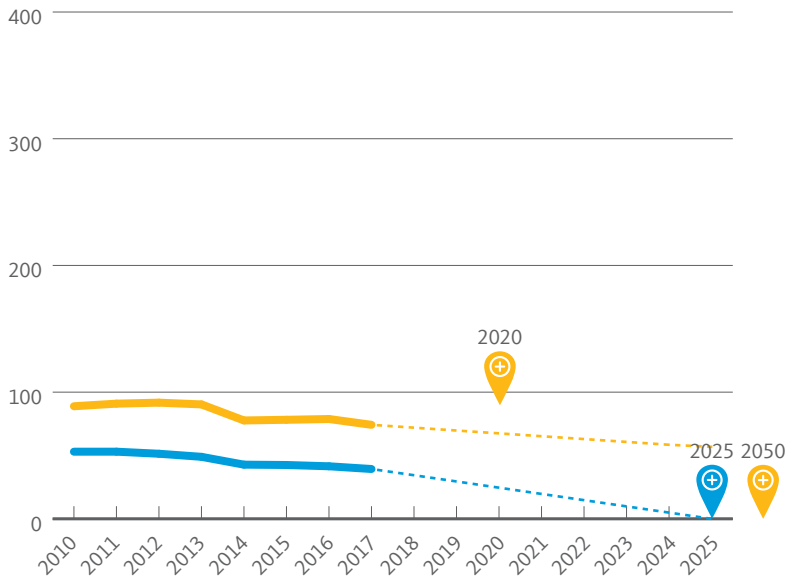
bioengineering building, the Kavli Institute for Theoretical Physics' Munger Physics Residence and the Portola Dining Commons.

With the current state of water resources in California, UC Santa Barbara has focused significant efforts on water use reductions. In addition to irrigating 90 percent of the campus with recycled water, 116 toilets in the San Joaquin Tenaya Towers, a 358-bed residence hall, are using recycled water.

In the last couple of years, the campus has also launched several new programs to help increase food security, including the Edible Campus Program, which repurposes underutilized spaces for sustainable food production, turning waste into food and engaging students as growers and producers.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

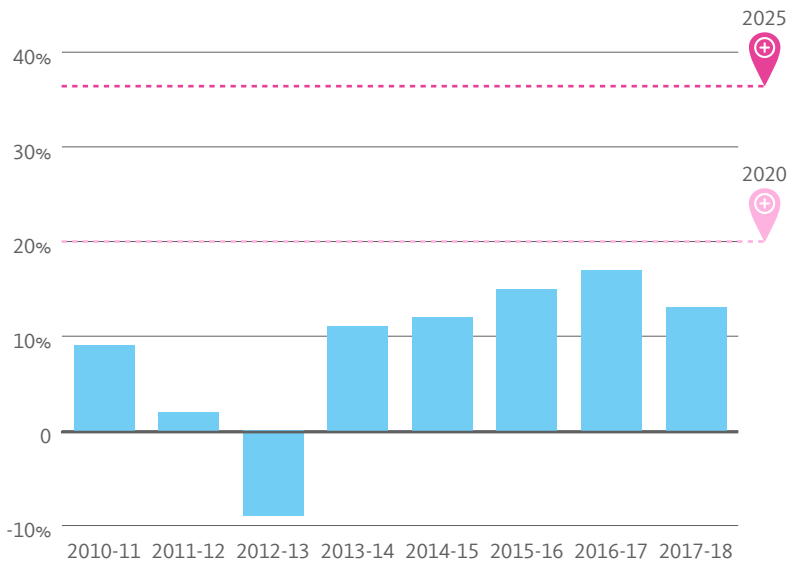
Progress:

- 2020 goal met

Total renewable energy installed (MW): 5.43

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

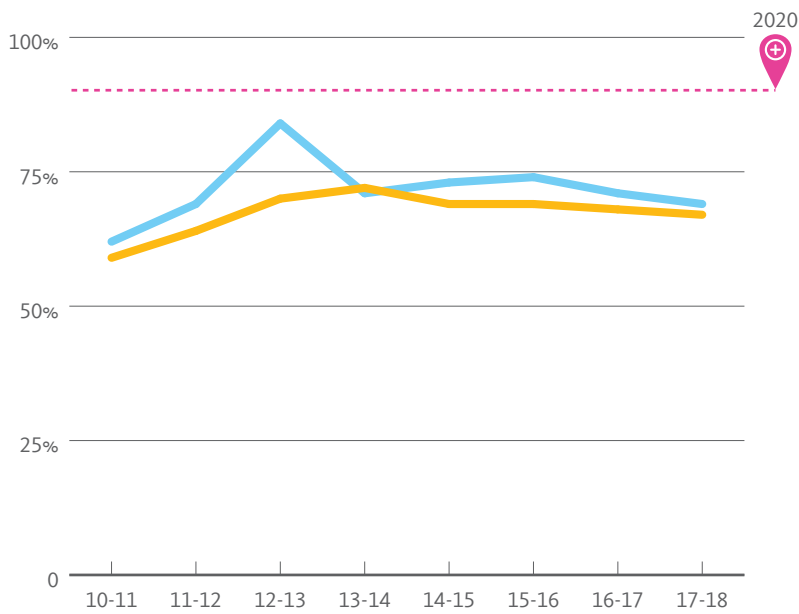
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

UC Santa Barbara continues to decrease its per capita potable water use.

2017-18 gallons per capita: 9,382

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

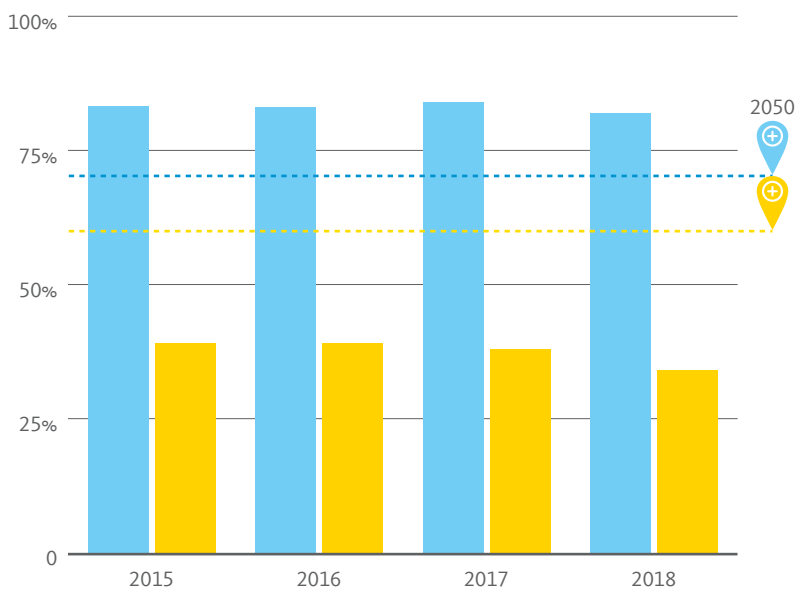
Goal:
Zero waste by 2020

Progress:
UC Santa Barbara certified one new LEED Platinum building in 2018.

2017-18 lbs per capita per day: 1.42

TRANSPORTATION

(% alternative commute)

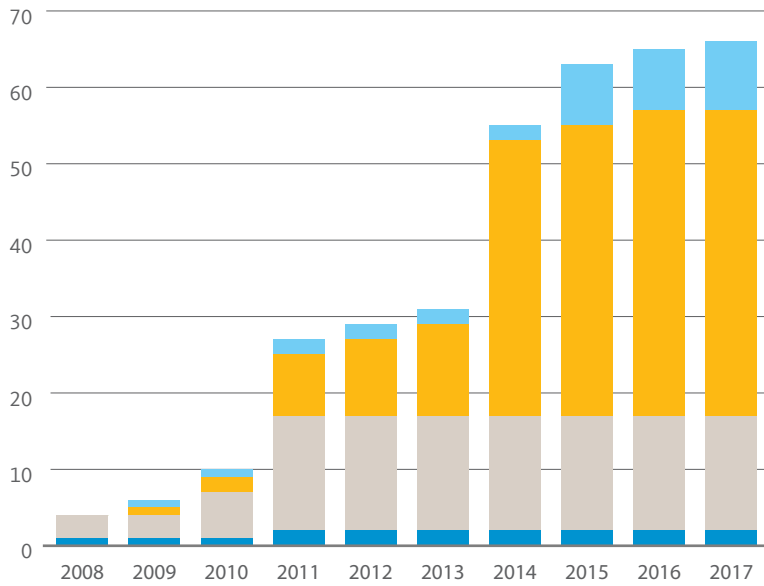


- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

Progress:
● 2050 overall goal met
UC Santa Barbara maintains high alternative commute rates campus-wide except for employees, who continue to primarily commute by single-occupancy vehicle.

