UNIVERSITY
OF
CALIFORNIA

Annual Report on Sustainable Practices

2019

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Cover Photo: *UC Irvine's Sustainability Program Manager for Student Housing Rachel Harvey. Credit: Corey Tull*

A Message from the President

As one of the world's top research institutions, the University of California has an important leadership role in helping to bring people together to protect a rapidly changing — and warming — planet. In pursuing truth for the public good, we are able to provide cogent evidence to support better decision-making, helping to ensure a better future for us all.

Nearly half a million children were born in California last year. This cohort includes those who will go on to become the University of California's Class of 2040. I often worry about the world they will inherit. What is our responsibility to these children? I believe that the University of California has a moral obligation to help shape a better future for that class — and those that follow.

As I ponder that responsibility, I also like to think about the nearly infinite possibility that our universities bring about. Humans have an amazing capacity for adaptation, progress and pushing beyond our current limitations. For the grand challenges we now face — the global climate crisis being chief among them — we need to tap into our deepest stores of ingenuity, resilience and creativity, and we must resolve to shift the trajectory of our future. As universities, we can — and should — act as agents of sustainability and environmental change.

I see many signs of hope in the progress we have made in the past year alone that will have an impact not just at each of our UC locations, but within the state and globally. UC's $13.6 billion endowment is now free of corporations that own fossil fuel reserves, for example. We have doubled our use of clean, renewable electricity over two years, and now use more "green power" than any other university in the country. And we lead U.S. universities in the amount of renewable electricity we generate on our campuses.

This year, we also saw the UC Natural Reserve System partner with the National Park Service to establish two new reserves, Point Reyes Field Station at Point Reyes National Seashore and Lassen Field Station at Lassen Volcanic National Park, which will make public land available to research that can inform ecosystem management. We established a task force to examine herbicide use throughout our system. Additionally, we collectively exceeded our sustainable food spending goals, well ahead of our 2020 target.

I am grateful for our students' passion, and to our faculty and staff and entire communities working together to make these changes. We all share responsibility here. We can and we will make a difference.

Janet Napolitano

Summary: 2019 Progress Toward Policy Goals

Climate and Energy

GOAL	PROGRESS
Climate neutral by 2025	UC has reduced its scope 1 and scope 2 emissions 15% since the Carbon Neutrality Initiative was announced in 2013. This includes a 3% reduction in scope 1 emissions and a 14% reduction in scope 2 emissions in 2018 compared to 2017.
100% clean electricity by 2025	The average carbon intensity of electricity purchased by UC in 2018 was 417 pounds of CO_2e/MWh, lower than the statewide average.

Additionally, UC's Wholesale Power Program is continuing to provide 100% clean electricity to participating UC locations and systemwide on-site renewable generation capacity is approaching 50 megawatts. |

Water

GOAL	PROGRESS
Reduce per capita potable water use 20% by 2020 and 36% by 2025	Eight out of 10 campuses and the Office of the President have met or exceeded the 2020 goal. Seven out of 10 campuses and the Office of the President have met or exceeded the 2025 goal.

Transportation

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

Waste

GOAL	PROGRESS
90% diversion by 2020	76% of campus waste (when including construction and demolition debris) was diverted from landfills in 2018-19.

Green Building

GOAL	PROGRESS
LEED Silver minimum for all new construction	In 2019, UC added two new LEED Silver, eight LEED Gold and three LEED Platinum buildings. UC now has a total of 321 LEED building projects.
Certify at least one LEED EBOM project on each campus	Eight out of 10 campuses and the Office of the President have at least one LEED EBOM certification, with a total of 43 across the system.
Exceed the California building energy code by 20%	In 2018-19, UC projects exceeded the California building energy code by an average of 22%.

Procurement

GOAL	PROGRESS
25% green spend as a total percentage of spend per product category	UC met the green spend goal for cleaning supplies, electronics and indoor furniture. Just over 7% of UC's spend in office supplies was green.

Sustainable Building Operations and Labs

GOAL	PROGRESS
Assess three research labs	Every campus has assessed at least three research labs, for a total of 273 across the system.

Food

GOAL	PROGRESS
20% of UC food service spending from sustainable products by 2020	All 10 campuses and 4 out of 5 health systems met or exceeded the 2020 goal.

2019 Awards

UC locations received numerous awards for initiatives from greening health care to saving energy. UC Irvine earned a Platinum rating in the Association for the Advancement of Sustainability in Higher Education Sustainability Tracking, Assessment and Rating System (AASHE STARS), and five UC campuses have current AASHE STARS Gold ratings. A complete list of this year's awards can be found on the UC Office of the President's Energy and Sustainability website: https://www.ucop.edu/sustainability/about/awards/sustainability-awards-and-rankings.html

UC Sustainability Champion:
Katie Maynard of UC Santa Barbara

This year's UC Sustainability Champion Award went to UC Santa Barbara's sustainability coordinator, Katie Maynard. Maynard became a fervent supporter of UC's sustainability efforts over 15 years ago while she was an undergraduate student at UC Santa Barbara. Now, Maynard runs a sustainability internship program on the UC Santa Barbara campus with between 80 and 120 paid positions each year.

Maynard has been a key figure in driving systemwide sustainability efforts. For example, she has been an active participant in the Global Food Initiative (GFI). Launched in 2014, GFI focuses on issues related to food and hunger. GFI-funded projects have varied in scope and included topics such as food waste and food insecurity among students. Healthy Campus Network, a systemwide wellness effort that aims to boost well-being among students, faculty and staff, was launched by GFI in 2018. UC Santa Barbara's Healthy Campus Network leadership, which includes Maynard, is building on the successes of the past few years to

strengthen the UC Santa Barbara coalition, empower subcommittee members to become leaders and embed concepts of healthy living into everyday life on the campus. This past year, it funded almost 20 projects to promote wellness on campus.

Maynard's other systemwide work includes helping to lead the systemwide charge to create the Education for Sustainable Living Program, which includes courses designed to encourage dialogue and learning on sustainability topics. In academics, Maynard has staffed the Academic Senate Sustainability Working Group for the past decade. That group established the Faculty Sustainability Champion program, which is now a model across all of the UC campuses.

As the co-chair of the Systemwide Green Building Operations and Labs Working Group, Maynard is also well known for her pioneering leadership to help make UC's labs more sustainable. Additionally, Maynard has been the driving force behind the annual California Higher Education in Sustainability Conferences for 14 years.

Katie Maynard with several students

Timeline of Sustainability at UC

The University of California's Sustainable Practices Policy includes all 10 campuses, five medical centers, Agriculture and Natural Resources, 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 UC Sustainable Practices 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
UC Santa Barbara students approve student fee to create Coastal Fund

2000-09

2002
UC's first LEED certification, UC Santa Barbara'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 Standards

2006
The Green Initiative Fund referendum passes at UC Santa Barbara

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 two 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

UC becomes the first university in the world to sign the United Nations Principles for Responsible Investing

2015
>35 MW on-campus renewables installed

Bending the Curve Carbon Neutrality Research Summit

UC joins Breakthrough Energy Coalition

UC sells investments in companies earning revenue from the exploration and extraction of thermal coal and oil sands

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

Regents vote to make environmental sustainability, social responsibility and governance part of UC Investment Policy

2019
UC General Endowment Pool sells investments in companies owning fossil fuel reserves

UC signs climate emergency letter ahead of the U.N, 2019 Global Climate Summit

2020-50

2020
Zero waste goal

Greenhouse gas emissions reduction goal of 1990 levels (scopes 1, 2 and 3)

$1 billion investment goal in clean energy

20% sustainable food procurement goal

2025
Carbon neutrality goal (scopes 1 and 2)

Campuses to reduce potable water use per capita by 36%

2050
Carbon neutrality goal (scope 3)

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 scope 1 and 2 sources by 2025.

- Achieve climate neutrality from specific scope 3 sources (as defined by Second Nature's Climate Commitment) by 2050 or sooner.

ENERGY EFFICIENCY

- Reduce each location's energy use intensity by an average of at least 2 percent 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, significant progress was made systemwide in climate action planning, renewable energy development and energy efficiency projects. Systemwide, UC emissions decreased slightly in 2018 compared to 2017 with about a 3 percent reduction in scope 1 emissions, a 14 percent drop in scope 2 emissions and a 10 percent decrease in scope 3 emissions. UC's Sustainable Practices Policy defines clean electricity as having a residual greenhouse gas emission factor that is less than 150 pounds of carbon dioxide per megawatt hour. Systemwide, the average carbon intensity of electricity purchased in 2018 was 417 pounds of carbon dioxide equivalent (CO_2e) per megawatt hour, lower than the statewide average of 527.9 pounds CO_2 per megawatt hour. Emissions in 2019 are expected to decline even further as UC's Wholesale Power Program procures more clean electricity.

Highlights include:

- All 10 campus chancellors and President Janet Napolitano signed a climate emergency declaration letter ahead of the United Nations 2019 Global Climate Summit. The letter recognizes "the need for a drastic societal shift to combat the growing threat of climate change" and has over 7,000 higher education signatories from around the world.

UC GREENHOUSE GAS EMISSIONS COMPARED TO CLIMATE GOALS

(Million metric tons CO_2e)

- Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)
- Scopes 1, 2 + 3 (campus commute, business air travel)
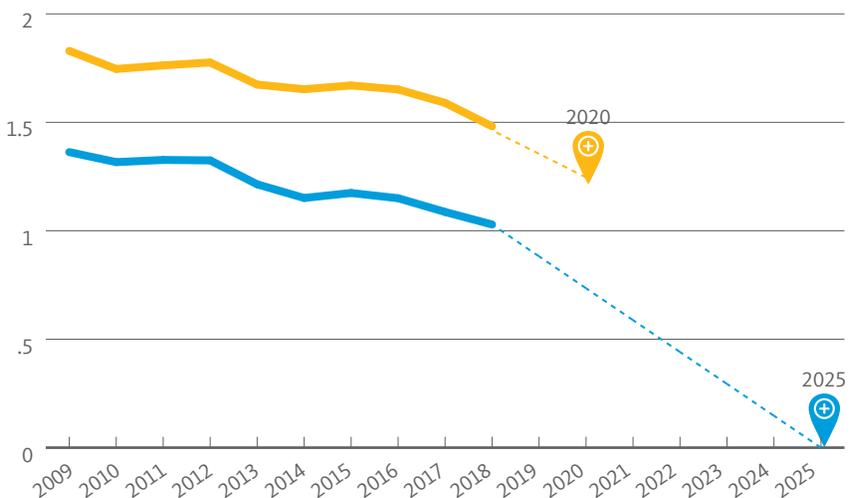
- The Climate Change Working Group, a systemwide group comprising staff from every UC location, supported the release of a request for ideas for UC-initiated carbon offset projects and evaluated 82 proposals submitted by faculty, researchers, staff and students.

- The Climate Change Working Group also started exploring best practices for quantifying air travel and estimating associated greenhouse gas emissions.

- Over 22,000 faculty, staff and students participated in the Cool Campus Challenge 2.0, a four-week systemwide challenge designed to educate and motivate the University of California community to take simple energy-saving, waste-reducing and sustainability-focused actions to lower carbon footprints and help the UC system reach carbon neutrality by 2025.

- UC approved a policy that requires each location to implement energy efficiency actions to reduce energy use intensity (EUI), or energy use per square foot, by an average of least 2 percent annually. This energy efficiency goal follows the spirit of the U.S. Department of Energy's Better Building Challenge. UC has developed a central tracking and reporting mechanism to support policy implementation while locations are continuing to build on their past energy efficiency accomplishments to ensure success moving forward.

Solar panels at UC Santa Barbara

Systemwide Energy Programs

BIOGAS

This year, UC signed another contract for long-term biomethane supplies. This project, which represents UC's third renewable natural gas supply, is located in Rialto, California and will be one of the largest food-waste digesters in North America. This supply agreement will move UC closer to the goal of providing 40 percent of current natural gas use by 2025. The new plant is under construction and expected to be operational in November 2020.

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 and deliver value 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 has helped shape offset procurement guidelines and informed a parallel UC-initiated offsets project that has the potential to leverage UC research and assets as an additional source of offsets.

RENEWABLE ENERGY AND THE WHOLESALE POWER PROGRAM

In an effort to both reduce grid energy needs and obtain local clean energy, UC has over 100 renewable energy projects across the system, including at all 10 campuses, Agriculture and Natural Resources sites and the Office of the President. Systemwide on-site renewable generation capacity is approaching 50 megawatts, with individual projects ranging in size from 2 kilowatts to 16.3 megawatts. In addition to UC-sited projects, campuses are also procuring renewable energy from a variety of off-site sources, including utility tariff options, participation in UC's Wholesale Power Program and contractual arrangements with renewable energy developers or aggregators.

The university's Wholesale Power Program supplies approximately 25 percent of the university's electricity use; seven campuses and

three medical centers that are eligible to select an alternative energy provider participate. Pursuant to a limited expansion of customer choice recently enacted in California, participation in UC's Wholesale Power Program will increase in 2021. In its fifth year of providing electricity to eligible campuses as a California PUC-registered electric service provider, the university's Wholesale Power Program is on track to meet UC's clean energy policy goals. The university's supply portfolio for the Wholesale Power Program includes power generated by two Fresno County solar projects under long-term contracts, as well as other renewable and clean energy sources.

ON-SITE RENEWABLE ENERGY PRODUCTION

(Millions of kilowatt-hours per year)

Each box reflects a separate UC renewable energy supply source. These are organized by energy supply type and then sorted by campus. The size of each box reflects how much energy was generated by that project last year. In total, UC's projects generated 358 million kilowatt-hours.

- ● Off-campus UC Wholesale Power Program
- ● Off-campus long-term contracts
- ● Off-campus short-term contracts
- ● Off-campus opt-in utility programs
- ● On-campus systems

CEOP REWARDS UC ON-SITE ACTIONS THAT REDUCE EMISSIONS

On-site actions

- Energy efficiency
- Central plant efficiency
- Electrification
- On-site renewables
- Smart growth
- Clean transportation
- Energy storage/ demand response

Metered results

**Emissions reductions**

ENERGY EFFICIENCY

Since the Energy Efficiency Partnership's inception in 2004, more than 1,000 energy efficiency and new construction projects have been completed under the program. These projects are projected to receive $93 million in incentive payments and avoid more than $31 million in annual energy costs, net of debt service. At the time of this report, 53 energy efficiency projects are expected to be completed in 2019, earning $3.6 million in incentives and projected to avoid $1.2 million annually in energy costs, net of debt service. Despite these accomplishments, the investment in energy efficiency projects has slowed in recent years.

UC is now advancing the next iteration of the partnership through an innovative Clean Energy Optimization Pilot (CEOP) program with Southern California Edison, which prioritizes ongoing carbon reductions through metered performance in energy efficiency and other on-site actions. The CEOP will allow UC to implement a much wider array of technology and behavioral solutions that best suit campus needs, with structured incentives that support lasting greenhouse gas (GHG) reductions. Moreover, the new approach aligns directly with California's aggressive GHG reduction goals, using universities as learning laboratories across broad energy end uses to evaluate and support scalable solutions.

UC'S ANNUAL INVESTMENTS IN ENERGY EFFICIENCY RETROFITS

(Millions of dollars)

- Project cost
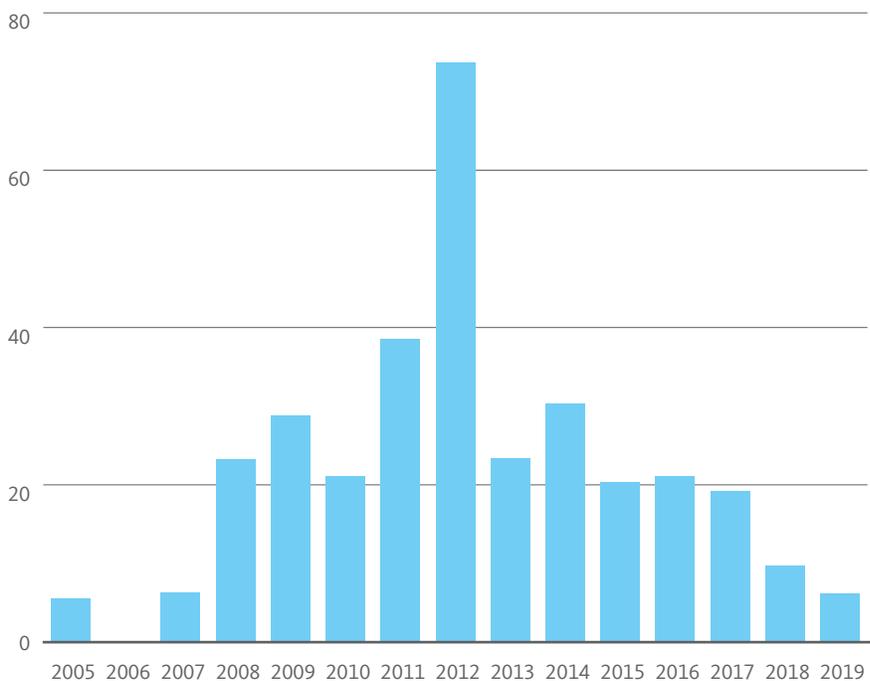
INVESTMENTS

The University of California's Investment Office is responsible for stewarding the roughly $126 billion in employee retirement savings, campus endowments and working capital. The office works to ensure that the more than 320,000 people currently receiving a UC pension get paid, that UC can continue to fund research and scholarships throughout the UC system and that UC campuses and medical centers earn the best possible return on their investments.

For several years, UC has been a leader among large institutional investors in incorporating climate change-related risks and opportunities into its overall investment strategy. For example, in 2015, UC sold investments in companies earning revenue from the exploration and extraction of thermal coal and oil sands, due to its assessment that the risks associated with those investments outweighed the potential benefits to UC's portfolio.

In 2019, UC took another step away from fossil fuels, deciding to sell holdings in companies that earn more than 10 percent of their revenues from exploring and extracting oil, gas and thermal coal. UC sold investments in these fossil fuel reserve-owning companies in order to "de-risk" the university's $13.6 billion endowment. As a result of this decision, the potential fossil fuel reserves emissions of UC's investment portfolio have been reduced by 99.5 percent, from 5,560,446 million metric tons of CO_2e in 2018 to 26,507 million metric tons of CO_2e in 2019 (post-sale), according to calculations made by MSCI

2018 EMISSIONS BY SECTOR FROM UC'S RETIREMENT PLAN, GENERAL ENDOWMENT POOL AND TOTAL RETURN INVESTMENT POOL PUBLIC EQUITY PORTFOLIOS

(7,114,301 tons of CO_2e (scopes 1 and 2))

- Utilities
- Industrials and materials
- Other
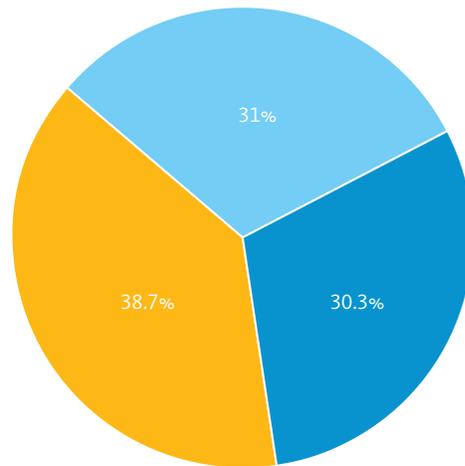
UC INVESTMENTS AND CLIMATE ACTION TIMELINE

2014

UC task force on sustainable investing created

UC is the first university to sign on to the United Nations Principles for Responsible Investing

2015

UC commits to invest $1 billion in clean and renewable energy over five years

UC publishes "Framework for Sustainable Investing"

UC sells companies with major revenue from tar sands or thermal coal

2016

UC signs on to task force on Climate-Related Financial Disclosures (TCFD)

UC begins documenting annual carbon footprint of public equities holdings

2018

UC Regents vote to make Environmental and Social Governance (ESG) part of the UC Investment Policy

2019

UC joins Climate Action 100+

General Endowment Pool sells investments in companies that own fossil fuel reserves

using publicly available information about the size of fossil fuel reserves of the companies. (MSCI is the Investment Office's climate and data analytics provider.)

Additionally, as the first university to sign on to the Principles for Responsible Investment and the Montreal Carbon Pledge, UC annually measures the carbon footprint of its public equities investment portfolio to evaluate which of its investments have the highest emissions and therefore may be exposing UC's portfolio to greater climate risk. Calculations are made on UC Investments' portfolio of public equities based on weightings of the relative size of equity holdings. As of November 2018, the carbon footprint for the $46.3 billion combined University of California Retirement Plan, General Endowment Pool and Total Return Investment Pool public equity portfolios was 7,114,301 tons of CO_2e, or 153.6 tons of CO_2e per $1 million. The industrials and materials sectors account for a combined 38.7 percent, and the utilities sector accounts for 31 percent of the carbon emissions footprint of the UC Investments portfolio.

Also in 2019, UC made significant progress toward its five-year 2020 goal of investing $1 billion targeting clean energy solutions to fuel the world's future. UC's commitment of over $725 million over the past four years has contributed to the installation of 4.9 gigawatts of solar and wind generation in the U.S., Canada, Japan, India, the United Kingdom and Mexico. UC's pro rata share of those installations is approximately 500 megawatts.

As a result of these multiple efforts, UC was recognized by the Responsible Asset Allocator Initiative at New America, which named UC Investments as one of the world's top 25 responsible institutional investors in 2019.

FACULTY AND RESEARCH

A core strength of the University of California's Carbon Neutrality Initiative, which commits UC to carbon neutrality by 2025, is the leadership of faculty champions across campuses, disciplines and backgrounds. Through a range of individual efforts, faculty work with students and staff to use UC locations as natural laboratories for research while bringing UC closer to carbon neutrality. Additionally, this past year, the Academic Council began discussing how to take further action collectively on climate change, including forming task forces within Academic Senate divisions to explore incorporating climate change and sustainability in teaching, research and service missions as well as in processes of promotion and tenure, and creating interdisciplinary research teams to address and communicate the urgency of climate change.

The combined efforts of the university and the state of California in establishing climate science solutions provide a tangible roadmap and serve as a model for other jurisdictions across the nation and around the globe that wish to join in rapidly shifting to low and net-zero carbon development. This past fiscal year, UC faculty led three successful proposals to pursue research aimed at catalyzing negative emissions, advancing ecosystem climate solutions and producing biochar for greenhouse gas emission reductions. These proposals, totaling $12.4 million, were funded by the California Strategic Growth Council. The UC National Laboratory Fees Research Program also continued its commitment to fund climate and sustainability-related research by prioritizing wildfire research to address a critical California and national need.

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

As a system, the University of California reached the 2020 goal of procuring 20 percent sustainable food in 2014 and continues to exceed the goal. All 10 campuses and four out of five health systems met or exceeded the 2020 goal. Combined, over 26 percent of UC's spend in residential dining, retail and health, over $27 million, was deemed sustainable in 2018-19.

Given this accomplishment, this past year, the systemwide UC Sustainable Foodservice Working Group (UCSFWG), which includes staff from every UC campus and health system, set a goal to review current policy, especially in light of the fact that the current 20 percent sustainable food goal is set to expire in 2020. Two subcommittees with both students and staff members helped draft new policy language and goals for 2020-30. The new policy proposes aligning the definition of "sustainable food" with AASHE STARS (for campuses) and Practice Greenhealth (for health systems), and would allow for UC locations to receive recognition for prioritizing plant-forward menu design. In June, the UCSFWG then came together for the first-ever in-person meeting to discuss these changes. Over the next few months, the UCSFWG will continue to refine the policy before finalizing it for 2020.

UC'S SUSTAINABLE FOOD PURCHASES

(Percent of total food spend)
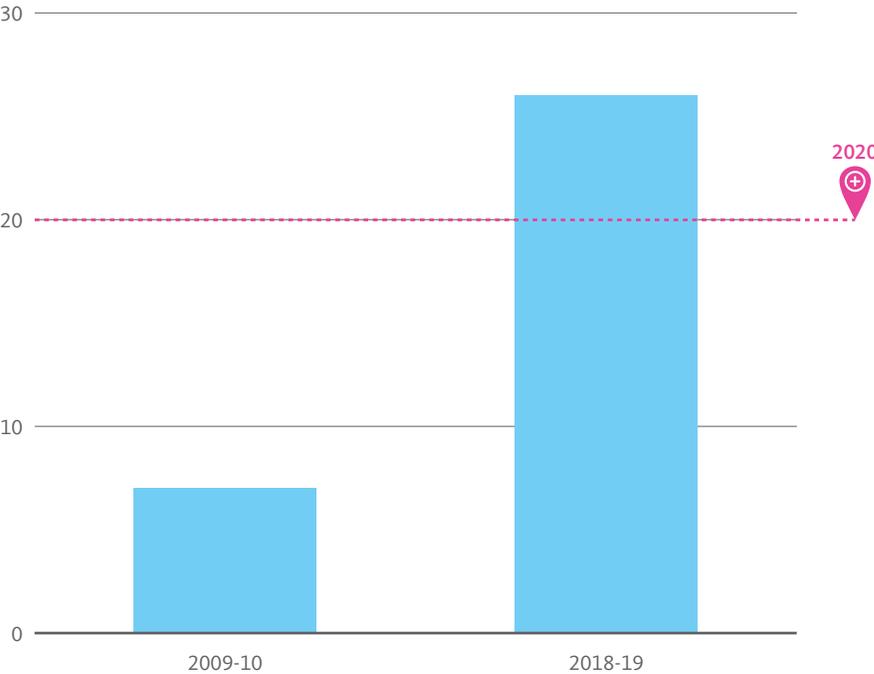
Green Building

Policy Goals

NEW BUILDINGS AND RENOVATIONS

- Design and construct all new buildings and major renovations to a minimum LEED-NC (new construction) 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 (commercial interiors) 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

The University of California now has 321 LEED certified building projects. Over the last year, UC added two new LEED Silver, seven LEED Gold and three LEED Platinum certifications. Eight of 10 campuses and the Office of the President have at least one LEED EBOM certification with 43 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 2018-19, seven UC projects received over $400,000 in incentives. On average, these projects exceeded the energy provisions of California's Building Code by 22 percent and are projected to save approximately $180,000 annually in avoided energy costs.