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Silver
- Gold
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Certify at least one LEED EBOM project
- Exceed the California building energy code by 20%

Progress:

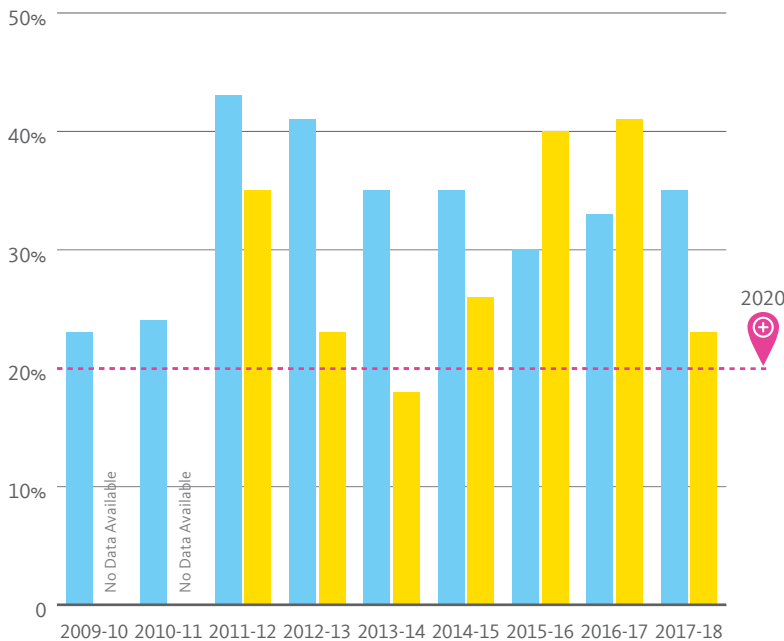
UC Santa Barbara certified one new LEED Platinum building in 2018.

Number of LEED EBOM projects: 13

Average % beyond California building energy code: 21%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of foodservice spend will be from sustainable products by 2020.
- Certify at least one facility as a green business.

Progress:

2020 goal met for both residential and retail UC Santa Barbara food service continues to exceed the policy goal for both residential and retail foodservice.

Number of green certified businesses: 16

UC Santa Cruz



Credit: Elena Zhukova

UC Santa Cruz continues to implement innovative solutions to improve sustainability performance across operations. The new mammal pools renovation at the Coastal Science campus implemented a seawater heat recovery system that recovers heat from the flow of 60 to 100 gallons per minute of seawater that constantly discharges from the mammal pools. This heat is then used to preheat the incoming fresh supply of seawater to the mammal pools, saving 15,000 therms of natural gas per year, which is an annual carbon reduction of 80 metric tons.

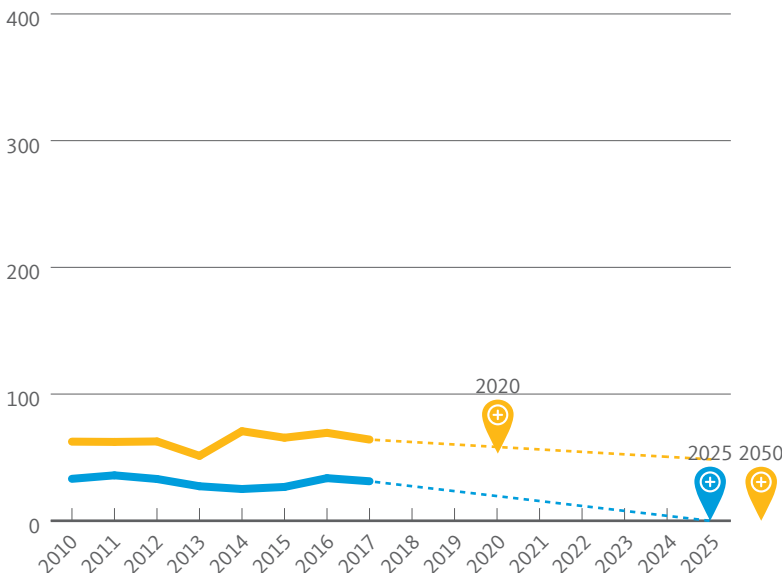
A partnership between campus entities, which includes the student-led Green Labs program, the student-funded Carbon

Fund and UC Santa Cruz faculty, resulted in the replacement of six -80°C ultra-low-temperature freezers with more efficient models. This is the first phase of lab freezer replacements that will replace 46 inefficient freezers over the next year, resulting in annual energy savings of just under 100,000 kilowatt-hours.

The campus's web-based water-metering system, Beacon, is now fully integrated into campus buildings. Over the past year, several significant leaks in homes, residence halls and apartments were quickly identified and repaired as a result of this system's ability to send leak alerts and provide customers real-time access to their water usage.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

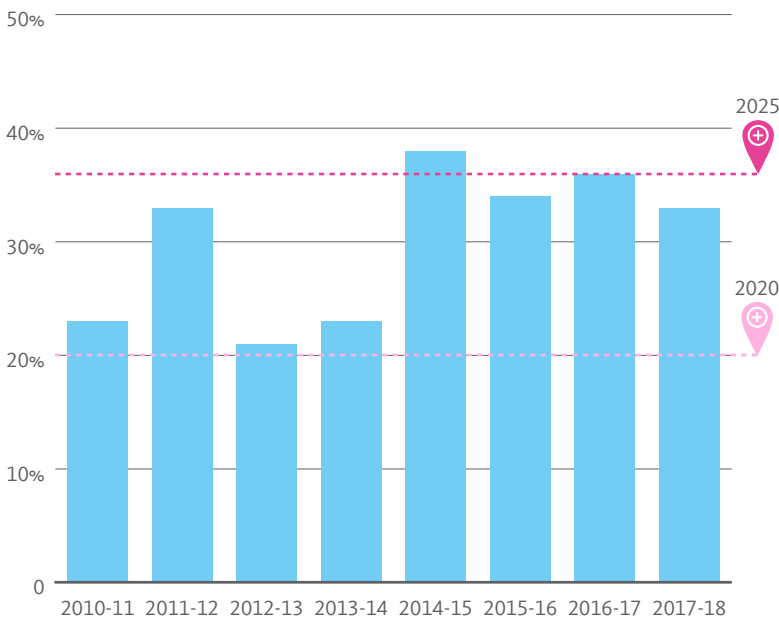
- 1990 levels by 2020 (scopes 1, 2 + 3)
- Carbon neutral by 2025 (scopes 1 + 2)
- Carbon neutral by 2050 (scopes 1, 2 + 3)

Progress:

Total renewable energy installed (MW): 0.25

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

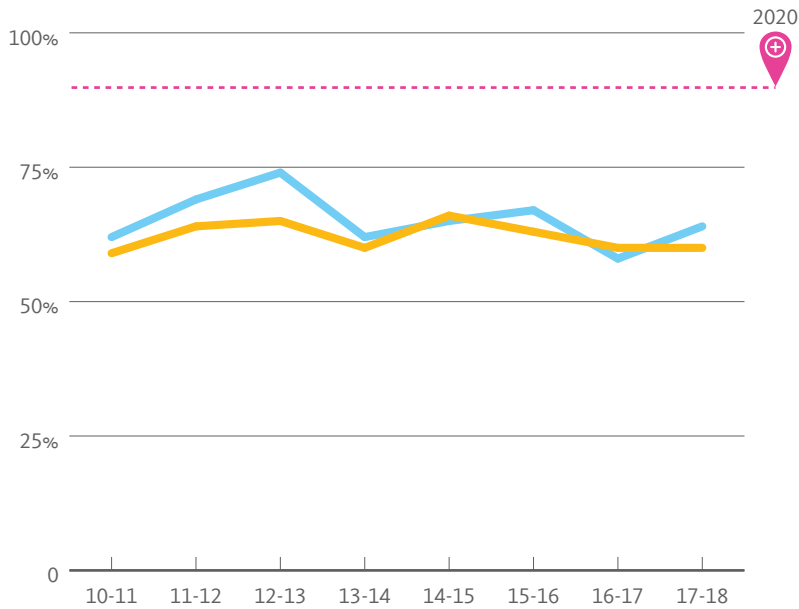
- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