CUMULATIVE NUMBER OF UC LEED CERTIFICATIONS BY YEAR

● Platinum ● Gold ● Silver ● Certified
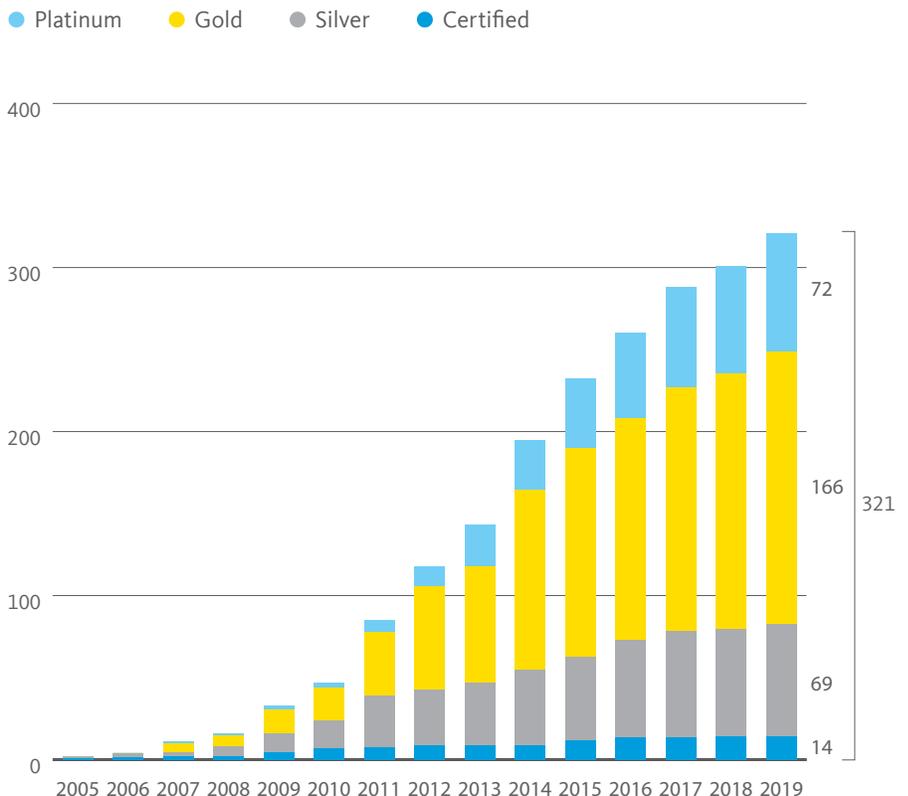
As of June 30, 2019, no new buildings or major renovations approved will use on-site fossil fuel combustion (e.g., natural gas) for space and water heating, except acute care facilities and other facilities with significant special circumstances. UC campuses already have a number of all-electric new buildings online or approaching completion, including housing, office buildings and labs. Exempt UC Health locations 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.

This year, members of the systemwide Green Building Working Group discussed how to develop and pilot guidelines for using Life Cycle Costing Analysis (LCCA) in capital projects, and developed procedures that demonstrate that new buildings comply with the whole-building energy performance targets. The group found that half of UC campuses are using the energy use intensity metrics during their design processes.

UC San Diego's newest housing project, Mesa Nueva, received the San Diego Gas and Electric (SDG&E) / Savings by Design Energy Efficiency and Integration Award in late 2018 and is a LEED Gold project. Credit: Rhett Miller

Procurement

Policy Goals

- 100 percent minimum compliance with required level green spend criteria within three fiscal years of the addition of those products and/or categories to the Sustainable Procurement Guidelines.

- 25 percent green spend as a total percentage of spend per product category; target to be reached within three fiscal years after a category is added to the guidelines.

- 25 percent economically and socially responsible spend as a total percentage of addressable spend; target to be reached within five fiscal years of adoption.

- Allocation of a minimum of 15 percent of the points utilized in solicitation evaluations to sustainability criteria.

PROGRESS TOWARD GOALS

With the adoption of UC's revised Sustainable Procurement Policy in August 2018, UCOP's and campuses' Procurement Services have been ramping up their implementation of the new policy requirements, including those for green spend, economically and socially responsible spend, and inclusion of 15 percent sustainability criteria in all requests for proposals, typically opportunities worth over $100,000 in business annually.

In keeping with these new requirements, UC began collecting and reporting data on green spend for the first time. (Green spend is defined as "spend on products meeting the UC 'preferred level' of environmental sustainability criteria as laid out in the UC Sustainable Procurement Guidelines.") Systemwide, UC is meeting green spend goals as a total percentage of spend per product category for cleaning supplies,

2019 UC CAMPUS GREEN SPEND

(Percent of total spend per product category)

- 75% green spend goal for cleaning supplies

- 25% green spend goal for electronics, indoor office furniture and office supplies and minimum compliance target for cleaning supplies
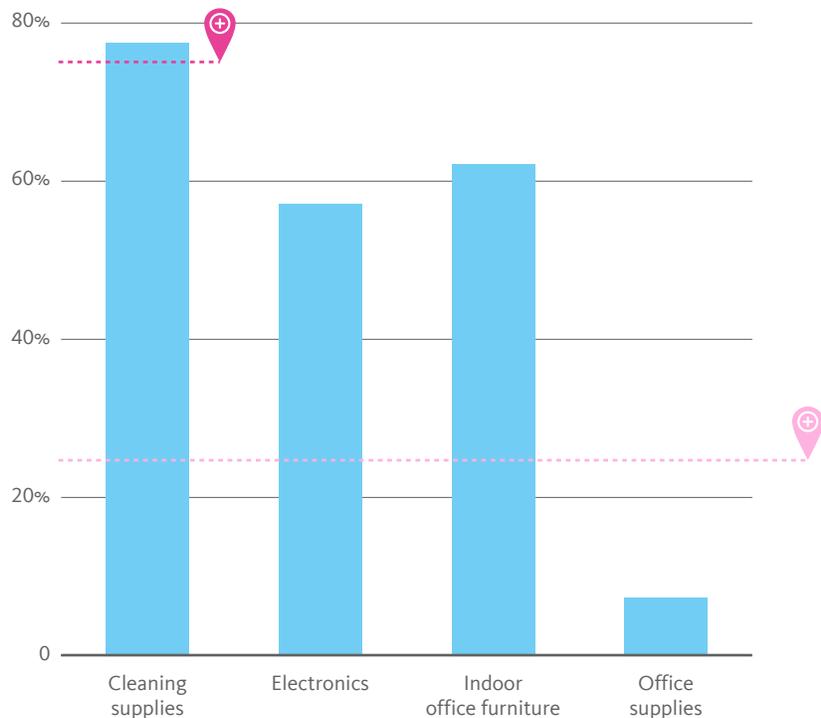
electronics and indoor office furniture. However, individual UC locations are still currently purchasing products that do not meet minimum sustainability policy requirements in these categories.

In the future, UC hopes to report data on water appliances and fixtures, as well as compostable food service ware. Because of data limitations, the following campus pages have data only for cleaning supplies reported this year. In the future, UC hopes to report more product category data for campuses.

Many campus and systemwide bids in the past year incorporated robust sustainability requirements, questions and criteria into their solicitations ahead of July 1, 2019, when that piece of the policy officially took effect. Notably, questions pertaining to economic, social or environmental sustainability made up at least 15 percent of the total evaluation in systemwide bids for elevator maintenance services, office furniture, flooring and janitorial services. Additionally, as a result of the minimum required green criteria established for furniture in the Sustainable Procurement Guidelines, the University of California will be the first public university system in the country to adopt the health protective standards promoted by the Center for Environmental Health (CEH) that restrict the use of key toxic chemicals in indoor furniture. UC's new furniture contract will leverage its roughly $70 million in purchasing power to protect the over 400,000 students, faculty and staff, plus thousands of visitors and vendors who visit campuses annually, and will push the market toward providing safer and healthier furniture products for consumers and the general public. The systemwide flooring bid similarly included the strictest criteria of any previous flooring bid with respect to chemicals of concern, third-party environmental certifications, recycled content levels and recyclability.

Procurement Services continues to monitor and track improvement of its supply base using a third-party sustainability assessment tool, EcoVadis, with several systemwide bids during the last year requiring suppliers to undergo an evaluation as a requirement of award. To date, UC has received scorecards for 79 suppliers that have gone through the assessment process. Any UC staff member can now access these supplier scorecards to view detailed information on supplier maturity and suggested corrective actions across four assessment categories: environment, labor and human rights, ethics and sustainable procurement.

Trademarks and Licensing

Developing tools to create greater awareness of the UC Code of Conduct for Trademark Licensees among stakeholder groups beyond licensees themselves is a strategic goal of the UC Code of Conduct Steering Committee. One example of a creative tool launched in 2019 through UCLA Trademarks & Licensing is a series of whiteboard animated videos designed to inspire, encourage and guide members of the campus community to demonstrate support for the social sustainability values of the University of California with their purchases. The videos chronicle the ongoing journey to achieve real progress in ethical labor, transparency and the social sustainability of licensed product supply chains, and invite students, faculty, staff, alumni and fans to consider the impacts of their purchases by buying from sources that commit to and actively engage in efforts to uphold the university's human rights goals.

The three ethical labor videos can be accessed through ASUCLA's YouTube channel: https://www.youtube.com/channel/UCB2SVyWMxsvtnuxyYJHtbTA

Sustainable Building Operations and Labs

Policy Goal

Implement an ongoing Green Lab assessment program and assess three research groups.

PROGRESS TOWARD GOALS

In fiscal year 2018-19, all campuses began collecting data on their green labs work. To date, 273 labs across the UC system have been certified as "green," and campuses have reported engaging over 500 researchers in sustainability efforts.

Each campus is also completing an inventory of their autoclaves to identify opportunities for water efficiency improvements. Plans are being developed to retrofit those autoclaves. Preliminary data shows that the overwhelming majority of autoclaves in the UC system are not efficiently using water. Campuses hope to report this data in more detail in the future.

Additionally, six campuses received funding from UCOP to hire student fellows to investigate laboratory waste streams. Funding for this research came from several life sciences suppliers with whom the university has contracts. Fellow research included analyzing lab vendor take-back programs, researching opportunities for equipment sharing and consolidation, developing sustainable lab guidelines and participating in the Freezer Challenge, an international competition designed to promote the energy efficiency and sustainability of deep freezers in laboratories.

2019 NUMBER OF ASSESSED GREEN LABS ON UC CAMPUSES
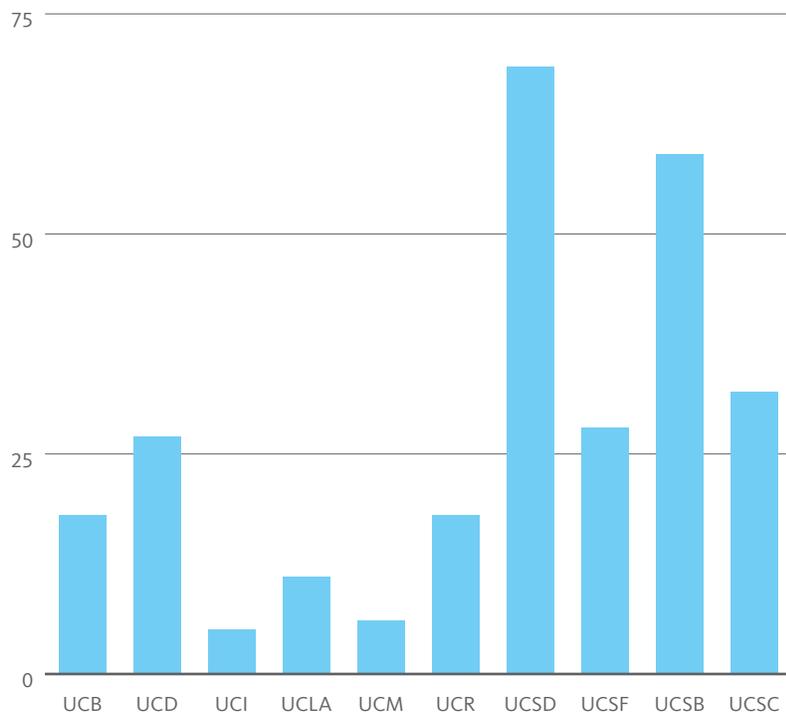
Transportation

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. Over 50 percent of all new fleet vehicles purchased in 2018-19 at six campuses were all-electric or hybrid. Emissions from campus fleet vehicles are included in UC's climate goals, so these new vehicles will move fleet emissions closer to carbon neutrality.

Almost half of UC locations reporting have made progress in reducing the single-occupancy vehicle commute rate of students and employees. Campuses continue to introduce new alternative commuting incentive programs, such as bike sharing and commute club offers. Additionally, they continue to develop guidance and share information with other campuses on their approaches to fleet, vanpool, micro-mobility and transit. Many are developing new on-campus housing for students, which not only reduces the need to drive on campus, but also provides students with much-needed affordable housing.

Electric vehicle (EV) technologies continue to progress, but areas of opportunity remain. In order to help achieve a procurement target of 50 percent of all new vehicles being either ZEVs or hybrids, the UC fleets eagerly track the introduction of a broader range of EV options, especially in larger vehicles such as cargo vans and pickup trucks.

2019 EMPLOYEE ALTERNATIVE COMMUTE MODES

- ● Employees
- ● Combined (employees and students)
- ● 2050 employee goal
- ● 2050 combined (employees and students) goal
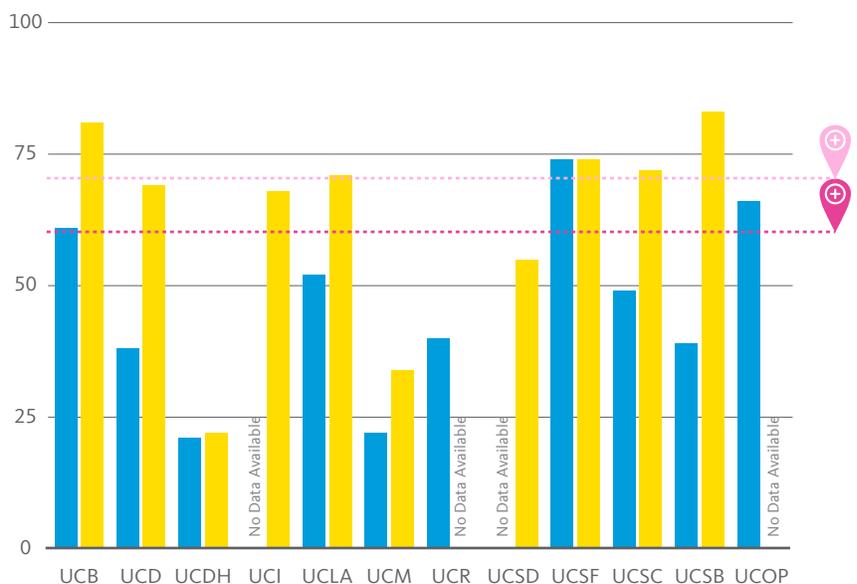
UC Health

POLICY DESCRIPTION

Recognizing the unique challenges and opportunities for implementing sustainable practices in health care facilities, the university updated its Sustainable Practices Policy in 2018 to add a section devoted to sustainability at UC Health.

Specific goals include:

- By 2025, each campus and health location will obtain 100 percent clean electricity.

- All UC Health systems will be members of Practice Greenhealth, a nonprofit dedicated to health care sustainability, and submit annual sustainability data for awards.

- Each UC Health system will develop 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.

PROGRESS TOWARD GOALS

This past year, the UC Health Sustainability Working Group, comprising staff and clinicians from every health system, decided to focus its efforts on three areas of sustainability systemwide: procurement (with particular attention to waste reduction and medical device reprocessing), energy (specifically, energy efficiency and energy programs), and reporting and accountability to health system leadership.

Highlights include:

- The hiring of three additional sustainability officers, to total four within UC Health, and ongoing relationship building with key stakeholders systemwide.

- Adopting into policy the allocation of a minimum of 15 percent of the points used in competitive solicitations to sustainability criteria, mirroring the efforts already undertaken by campuses.

- Ongoing reporting to Practice Greenhealth, the industry body for sustainability in health care. This past year, UC Health systems earned nine awards through Practice Greenhealth for leadership in areas such as greening operating rooms and green buildings.

- Working with the UC Sustainable Foodservice Working Group to plan for increasing UC Health's sustainable food procurement goal above 20 percent beginning in 2020.

- Progress on Carbon Neutrality Initiative (CNI) projects that pertain to energy-efficient lighting and MRI machines. The working group is exploring additional CNI-funded projects around topics such as reducing the climate impact of anesthetic gases, energy-efficient airflow within hospitals, and climate resiliency and emergency management.

Waste sorting at UCSF

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 fiscal year 2005-06, fiscal year 2006-07 and fiscal year 2007-08.

PROGRESS TOWARD GOALS

Eight out of 10 campuses and the Office of the President have met or exceeded the 2020 goal of 20 percent water reduction per capita by 2020. Seven out of 10 campuses and the Office of the President met or exceeded the 2025 goal of 36 percent water reduction per capita. Collectively, UC campuses have achieved 46 percent reduction in water use from the three-year average baseline of fiscal year 2005-06, fiscal year 2006-07 and fiscal year 2007-08 of 22,984 gallons per capita.

Continuing water conservation and management challenges for UC locations for meeting the 2025 goal include access to recycled water and the threats posed by climate change, which may increase evapotranspiration and the need for irrigation, degrade water quality and lead to intense droughts and flooding.

UC'S WATER USE REDUCTION
(In gallons per capita)

- 20% reduction (2020 goal)
- 36% reduction (2025 goal)

46% reduction from 2005-2008 baseline to date
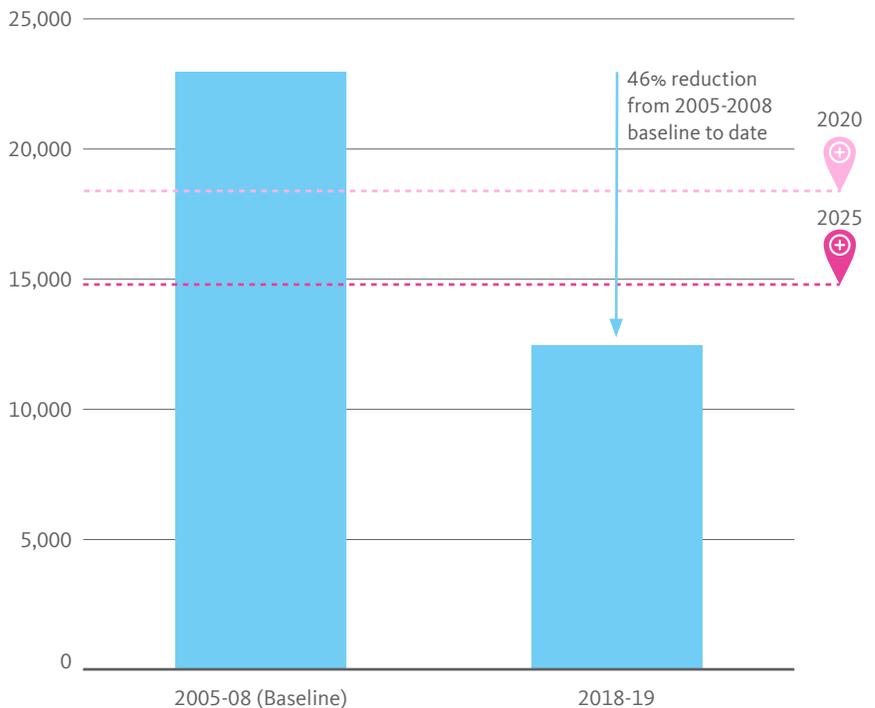
Zero Waste

Policy Goals

- Reduce waste generation per capita to fiscal year 2015-16 levels by 2020, 25 percent below fiscal year 2015-16 levels by 2025, and 50 percent below fiscal year 2015-16 levels by 2030.
- Divert 90 percent of municipal solid waste by 2020.

PROGRESS TOWARD GOALS

Campuses are continuing to work toward achieving UC's zero waste goals. Systemwide, UC locations sent 1.5 pounds of municipal solid waste per person per day to landfill. This is down from fiscal year 2017-18 and is a 12 percent reduction from the fiscal year 2015-16 baseline.

Diversion rates held constant on most campuses, but overall municipal solid waste diversion declined slightly, reflecting external pressures from international recycling markets. However, when construction and demolition debris is included, total diversion increased to 76 percent.

Campuses have been developing zero waste action plans that will be finalized in the coming months. These plans, which outline campus-specific strategies for meeting UC's zero waste goals, will be updated every five years to remain current.

Highlights include:

- The Zero Waste and Sustainable Procurement Working Groups began closer collaboration to support reducing life cycle carbon emissions and promote a circular economy. This included hosting educational events for procurement staff and waste managers, refining the ban on packaging foam in policy and developing supporting guidelines, and beginning discussions on specific product types. The Sustainable Procurement Working Group then also solicited the input of suppliers around these bans.
- The Zero Waste Working Group launched initiatives aimed at improving data collection, developing new zero waste targets and starting to address single-use plastics.

*UCLA students conducting waste audit. Credit: Kikei Wong*

**UC DAILY PER CAPITA
WASTE GENERATION**

(Pounds)

- Recyclables
- Organics
- Allowable conversion
- Landfill
- 2025 Goal: 25% decrease in waste
 generation from 2015-16
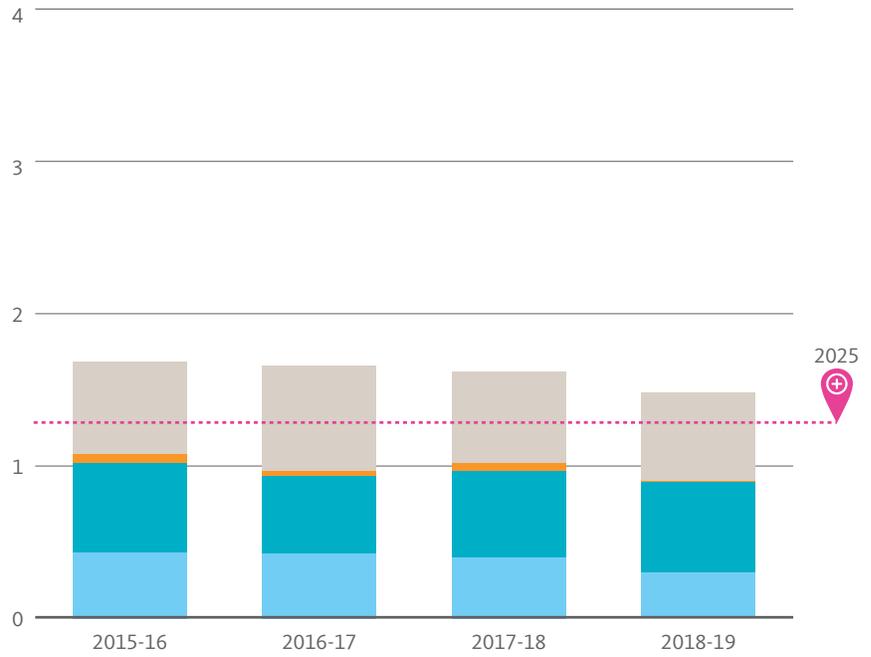
**UC WASTE DIVERTED
FROM LANDFILL**

- Diversion Rate (C&D+MSW)
- Diversion Rate (MSW)
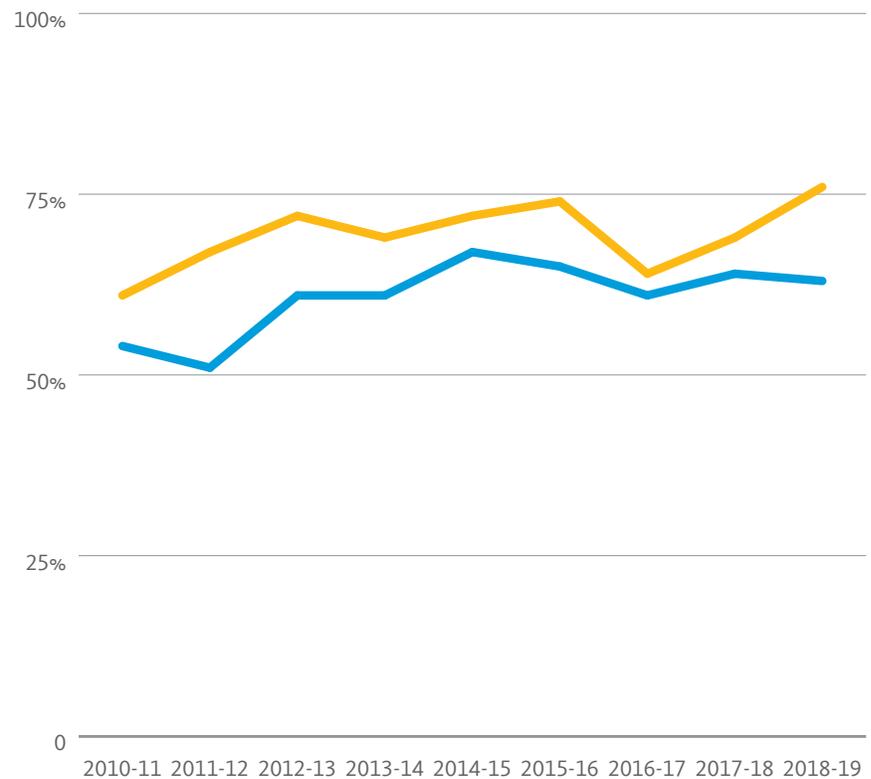
The Campuses

UC Berkeley

UC Berkeley finished its first-ever complete submission for the Sustainability Tracking, Rating and Assessment System, or STARS, earning a high Gold rating with 78.5 points. That result placed UC Berkeley 11th out of 349 colleges and universities having completed a full STARS assessment. The campus's top-ranked environmental sciences programs helped UC Berkeley earn top-notch STARS scores for its sustainability-themed undergraduate and graduate programs and sustainability-focused research. UC Berkeley also earned perfect scores in fields that measure diversity and equity in the campus community. The STARS rating additionally earned UC Berkeley a coveted spot among the top 20 greenest universities, according to the Sierra Club and the Princeton Review.