- 2020 goal met

2017-18 gallons per capita: 9,316

SOLID WASTE DIVERTED FROM LANDFILL



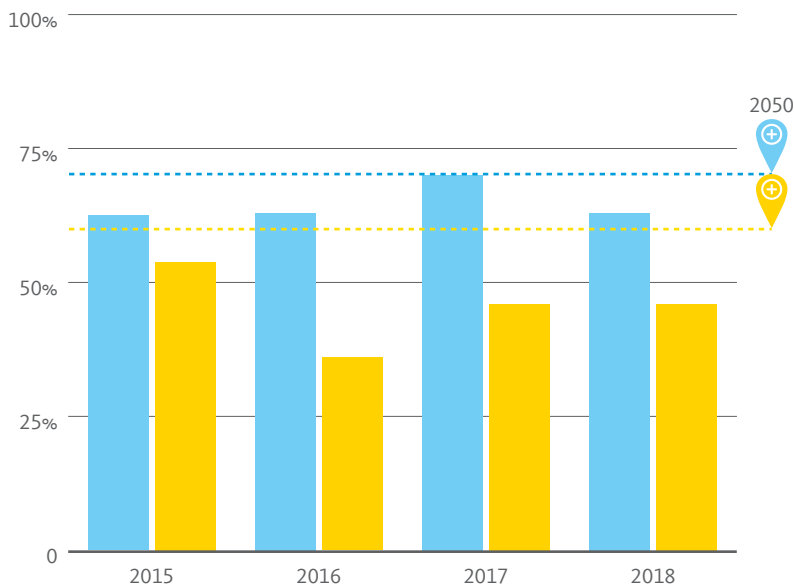
- Without construction and demolition
- With construction and demolition

Goal:
Zero waste by 2020

Progress:
2017-18 lbs per capita per day: 1.13

TRANSPORTATION

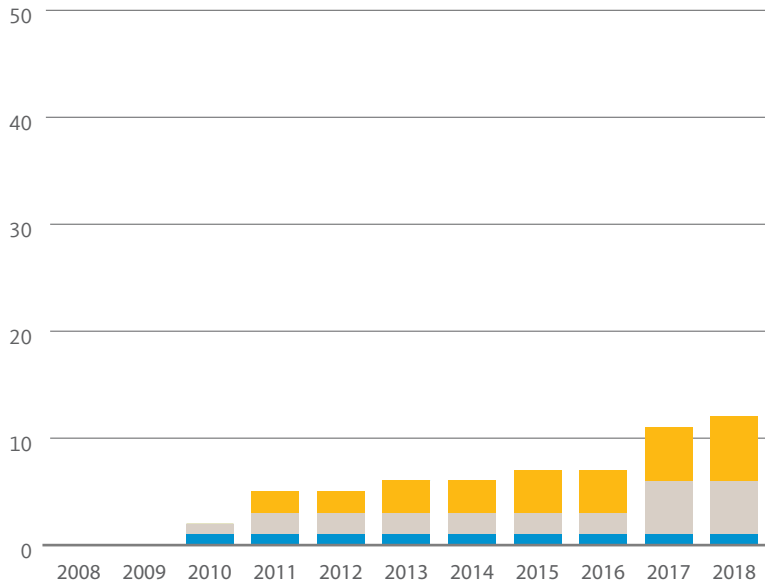
(% alternative commute)



- Overall alternative commute
- Employee alternative commute

Goal:
By 2050, no more than 40% of employees and no more than 30% of all employees and students will commute by single-occupancy vehicle. In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus.

TOTAL NUMBER OF LEED CERTIFICATIONS



- Platinum
- Gold
- Silver
- Certified

Goal:

- LEED Silver minimum for all new construction; LEED Certified for renovation >\$5 million
- Exceed the California building energy code by 20%

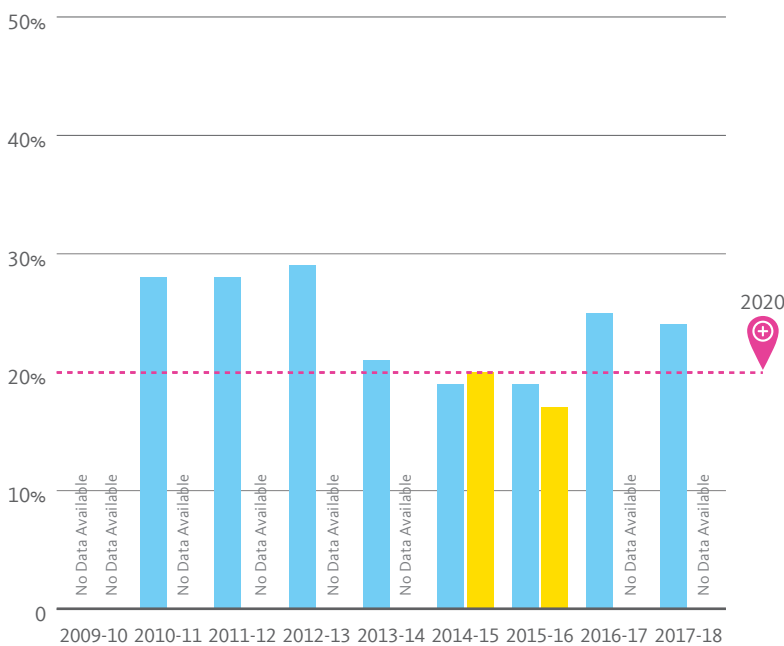
Progress:

UC Santa Cruz certified 1 new LEED Gold project in 2018.

Average % beyond code of new projects in 2017-18: 26%

SUSTAINABLE FOOD PURCHASES

(% of food spend)



- Residential
- Retail

Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

- 2020 goal met for residential

UC Health



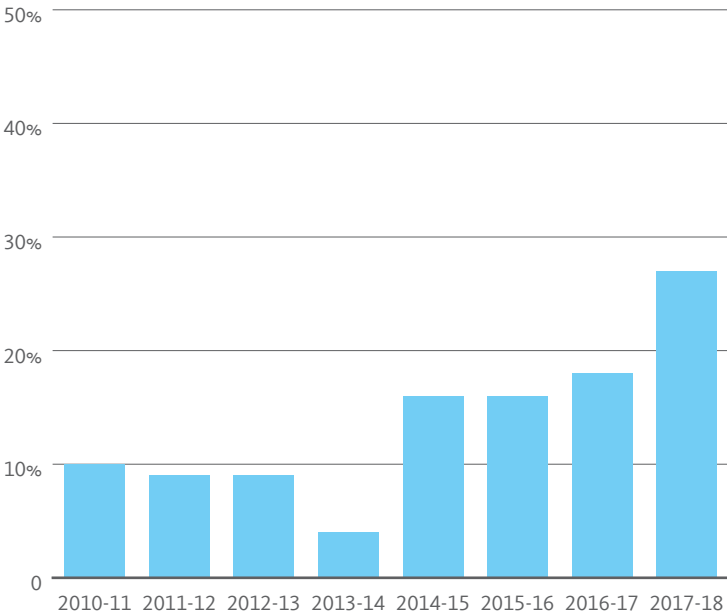
UC Davis Health

This year, UC Davis Health received the 2018 Partner for Health Environmental Excellence Award from Practice Greenhealth, the industry body for sustainability in health care. This award is the organization’s highest honor for hospitals that are leading in sustainability. UC Davis Health was also the recipient of the Green California 2018 Leadership Award from the Green California Summit, which recognizes sustainability in colleges and universities.

Food and Nutrition Services increased its work on sustainability by creating a departmental sustainability policy and incorporating knowledge of sustainability and plant-based menu experience into job descriptions.

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



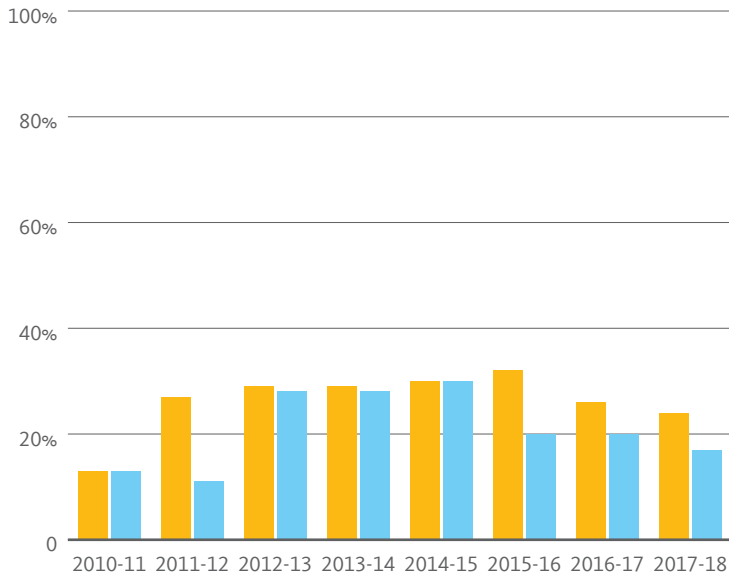
Goal:

UC Davis Health is working to develop specific water reduction goals by 2020.

Progress:

2017-18 gallons per capita: 529

SOLID WASTE DIVERTED FROM LANDFILL



- Municipal solid waste (no C+D)
- Total waste

Goal:

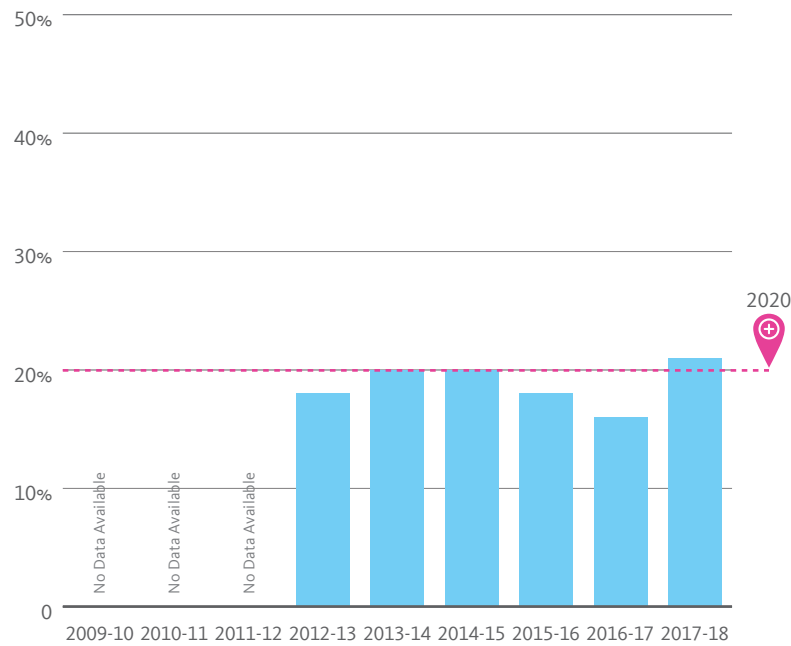
UC Davis Health is working to develop specific waste diversion goals by 2020.

Progress:

2017-18 lbs per capita per day: 40.86

SUSTAINABLE FOOD PURCHASES

(% of food spend)



Goal:

- 20% of foodservice spend will be from sustainable products by 2020.
- Certify at least one facility as a green business.

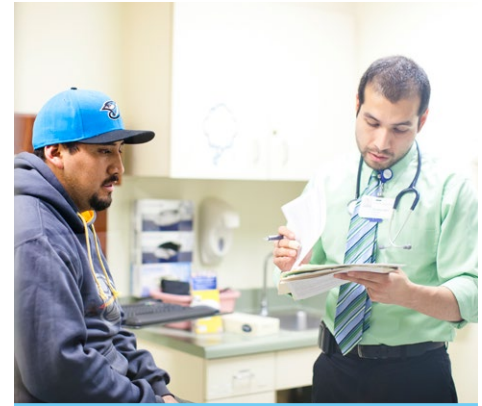
Progress:

- 2020 goal met

UC Irvine Health

UC Irvine Health joined Practice Greenhealth (PGH) this year and is beginning to collect and report water, waste and food procurement data in alignment with PGH metrics.

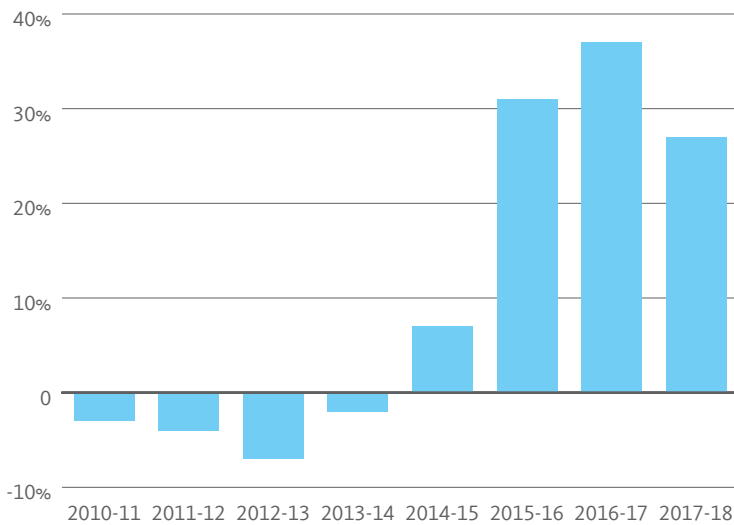
Additionally, UC Irvine Health received \$69,000 in rebates to install smart irrigation controllers that will save water and money for the health system.



Credit: Elena Zhukova

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



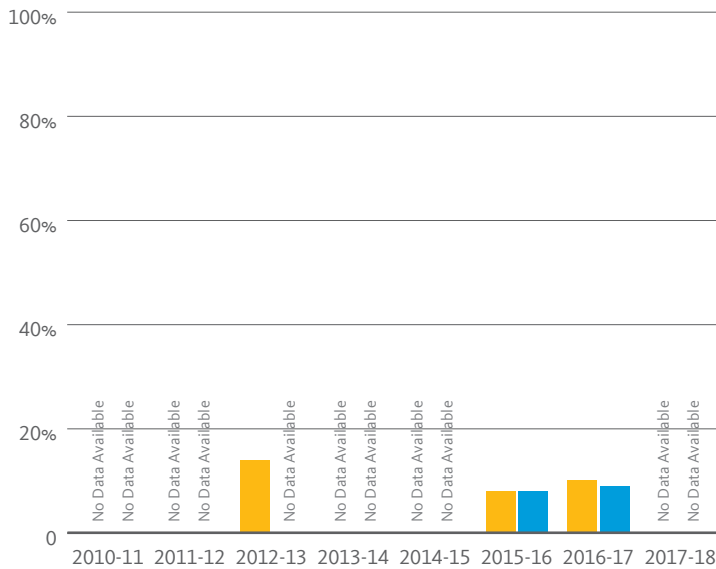
Goal:

UC Irvine Health is working to develop specific water reduction goals by 2020.

Progress:

2017-18 gallons per capita: 471

SOLID WASTE DIVERTED FROM LANDFILL



- Municipal solid waste (no C+D)
- Total waste

Goal:

UC Irvine Health is working to develop specific waste diversion goals by 2020.

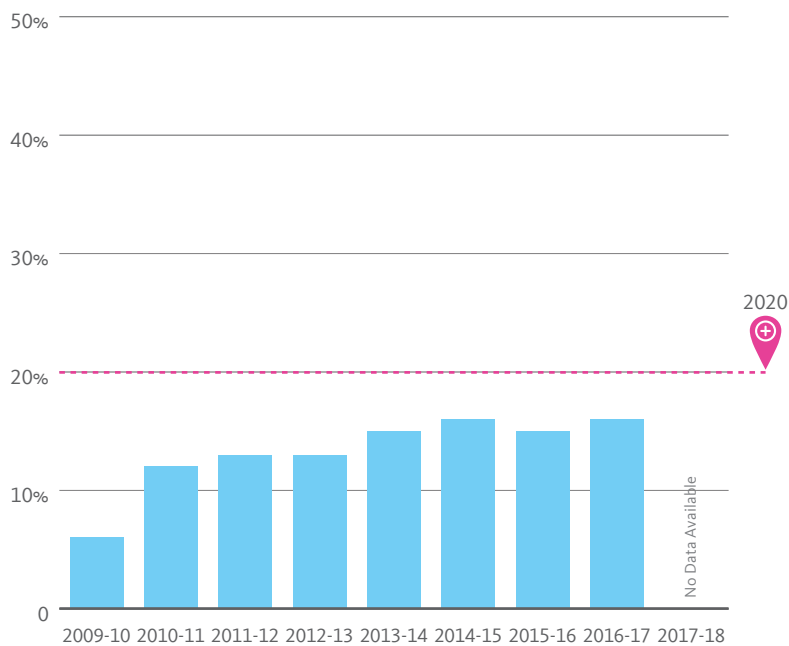
Progress:

UC Irvine Health is beginning to collect its data with PGH.