The popular Cool Campus Challenge returned to UC in April 2019, and UC Berkeley took the overall honor as the Coolest UC, achieving the most carbon-saving points of any UC campus or medical center. Engaging more than 4,200 participants, or 7.5 percent of the campus, UC Berkeley is saving tons of carbon dioxide from participants' actions, equivalent to taking 500 cars off the road for an entire year. Also in support of carbon reduction action, UC Berkeley's chancellor, in coordination with students, signed a memorandum of understanding committing the Berkeley campus to 100 percent clean, renewable energy by 2050.

Berkeley received five best practice awards at the annual California Higher Education Sustainability Conference. UC Berkeley's efforts on zero waste curriculum and operations, environmental justice, toxin reduction and climate action took the honors. The awards highlight the breadth, depth and leadership in sustainability the campus both values and excels in.

UC Berkeley's newest building, the Connie and Kevin Chou Hall at Haas School of Business, is now one of the greenest academic buildings ever. It has earned a trifecta of green building certifications. The building achieved TRUE Zero Waste certification at the highest possible level, along with LEED Platinum Certification for its architectural design, construction and energy efficiency. Most recently it became the campus's first WELL certified space at the Silver level. With no landfill bins in the building, a team of staff and students is working to phase out single-use, disposable materials in favor of reusable containers and supplies, and the building's on-site food vendor adheres to zero waste practices.

Credit: Elena Zhukova
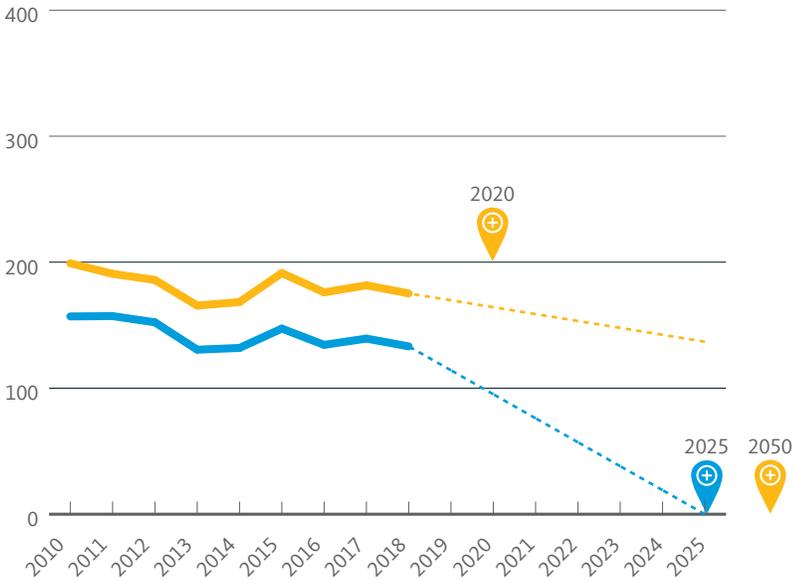
GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO_2e)

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

Goals:
- 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

WATER

(Percent reduction in per capita potable water consumption)
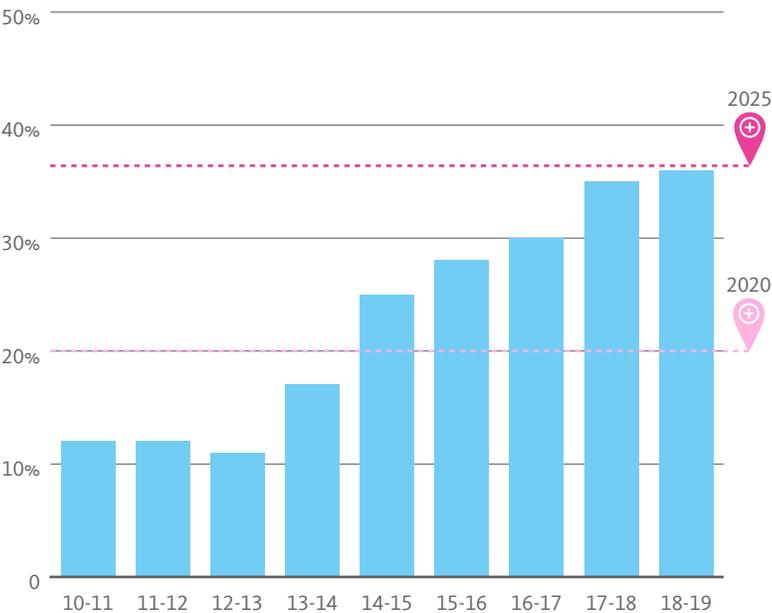
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 13,185

WASTE

(Daily per capita waste generation in pounds)
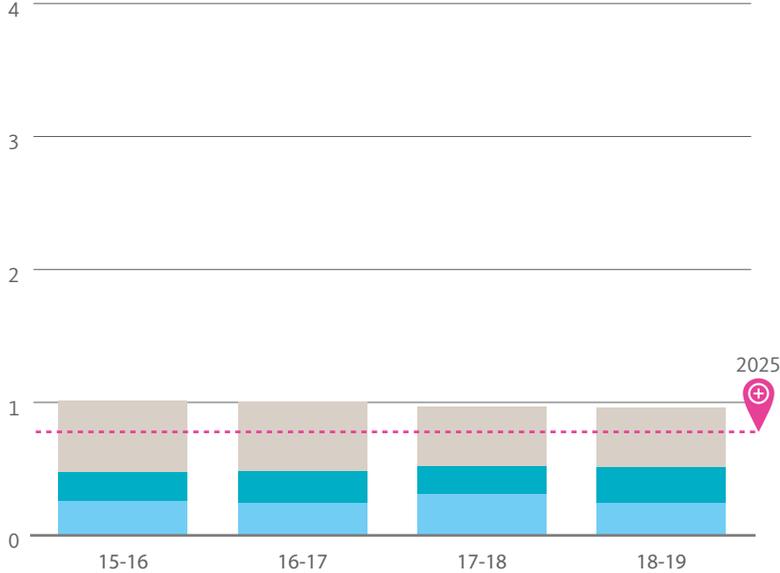
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020

2025

| | 15-16 | 16-17 | 17-18 | 18-19 |

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

2020

| 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 |
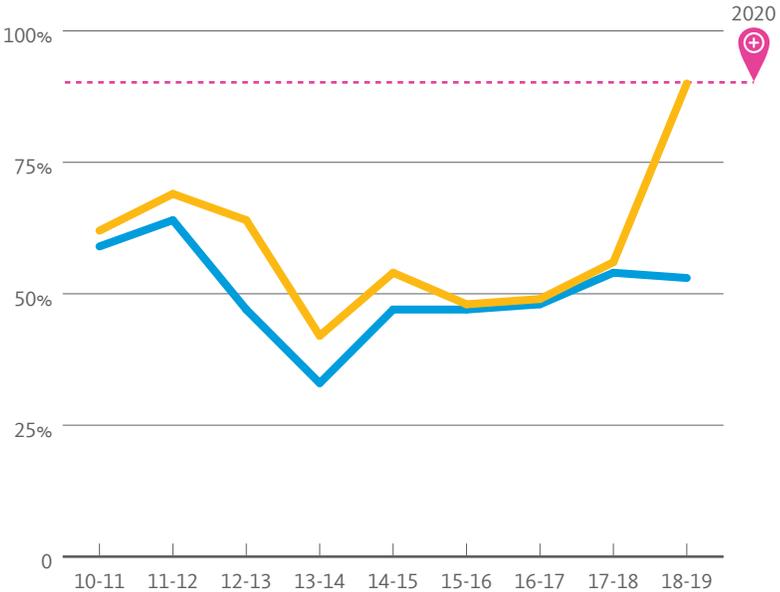
FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 28%
Retail: 14%

UC Berkeley has met the 2020 goal for residential sustainable food service spend.

PROCUREMENT

Goal:
- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 85%

UC Berkeley has met the green spend goal for cleaning supplies.

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

GREEN BUILDING

Goals:
- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Berkeley added one new LEED Silver building in 2019 to total:

Platinum: 2
Gold: 12
Silver: 7
Certified: 1

This list includes the Connie and Kevin Chou Hall (LEED Platinum in 2018) and the David Blackwell Residence Hall (LEED Gold in 2018).

Number of LEED EBOM projects: 0

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:
- Assess three research labs

Progress:
Number of assessed research labs: 18

UC Berkeley has met the sustainable research lab assessment.

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 25%

Alternative commute rate:

Employee: 62%
Overall: 83%

UC Berkeley has met the employee and overall alternate commute goal.

UC Davis

Since starting as the UC Farm School in 1906, UC Davis has used its lands and facilities to test solutions to societal and environmental challenges and launch new leaders committed to sharing those solutions.

The UC Davis Arboretum and Public Garden's Learning by Leading program uses campus landscapes and community engagement expertise as resources for 120+ students to apply classroom learning in real-world settings, from nature education to environmental restoration. The Student Leadership in Green Infrastructure group — formed by a professor to create hands-on experiences — has researched, designed and built several landscape retrofits on campus and is working on community-based interactive rain garden landscapes. And students developed a program that networks wireless thermostats in remote campus buildings; the program operates in over 30 buildings and has saved the campus $60,000 per year in energy costs.

UC Davis' sustainable environmental design major has grown in five years to nearly 125 students focused on analyzing real-world situations. In spring 2019, the major's capstone class considered how to advance the sustainability of Village Homes, UC Davis'

famous 1970s eco-neighborhood, and presented proposals to the homeowners' board.

UC Davis is the first UC campus to measure its nitrogen footprint. Students partner with academic mentors and sustainability staff to produce this new annual metric of reactive nitrogen quantities released to the environment both on campus and in production and waste streams for food, utilities and transportation sectors.

UC Davis is actively exploring ways to support the U.N. Sustainable Development Goals and participated in the University Global Compact launch. It also hosted a colleague from Universidad de Talca, Chile, for a knowledge exchange that included discussions on integrating the goals into curriculum and assessment.