2017-18 lbs per capita per day: 43

SUSTAINABLE FOOD PURCHASES

(% of food spend)



Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

UC Irvine Health is beginning to collect its data with PGH.

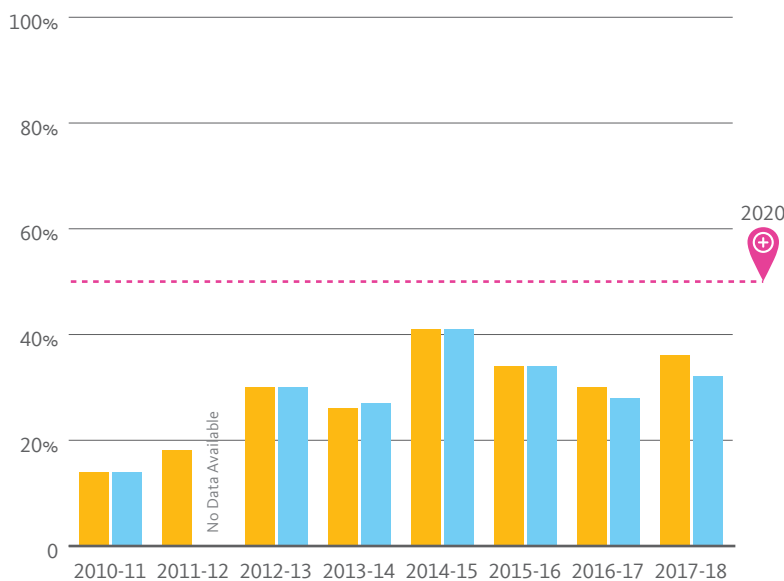
UCLA Health

UCLA Health undertook many projects to reduce waste this year. It rolled out a recycling program for all intensive care unit patient and operating rooms. It increased its collection of single-use devices for reprocessing, largely with partner Stryker Sustainability Solutions, achieving \$500,000 in savings in 2017. It also introduced trials for reprocessed HAR9F tools (surgical instruments known as harmonic scalpels) in operating rooms, leading to expected annual savings of \$100,000 to \$150,000. Additionally, all operating rooms are testing reprocessing for external fixation devices.

On the food front, UCLA Health has reached an all-time high of spending on meat raised without antibiotics (70 percent of its total expenditures on meat). It also increased its sourcing of sustainable seafood (as listed by the Monterey Bay Aquarium) by three percent. Additionally, UCLA Health successfully eliminated all landfill containers for dining areas, leaving only recycle and compost containers.

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

SOLID WASTE DIVERTED FROM LANDFILL



Note:

UCLA Medical Center water use is included with the campus water use data. See UCLA's campus profile for details on progress.

- Municipal solid waste (no C+D)
- Total waste

Goal:

- By 2020, 50% of total solid waste diverted from landfill and incineration
- By 2020, 40 lbs of total solid waste per adjusted patient day

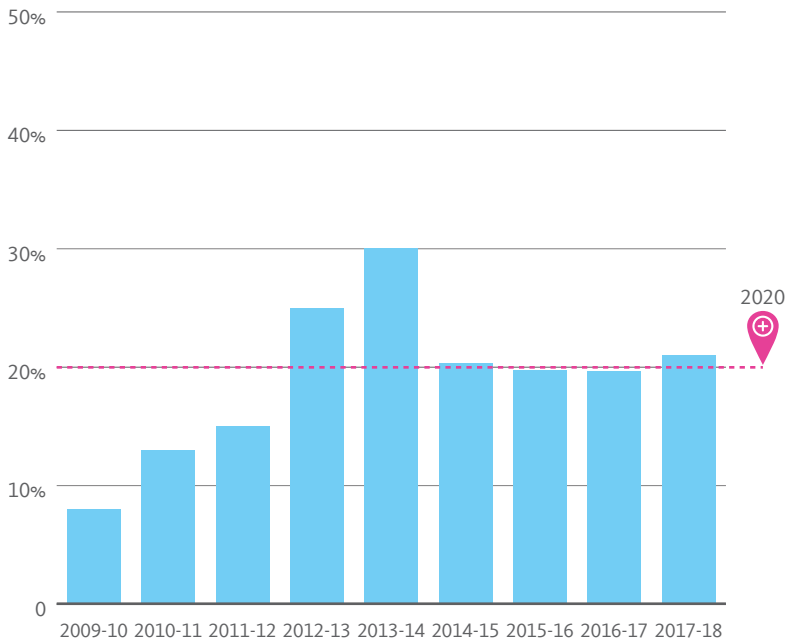
Progress:

2020 goal met for lbs of total solid waste per adjusted patient day.

2017-18 lbs per adjusted patient day: 36.51

SUSTAINABLE FOOD PURCHASES

(% of food spend)



Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

- 2020 goal met

Number of green certified businesses: 2

UC San Diego Health

UC San Diego Health was awarded the Practice Greenhealth Partner for Change Award this year and has several achievements in energy and sustainable food procurement.

UC San Diego Health accomplished \$140,000 in annual energy bill savings over the past 22 months through a combination of peak demand reduction, HVAC optimization and LED lighting retrofits. The health system won an Energy to Care 2018 Award from ASHE, a professional association focusing on optimizing health care facilities, for reducing the energy use intensity (EUI) of the La Jolla campus by 14 percent. The reduction resulted from opening Jacobs Medical Center, which has a lower EUI than the rest of the system's portfolio.

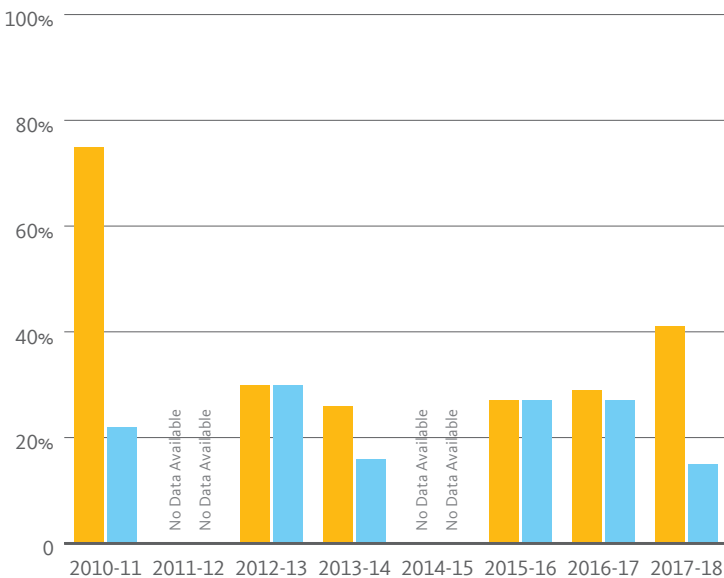
Combined efforts at both UC San Diego Health Medical Centers resulted in the reduction of food waste by close to 22 percent compared to 2017 (down to just over 11 tons per month), due to adherence with food production par-levels and the reutilization of unused, edible foods in room service operations (La Jolla only). With respect to local and sustainable food procurement, close to 28 percent of total food and beverage spend met one or more of local and sustainable criteria.

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

Note:

UC San Diego Health System's water use is included with the campus water use data. See UC San Diego's campus profile for details on progress. UC San Diego Health is working to develop specific water reduction goals by 2020.

SOLID WASTE DIVERTED FROM LANDFILL



- Municipal solid waste (no C+D)
- Total waste

Goal:

UC San Diego Health is working to develop specific waste diversion goals by 2020.

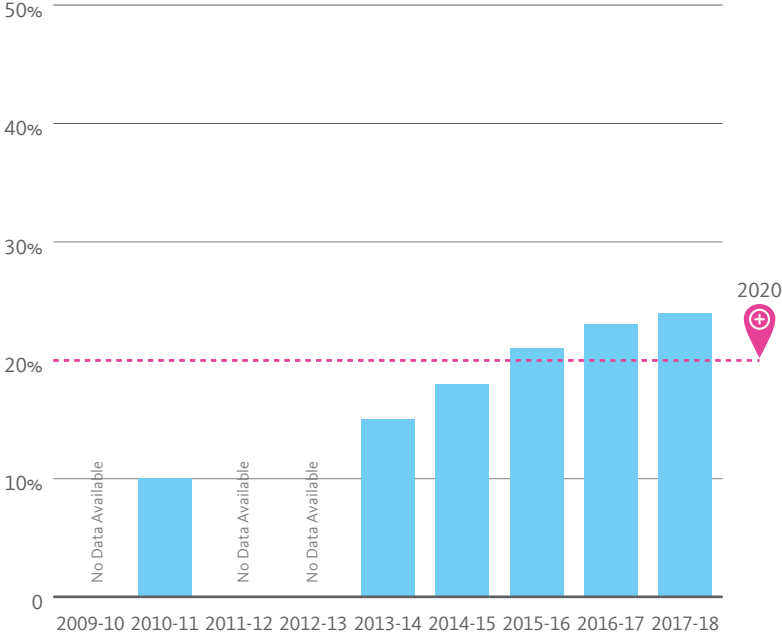
Progress:

UC San Diego Health's municipal solid waste diversion rate increased in FY 2017-18.

2017-18 lbs per adjusted patient day: 34

SUSTAINABLE FOOD PURCHASES

(% of food spend)



Goal:

- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

● 2020 goal met
UC San Diego Health's sustainable food spend increased by 1% in FY 2017-18.

Number of green certified businesses: 2

UCSF Health

UCSF Health system received the Practice Greenhealth Emerald Award for a second year in a row in 2018. Highlights of its sustainability work this year including hiring two fellows with an \$85,000 grant from the City and County of San Francisco to do waste audits and identify opportunities for waste reduction in the perioperative area. Additionally, a washable isolation gown pilot was performed in five nursing units to test user acceptance of washable reversible caregiver and visitor gowns. Overwhelmingly positive feedback led to establishing justification for future funding for a full conversion at Helen Diller Family Medical Center at Parnassus.

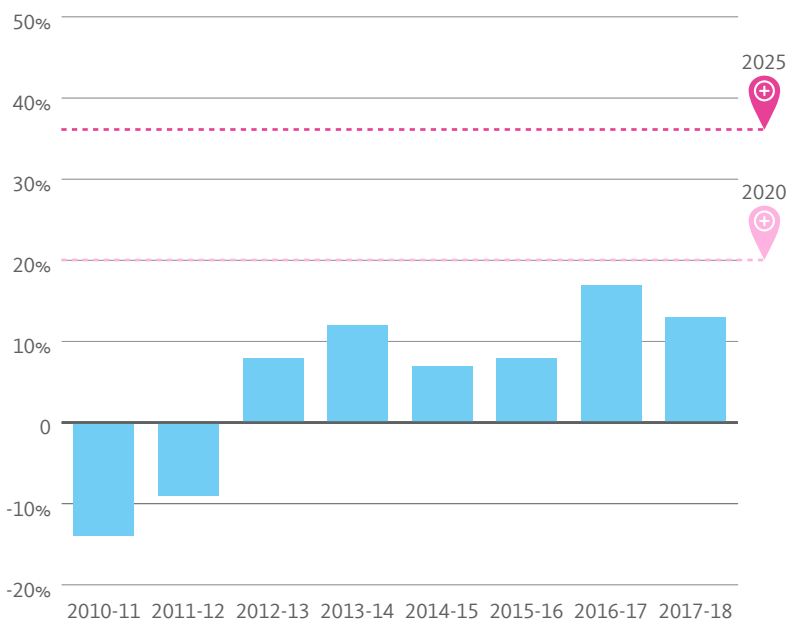
To increase its work on sustainable food, UCSF Health's Food and Nutrition Services Department is participating in the Menu of Change University Research Collaborative with the Culinary Institute of America. This collaboration emphasizes serving more plant-based proteins, reducing food waste and improving data collection to measure change around sustainable food.



Credit: Dawn Elizabeth Johnsen

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



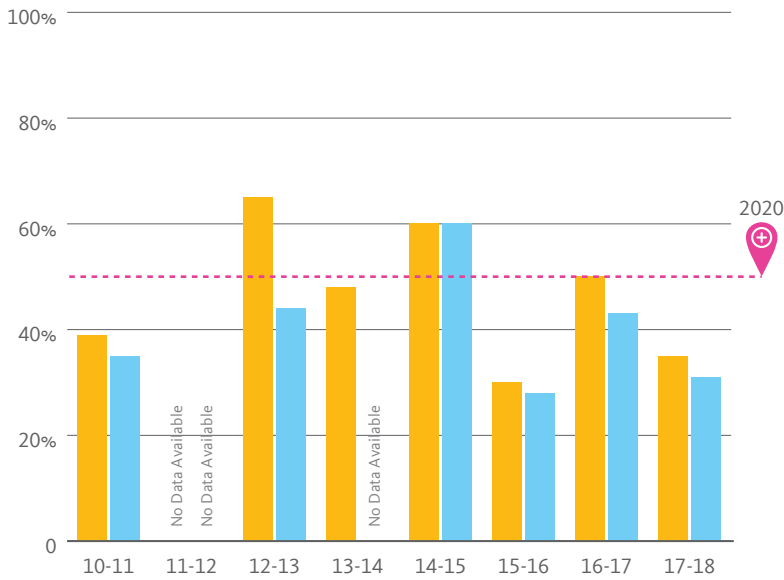
Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

2017-18 gallons per capita: 331

SOLID WASTE DIVERTED FROM LANDFILL



- Municipal solid waste (no C+D)
- Total waste

Goal:

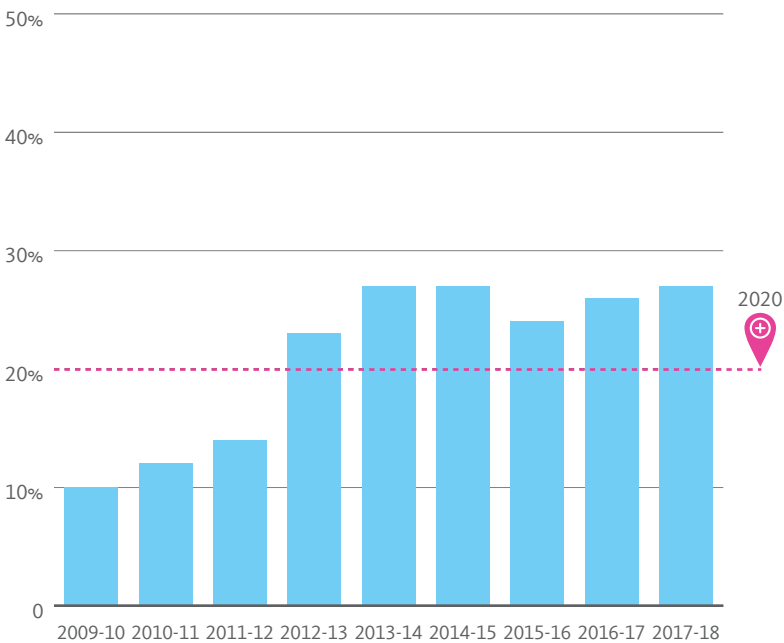
- By 2020, 50% of total solid waste diverted from landfill and incineration
- By 2020, 40 lbs of total solid waste per adjusted patient day

Progress:

2017-18 lbs per adjusted patient day: 81

SUSTAINABLE FOOD PURCHASES

(% of food spend)



Goal:

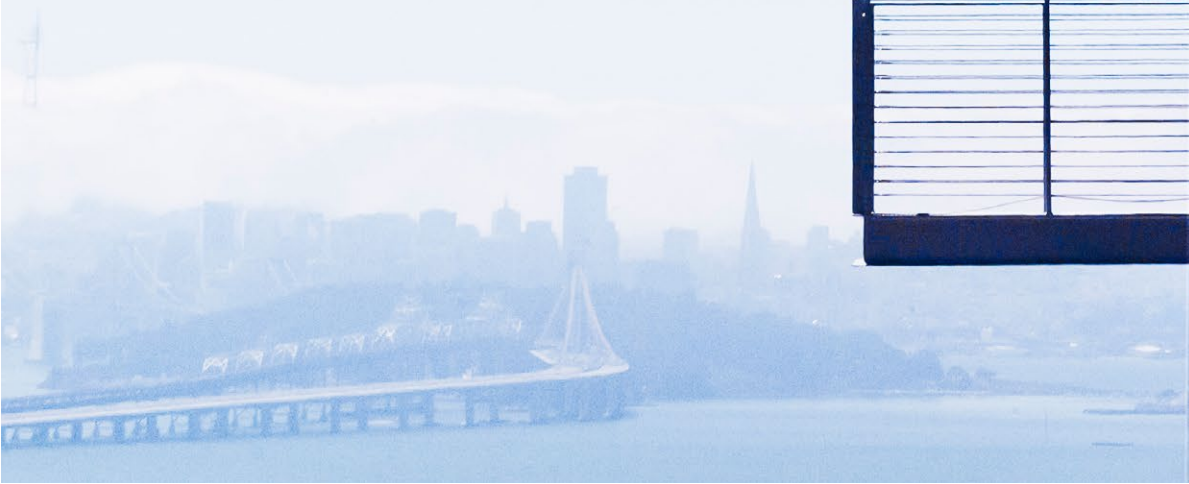
- 20% of food service spend will be from sustainable products by 2020
- Certify at least one facility as a green business

Progress:

● 2020 goal met

UCSF Health continues to meet its sustainable food service spend goal.