The student-run Food Recovery Network chapter more than doubled recovery efforts from last year to rescue 19.6 tons of food to help combat hunger and reduce food waste. The network's student president was named the Student Sustainability Champion at the first campus Sustainability Summit and received the 2019 Chancellor's Achievement Award for Diversity and Community for his leadership and sustainability impact.
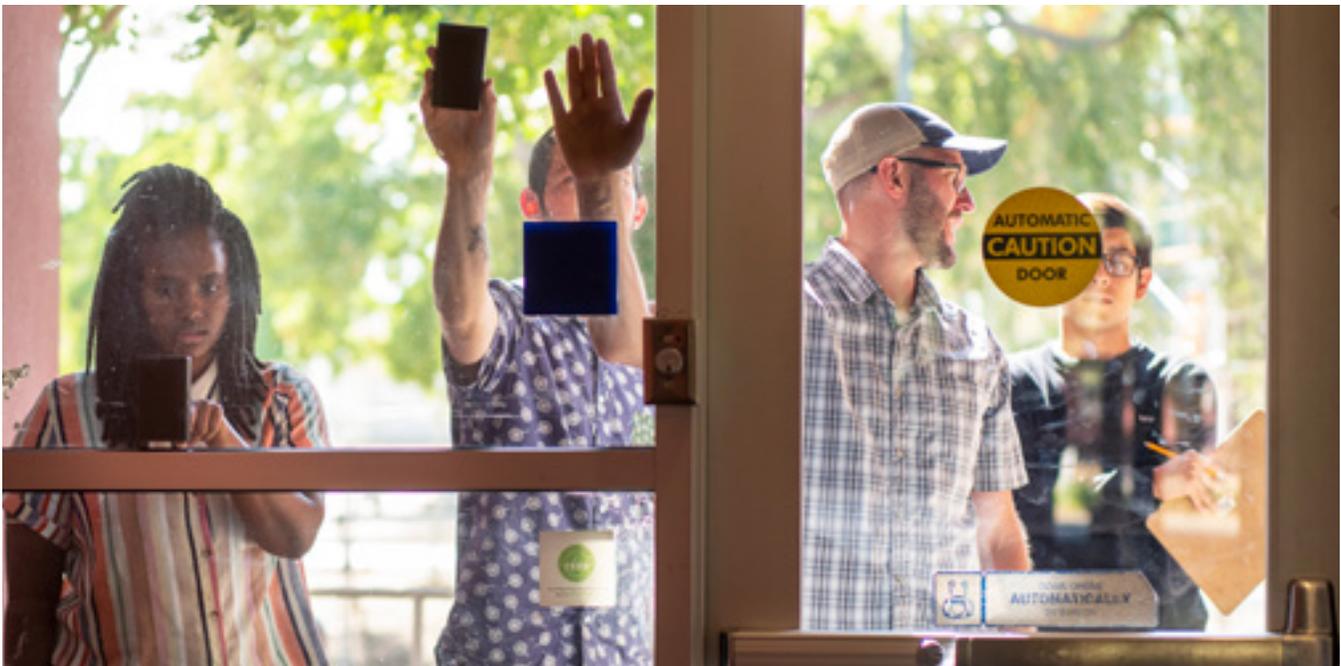
UC Davis students conducting an energy audit. Credit: Kevin Robert Perry

GREENHOUSE GAS EMISSIONS
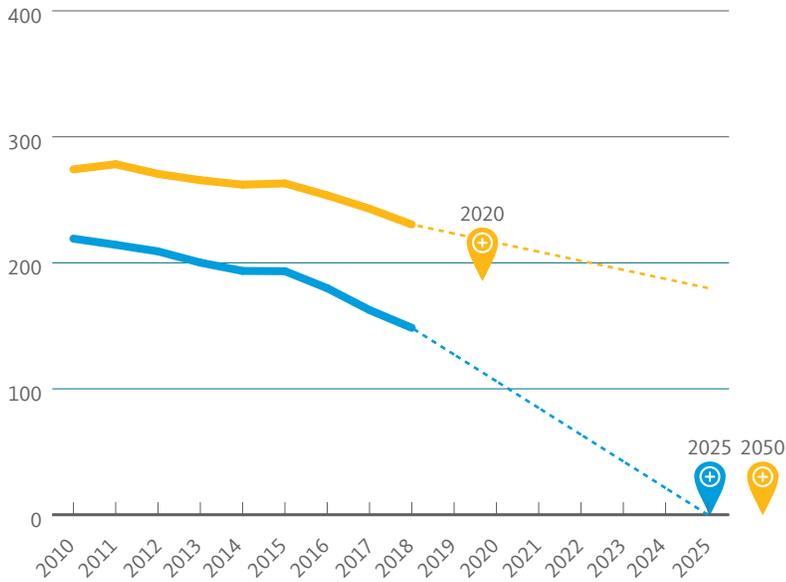
(1,000 metric tons CO_2e)

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

Goals:

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

WATER

(Percent reduction in per capita potable water consumption)
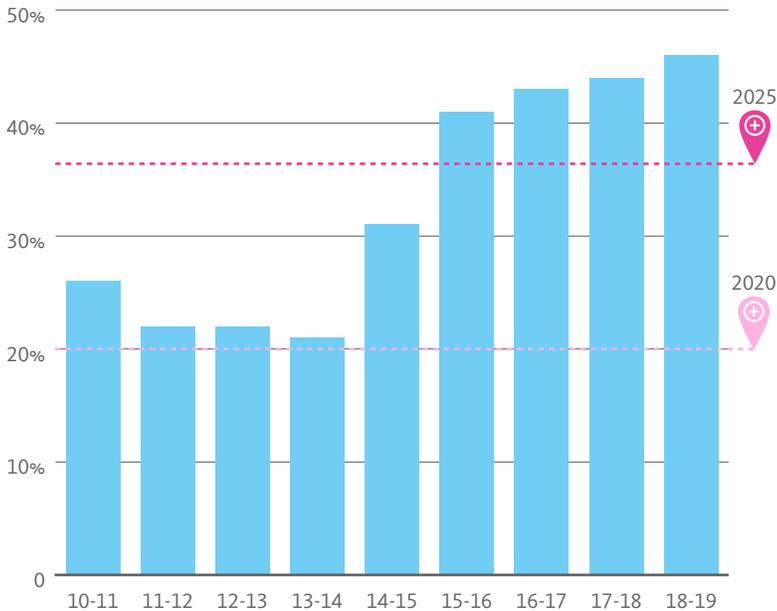
Goal:

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

Progress:

- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 15,589

WASTE

(Daily per capita waste generation in pounds)
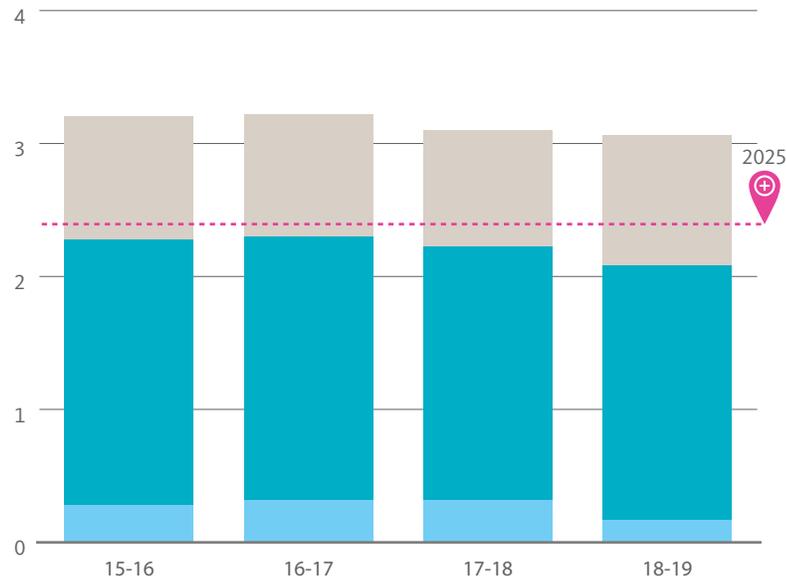
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020
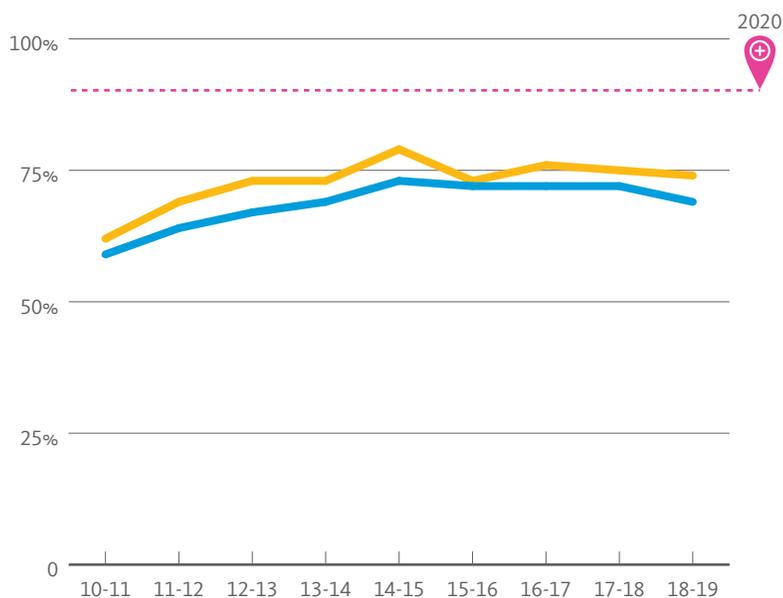
(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 35%
Retail: 32%
Retail, CoHo: 22%

UC Davis has met the 2020 goal for sustainable residential and retail food service spend.

PROCUREMENT

Goal:

- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 74%

UC Davis has met the minimum green spend target for cleaning supplies (75% is the preferred goal in this category).

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 58%

UC Davis has met the light duty fleet vehicle goal.

Alternative commute rate:

Employee: 39%
Overall: 69%

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Davis added 2 new LEED Platinum, 2 Gold and 1 Silver building in 2019 to total:

Platinum: 11
Gold: 20
Silver: 5
Certified: 1

Number of LEED EBOM projects: 10

UC Davis has met the LEED EBOM project goal.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:

- Assess three research labs

Progress:
Number of assessed research labs: 27

UC Davis has met the sustainable research lab assessment goal.

UC Irvine

UC Irvine recognizes education as a driving force for sustainability and environmental change. Over the past year, UC Irvine has implemented several initiatives and programs supporting the campus community and beyond. A highlight of the year was the expansion of the Student Leadership Institute for Climate Resilience (SLICR) across the entire UC system, introducing first-year and transfer students to some of the major challenges and opportunities of building community climate resilience as well as tools for action. Students also participated in campus waste audits where they were educated on proper waste sorting techniques and waste minimization. These teachable moments have contributed to UC Irvine's diversion rate of 80 percent, with only 20 percent of waste sent to landfills in 2018. This past year, UC Irvine also provided sustainability training to campus staff, educating staff members on how to practice sustainability in the workplace and how they play an integral role in helping the campus meet its climate goals. Due to the success of these trainings, UC Irvine is now developing an online version that will better serve and inform a larger audience.

UC Irvine Student Housing is partnering with the South Coast Air Quality Management District to replace aging gasoline-powered equipment with emissions-free products. So far, three mowers have been retired, saving 3,000 gallons of fuel and cutting 26.7 metric tons of carbon dioxide emissions per year. UC Irvine also installed 30 aeroponic vertical gardens at The Anteatery dining hall. The grown produce will be used for student meals, with the surplus being donated to the FRESH Basic Needs Hub. The gardens require 90 percent less water than traditional agriculture and yield three times faster growth. The towers will grow more than 20,000 bundles of produce every year.

UC Irvine's sustainable transportation efforts received the 2019 Leading Public Fleet Award at the Advanced Clean Transportation Expo. Forty-six percent of UC Irvine fleet vehicles are powered by alternative fuels or hybrid technologies, and last fall UC Irvine rolled out the first all-electric bus fleet in the nation. In addition, UC Irvine Dining received the 2019 grand prize for excellence in sustainable dining from the National Association of College & University Food Service, as well as awards for outreach and education (gold) and waste management (silver). UC Irvine also made history in Sierra magazine's annual Cool Schools ranking by becoming the only university to score in the top 10 for 10 consecutive years. UC Irvine received the top ranking in the nation and the second place ranking overall among U.S. and Canadian colleges.


Students at San Joaquin Park. Credit: Steve Zylius

GREENHOUSE GAS EMISSIONS
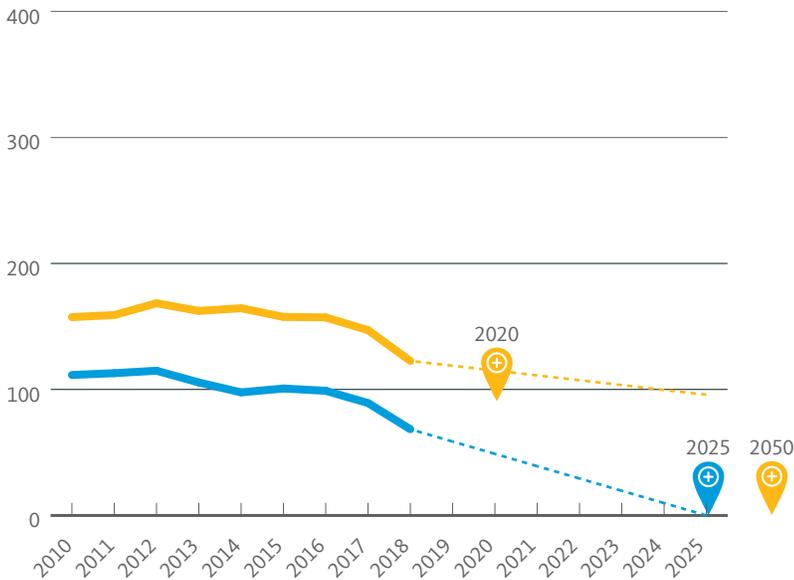
(1,000 metric tons CO_2e)