Lawrence Berkeley National Laboratory



Lawrence Berkeley National Laboratory

Berkeley Lab's key sustainability strategies include the following:

- Making energy and water management standard practice by implementing ISO 50001, an international energy management standard;
- Improving building operations through ongoing commissioning to generate and sustain significant energy and water savings;
- Reducing energy use at the lab's largest power user, its high-performance computing center, by optimizing control of the center's cooling systems;
- Demonstrating significant savings through a comprehensive LED lighting modernization effort;
- Working toward zero waste through better data and engagement; and
- Shaping the future through sustainability standards in new construction.

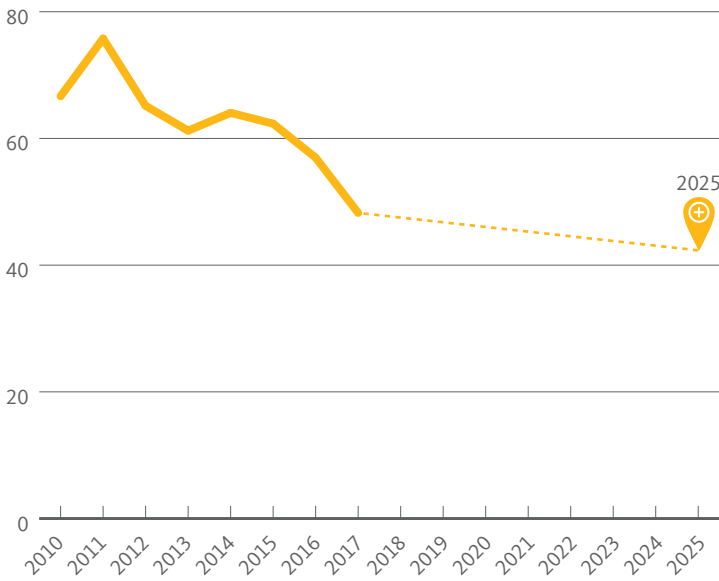
Recent highlights include the following:

- As of fall 2018, Berkeley Lab is maintaining annual energy savings of 6.7 million kilowatt-hours and water savings of 19 million gallons. Maintained efficiency savings are updated monthly at sbl.lbl.gov/data.
- The lab is completing an initial two years of ongoing optimization of its high-performance computing center and has verified annual maintained savings of 2.2 million kWh — more than 60 percent of the baseline “noncompute” electricity — and 250,000 gallons of water.

- The lab introduced tools to reach zero waste, including a mobile-friendly website to help staff improve waste sorting (wasteguide.lbl.gov), and expanded waste audits to better target activities.
- The lab swapped out 10 of its leased gas-powered fleet vehicles for nine electric vehicles and one plug-in hybrid.
- The Integrated Genomics Building will complete construction in summer 2019 and is designed to meet deep energy efficiency targets (less than 30 percent of UC Building Energy benchmarks), use no natural gas and offset about 15 percent of its total energy use with rooftop photovoltaics.
- The Joint Genome Institute received honorable mention for its entry in the North American Freezer Challenge, garnering points for efforts such as cleaning out freezers, making inventories of samples and migrating samples from -80°C to -70°C freezers.
- The lab has completed Laboratory Ventilation Risk Assessments (LVRAs) for four lab buildings. The LVRA process provides recommendations to optimize safety and energy efficiency of the ventilation based on the scientific activities that occur in each lab, the potential exposure of hazardous airborne contaminants, the type and expected utilization of exposure control devices and the operation of the ventilation system.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



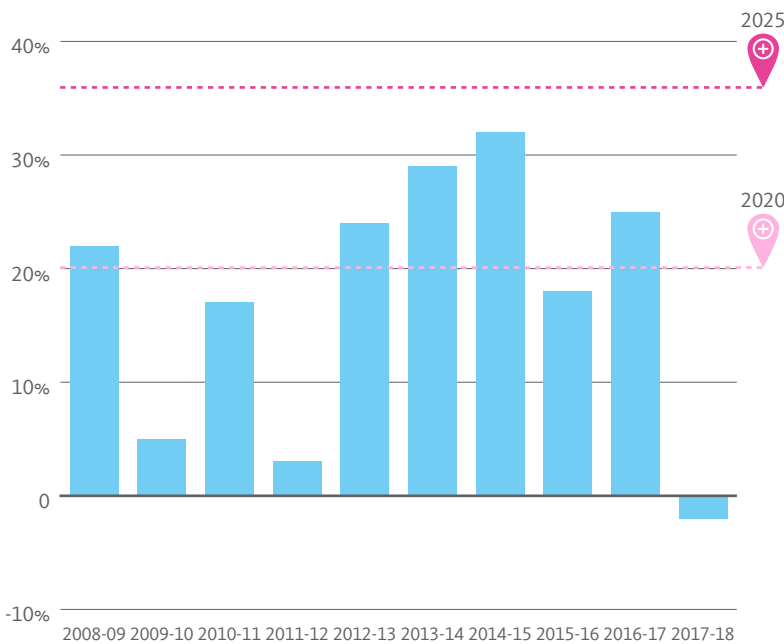
● Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

Berkeley Laboratory is governed by the Federal Government’s climate goal: Reduce total greenhouse gas emissions 41% from 2008 levels by 2025 (50% reduction in scopes 1 and 2 and 25% reduction in scope 3).

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



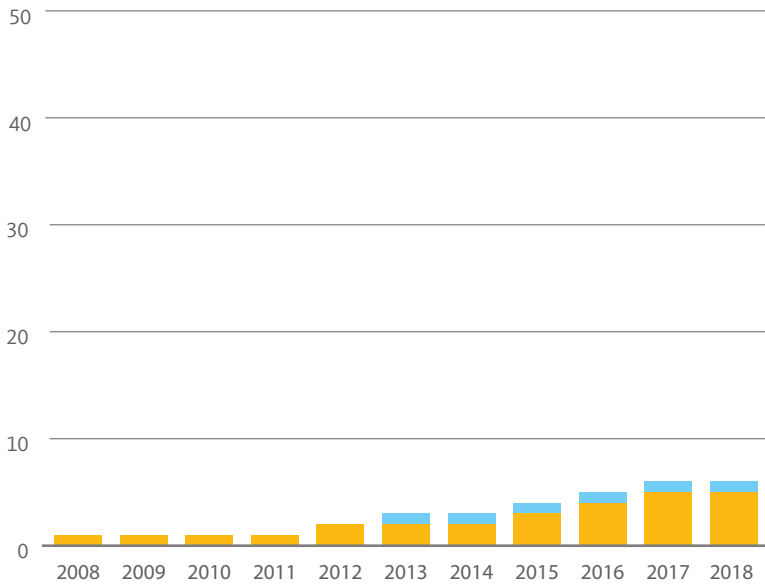
Goal:

- 20% reduction from baseline in per capita potable water use by 2020
- 36% reduction from baseline in per capita potable water use by 2025

Progress:

2017-18 gallons per capita: 16,660

TOTAL NUMBER OF LEED CERTIFICATIONS

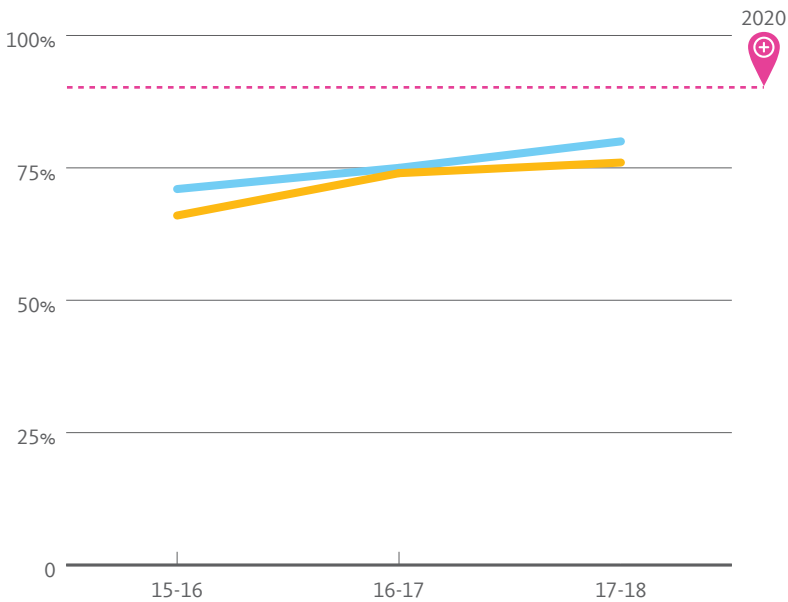


- Platinum
- Gold
- Silver
- Certified

Goal:

- LEED Silver minimum for all new construction. LEED Certified for renovation >\$5 million.
- Exceed the California building energy code by 20%.

SOLID WASTE DIVERTED FROM LANDFILL



- Without construction and demolition
- With construction and demolition

Goal:

Zero Waste by 2020.

Progress:

2017-18 lbs per capita per day: 0.75

UC Office of the President



UC Office of the President

The Office of the President is the systemwide headquarters of the University of California, managing its fiscal and business operations and supporting the academic and research missions across its campuses, labs and medical centers. UCOP owns and leases space primarily in California, but also has properties in Washington, D.C., and Mexico City.

While most of UCOP's properties are office buildings, the Washington, D.C., location, UCDC, contains classrooms and student housing, and has historically been UCOP's largest source of greenhouse gas emissions. Through a voluntary contract, UC is now supplying 100 percent renewable energy to UCDC. Additionally, the new solar photovoltaic system installed at the UC Path Center in Riverside, California, generated about 80 percent of that facility's total electricity use in fiscal year 2017-18.

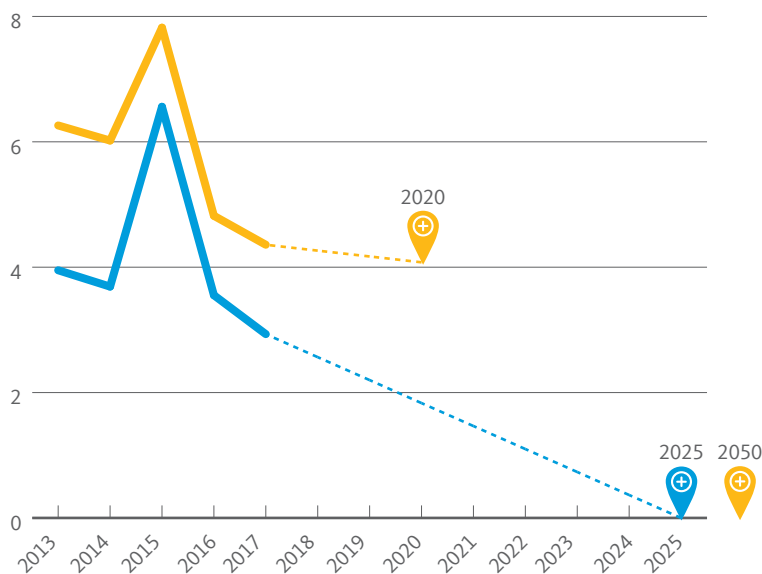
UCOP has completed climate and water plans outlining strategies to meet carbon neutrality and water-use reduction goals. It is also working on completing a waste plan for its facilities by the end of 2018. Currently, waste data is available only for UCOP headquarters (1111 Franklin, Oakland); that data was collected as part of the building's LEED recertification in 2013 and 2018. Waste audits show the Franklin building's current waste diversion rate is 66 percent.

As a part of the Franklin building's LEED 2018 recertification, a commuter survey of employees found that more than two-thirds commute to work by alternative means, including public transportation, biking and carpooling.

UCOP is reporting its data for the first time this year.

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO₂e)



- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)

Goal:

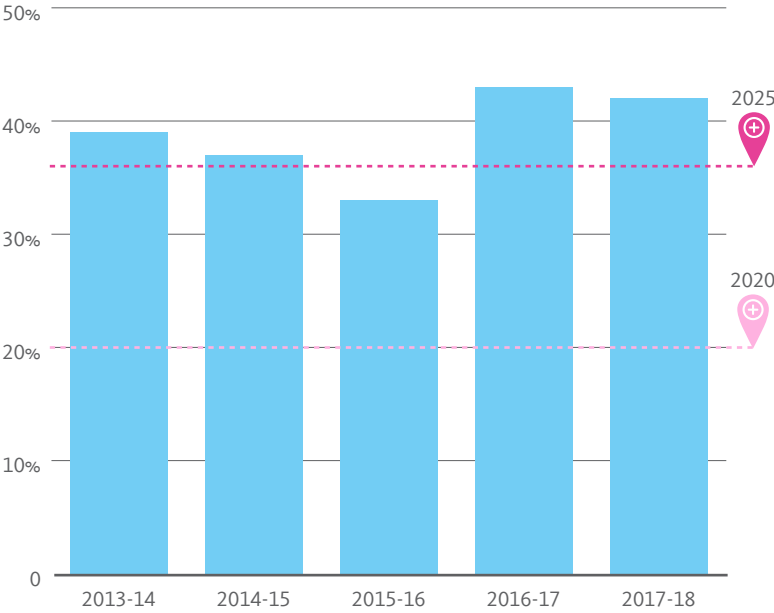
- 1990 Levels by 2020 (scope 1, 2 + 3)
- Carbon neutral by 2025 (scope 1 + 2)
- Carbon neutral by 2050 (scope 1, 2 + 3)

Progress:

UCOP's footprint is considerably different from 1990, when it was located on UC Berkeley's campus. Its baseline is calculated using scopes 1 and 2 emissions for UCOP's assignable square footage while located on UC Berkeley's campus. UCOP is assuming zero scope 3 emissions in 1990. The spike in emissions in 2015 is the result of a change in methodology for calculating scope 2 emissions in a building partially leased by Lawrence Berkeley National Laboratory; it then moved most of its operations out in 2016.

PERCENT REDUCTION IN PER CAPITA POTABLE WATER CONSUMPTION

(% reduction in per capita potable water use)



Goal:

- 20% reduction from baseline in per capita potable water use by 2020.
- 36% reduction from baseline in per capita potable water use by 2025.

Progress:

- 2020 goal met
- 2020 goal met

2017-18 gallons per capita: 8,520

SOLID WASTE DIVERTED FROM LANDFILL

Goal:

Zero Waste by 2020.

Progress:

UC Office of the President is creating a Waste Action Plan and will report waste data in the future.

More Information

UNIVERSITY OF CALIFORNIA, OFFICE OF THE PRESIDENT

Find more information, resources and reports from previous years on the UCOP Sustainability website: <http://ucop.edu/sustainability>

UC Berkeley:

<http://sustainability.berkeley.edu>

UC Davis:

<http://sustainability.ucdavis.edu>

UC Davis Health System:

<http://www.ucdmc.ucdavis.edu/sustainability>

UC Irvine:

<http://sustainability.uci.edu>

UCLA:

<http://www.sustain.ucla.edu>

UCLA Health:

<https://www.uclahealth.org/sustainability>

UC Merced:

<http://sustainability.ucmerced.edu>

UC Riverside:

<http://sustainability.ucr.edu>

UC San Diego:

<http://sustain.ucsd.edu>

UC San Francisco:

<http://sustainability.ucsf.edu>

UC Santa Barbara:

<http://sustainability.ucsb.edu>

UC Santa Cruz:

<http://sustainability.ucsc.edu>

**Lawrence Berkeley
National Laboratory:**

<http://sbl.lbl.gov>