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

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

WATER

(Percent reduction in per capita potable water consumption)
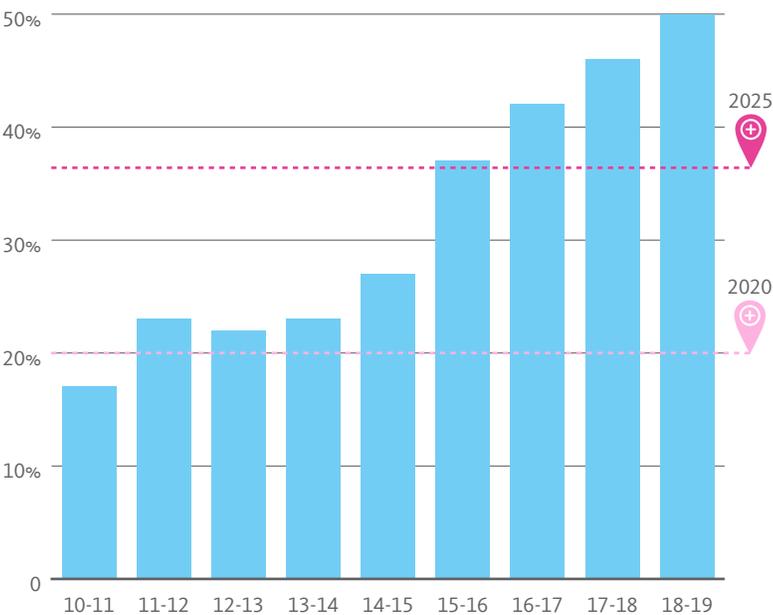
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 9,485

WASTE

(Daily per capita waste generation in pounds)
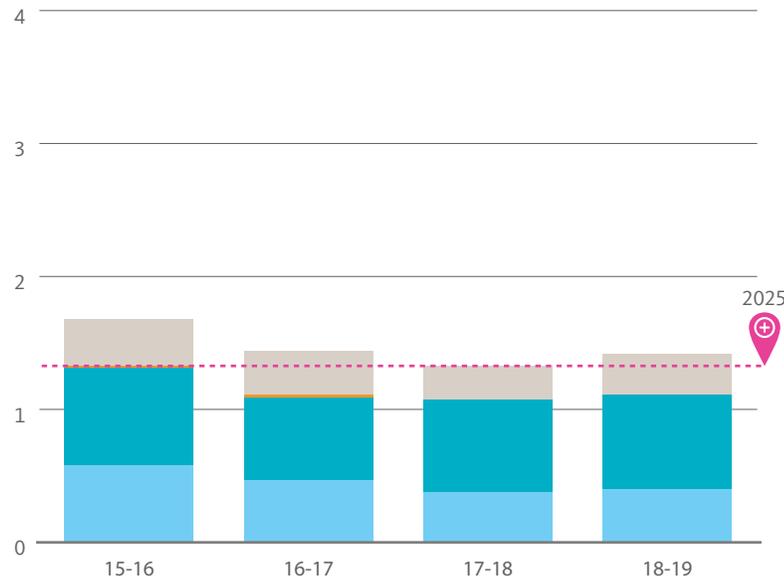
- ● Recyclables
- ● Organics
- ● Allowable conversion
- ● Landfill

Goals:
- 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
- Zero waste by 2020

2025

(Diversion rate)
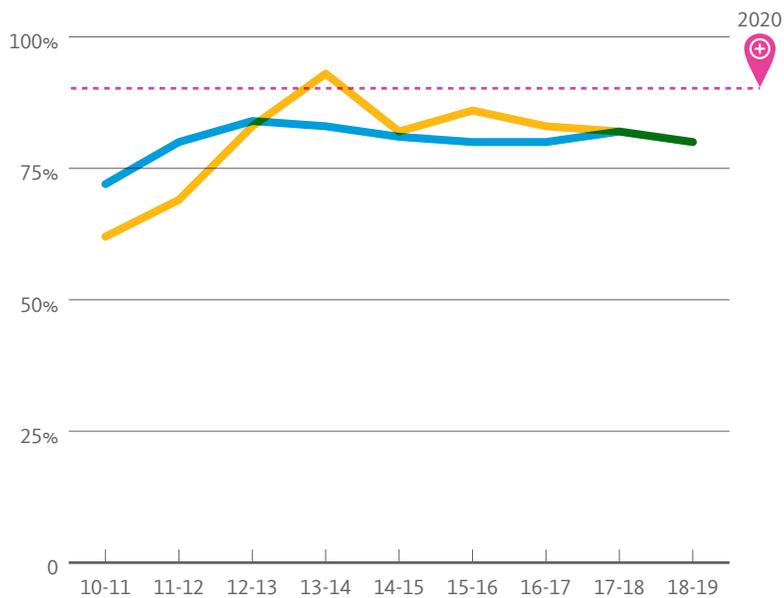
- ● Diversion Rate (C&D + MSW)
- ● Diversion Rate (MSW)

2020

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 22%
Retail: 18%

UC Irvine has met the 2020 goal for sustainable residential food service spend.

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Irvine has the following LEED certifications:

Platinum: 17
Gold: 12
Silver: 4
Certified: 2

UC Irvine has met the LEED EBOM project goal.

PROCUREMENT

Goal:

- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 81%

UC Irvine has met the green spend goal for cleaning supplies.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:

- Assess three research labs

Progress:
Number of assessed research labs: 5

UC Irvine has met the sustainable research lab assessment goal.

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:

Percent of all new light-duty fleet vehicles zero-emission or hybrid: 73%

UC Irvine has met the light-duty fleet vehicle goal.

Alternative commute rate:

Overall: 68%

UCLA

In 2019, the UCLA Sustainable LA Grand Challenge team and other campus researchers, along with the county's chief sustainability office and other partners, developed the first sustainability plan for Los Angeles County. The Sustainable LA Grand Challenge is a UCLA-wide initiative to achieve 100 percent renewable energy, 100 percent locally sourced water and enhanced ecosystem health for L.A. County by 2050.

Modeling water reclamation on campus, Facilities Management expanded condensate capture from laboratories and HVAC equipment to save over 30 million gallons per year. On the roof of the Math Sciences building on campus, a graduate student used green roof simulation cells to test the thermal effects of different plant species in L.A.'s climate.

UCLA's new Active Transportation Plan aims to improve campus health, livability and safety through policy and infrastructure recommendations that increase walking, biking and other active forms of transportation. UCLA also strove to substantially increase the proportion of battery electric and other zero-emission vehicles (ZEVs) in the fleet, including adding the first

all-electric Mobile Surgical Instrument Reprocessing unit and three 40-foot ZEV transit buses.

UCLA's zero waste efforts continued to grow with new staff training and bins, five zero waste pilot buildings, and composting in family and graduate student housing. Fifteen student groups collaborated on Waste Awareness Week, a student-run event focusing attention on the global waste crisis. The Green IT Taskforce (GriTT) partnered with campus purchasing to target electronic waste and print services. A Sustainability Action Research Team helped UCLA Athletics win the Most Improved in PAC-12 Green Games.

The new "Bruin Plate Cookbook," featuring recipes from UCLA's award-winning, sustainability-themed dining hall, highlights fresh seasonal ingredients and nutritious, plant-forward meals. Proceeds support food security programs at UCLA.

In academic milestones, the Sustainable LA Grand Challenge team helped secure a new state-funded, $10 million California Conservation Genomics Project, and the Institute of Environment and Sustainability launched a new interdisciplinary Ph.D. program.

Students tracking birds in the Mildred Mathias Botanical Garden. Credit: Nurit Katz

GREENHOUSE GAS EMISSIONS
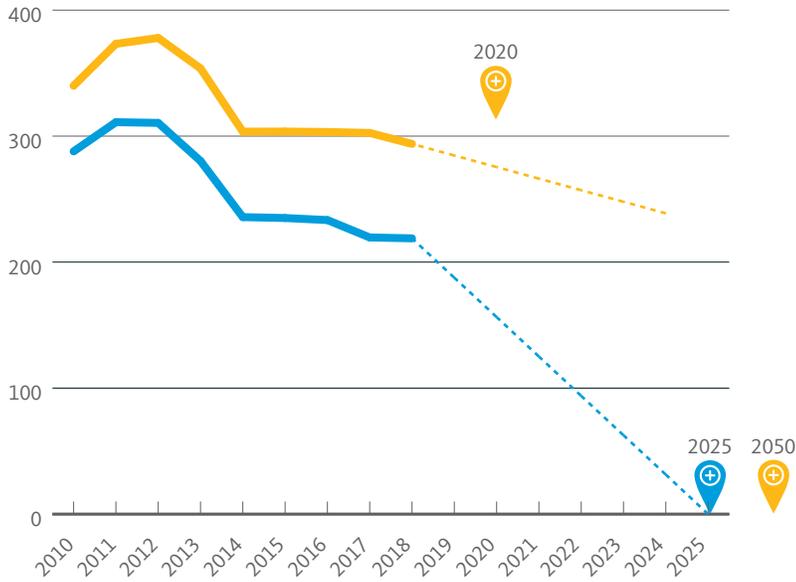
(1,000 metric tons CO_2e)

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

Goals:
- 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

WATER

(Percent reduction in per capita potable water consumption)
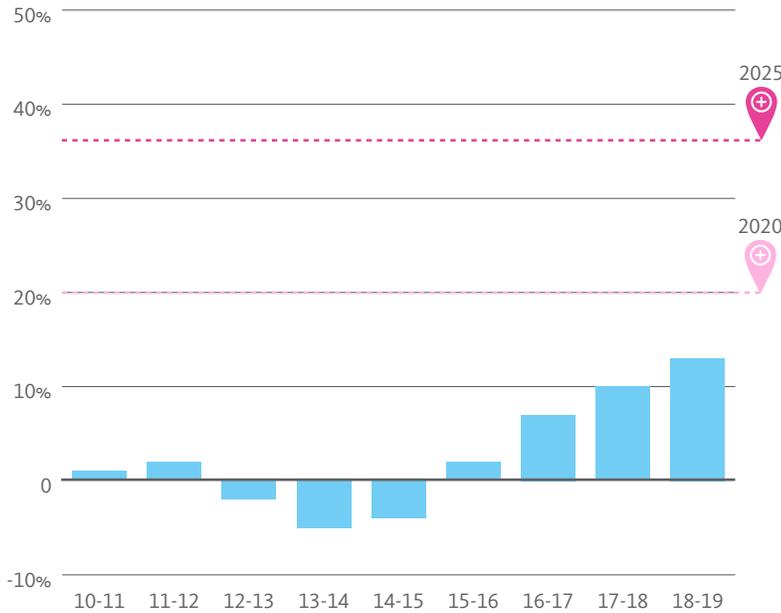
Goals:
- 20% reduction from baseline in per capita potable water use by 2020 36% reduction from baseline in per capita potable water use by 2025

Progress:

2018-19 gallons per capita: 13,431

WASTE

(Daily per capita waste generation in pounds)
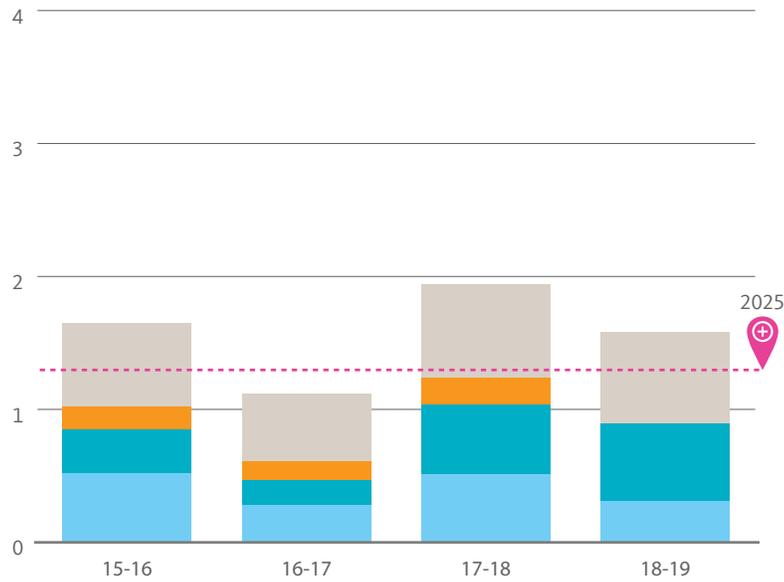
- Recyclables
- Organics
- Allowable conversion
- Landfill

Goals:

- 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

- Zero waste by 2020
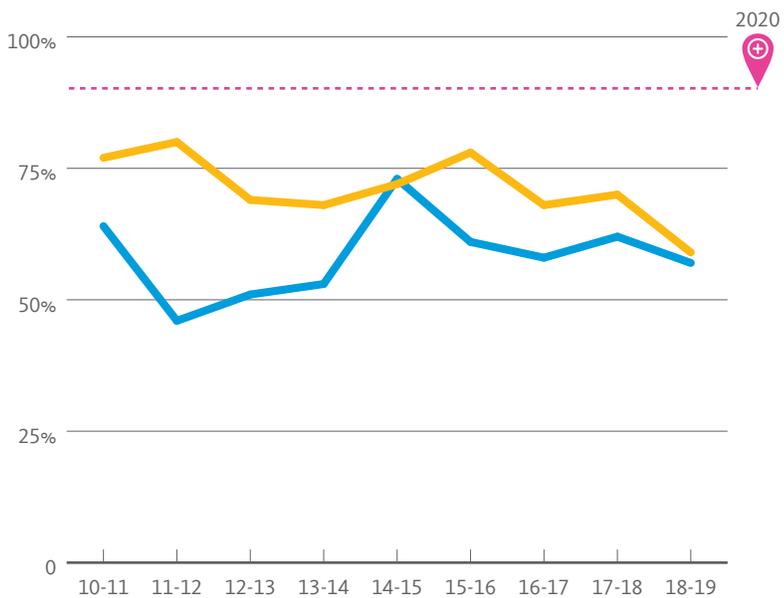
(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 20%
Retail: 20%

UCLA has met the 2020 goal for residential and retail sustainable food service spend.

GREEN BUILDING

Goals:
- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UCLA added two new LEED Gold buildings in 2019 to total:

Platinum: 15
Gold: 22
Silver: 10
Certified: 0

Number of LEED EBOM projects: 1

UCLA has met the LEED EBOM project goal.

PROCUREMENT

Goal:
- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 58%

UCLA has met the minimum green spend target for cleaning supplies (75% is the preferred goal in this category).

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:
- Assess three research labs

Progress:
Number of assessed research labs: 11

UCLA has met the sustainable research lab assessment goal.

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 58%

UCLA has met the light-duty fleet vehicle goal.

Alternative commute rate:

Employee: 52%
Overall: 71%

UCLA has met the overall alternative commute goals.

UC Merced

UC Merced has made its way into another top 10 in national rankings this year, claiming the number six spot in Sierra magazine's 2019 Cool Schools list.

UC Merced installed a 4-megawatt solar system, which provides shade for parking and will support 50 percent of the campus's on-site electricity load. The campus saw a reduction in emissions even with campus growth. This is a result of actions and strategies implemented by the university, including plug load reduction strategies and an increase in green power purchases.

The campus has a total of 20 LEED certified buildings under New Construction and Existing Building Operation & Maintenance (EBOM). The last certification was the Science & Engineering Building, which earned a Gold rating. The student LEED Lab course under the Engineering Service Learning Program supported the building assessment, which was submitted to the U.S. Green Building Council.

One-hundred percent of expenditures for electronic purchases were EPEAT certified. (EPEAT is a verified list of sustainable products managed by the Green Electronics Council.) Seventy-seven percent of cleaning and janitorial purchases were for sustainable products, and 28 percent of total office paper bought incorporated 90 percent post-consumer recycled content.

Credit: Elena Zhukova
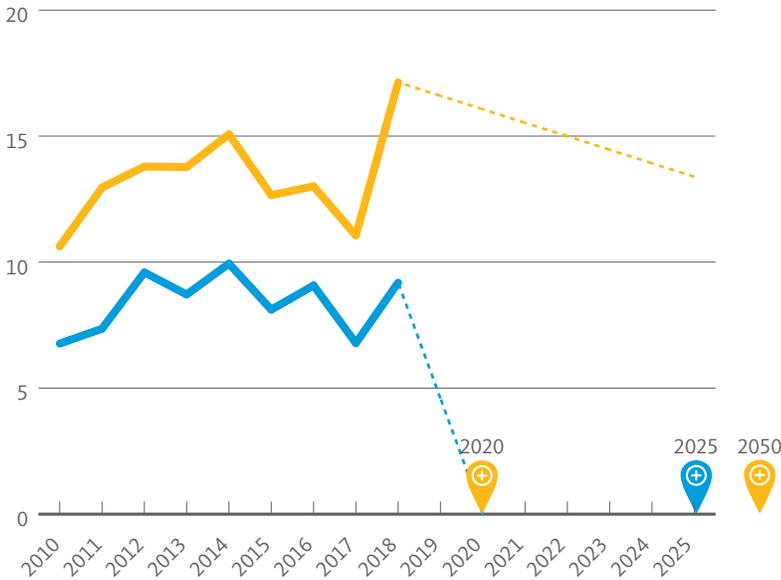
GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO_2e)

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

Goals:
- As UC's newest campus, UC Merced has set a more aggressive goal to achieve climate neutrality for scope 1 and 2 sources by 2020.
- Carbon neutral by 2050 (scopes 1, 2 + 3)

WATER

(Percent reduction in per capita potable water consumption)
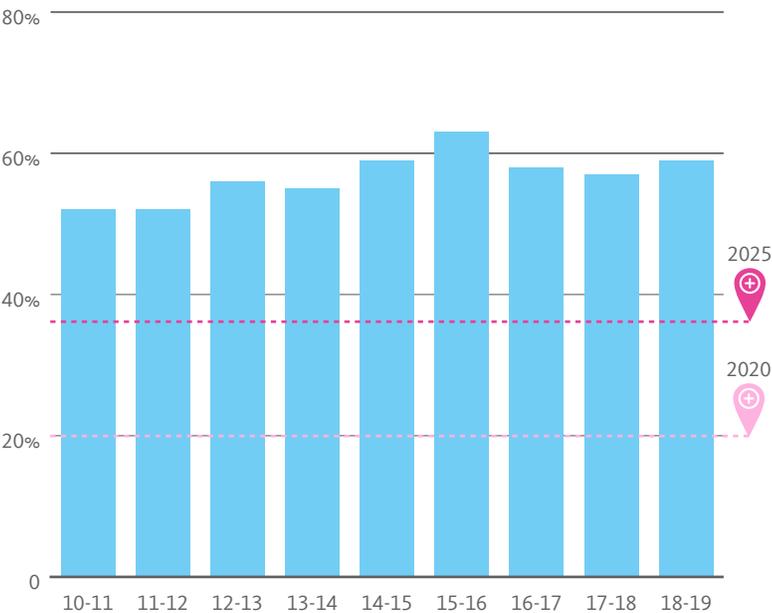
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 14,317

WASTE

(Daily per capita waste generation in pounds)
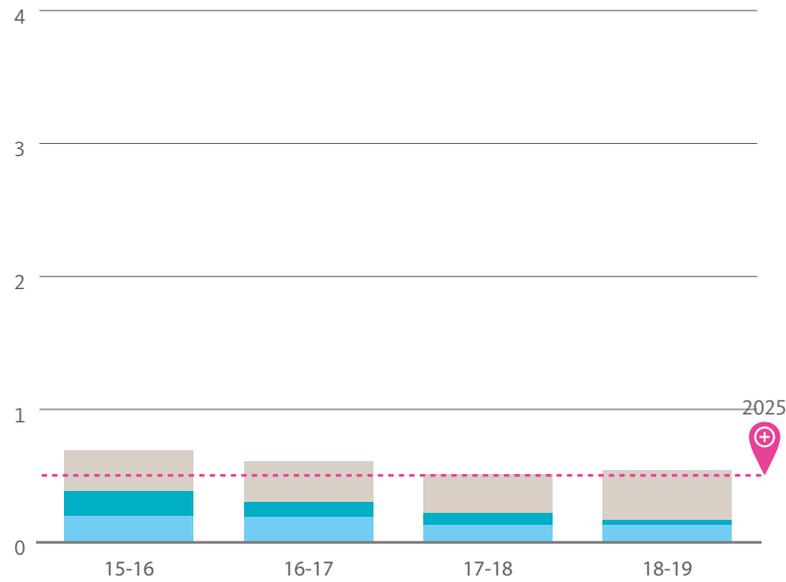
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020

| | 15-16 | 16-17 | 17-18 | 18-19 | 2025 ⊕ |

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

| | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 2020 ⊕ |
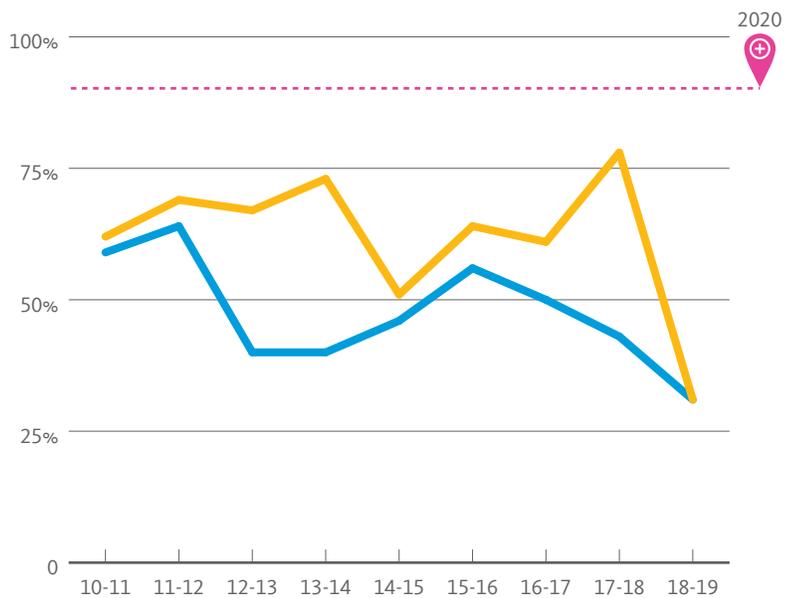
FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 28%
Retail: 4%

UC Merced has met the 2020 goal for residential sustainable food service spend.

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Merced has the following LEED certifications:

Platinum: 8
Gold: 10
Silver: 2
Certified: 0

Number of LEED EBOM projects: 3

UC Merced has met the LEED EBOM project goal.

PROCUREMENT

Goal:

- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 77%

UC Merced has met the green spend goal for cleaning supplies.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:

- Assess three research labs

Progress:
Number of assessed research labs: 6

UC Merced has met the sustainable research lab assessment goal.

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:

Percent of all new light-duty fleet vehicles zero-emission or hybrid: 0%

UC Merced purchased 2 light-duty vehicles this past year.

Alternative commute rate:

Employee: 22%
Overall: 34%

UC Riverside

UC Riverside's solar photovoltaic systems currently provide almost 10 percent of the campus's energy needs throughout the year. Three major solar projects are on line: Parking Lot 30, which also helps shade the campus's largest parking lot; a solar farm adjacent to agricultural research lands; and a smaller system above the parking lot of the College of Engineering's Center for Environmental Research and Technology.

For the fifth year in a row, over 20 percent of food and beverage purchases by UC Riverside's residential restaurants meets UC's sustainability criteria. New partnerships aim to simultaneously cut waste and reduce the amount of student hunger on campus by repackaging unused food from the dining halls to be distributed through the R'Pantry, the on-campus food pantry.

In early 2019, UC Riverside's first LEED Platinum building, the Multidisciplinary Research Building (MRB), opened. The building has five stories and adds 179,000 square feet to campus research space, including a central corridor for shared lab equipment, which reduces the need for duplicative equipment.

This year marked the relaunch of the campus's Green Labs program and the development of a Green Labs Action Plan.

The 312 labs represent some of the highest energy users on campus, and the program aims to find opportunities for efficiencies in operations that are beneficial to the environment, budgets and personnel.

In the 2019 South Coast Air Quality Management District's commute survey, the campus's commute mode split held steady, with close to 40 percent of employees using alternative transportation methods in place of single-occupancy vehicles. The Healthy Campus Initiative supported a bicycle awareness campaign and associated events through a grant initiated by Outdoor Excursions, Transportation and Parking Services, and the Office of Sustainability.

With a landfill diversion rate of 72 percent, the campus continues its efforts to achieve zero waste. This year solar-powered recycling compactors made their first appearance on campus, with eight being installed in strategic locations. A new waste collection method is in development for office and academic buildings.


Credit: Elena Zhukova
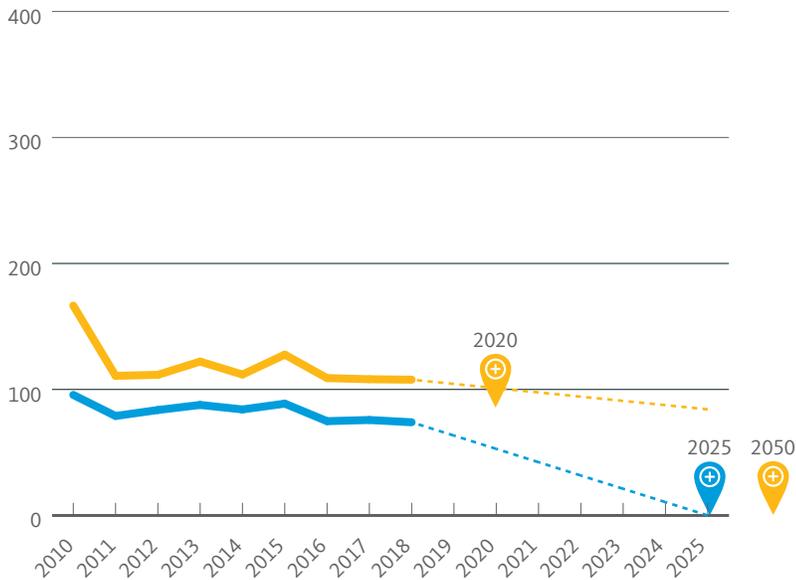
GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO_2e)

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

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

WATER

(Percent reduction in per capita potable water consumption)
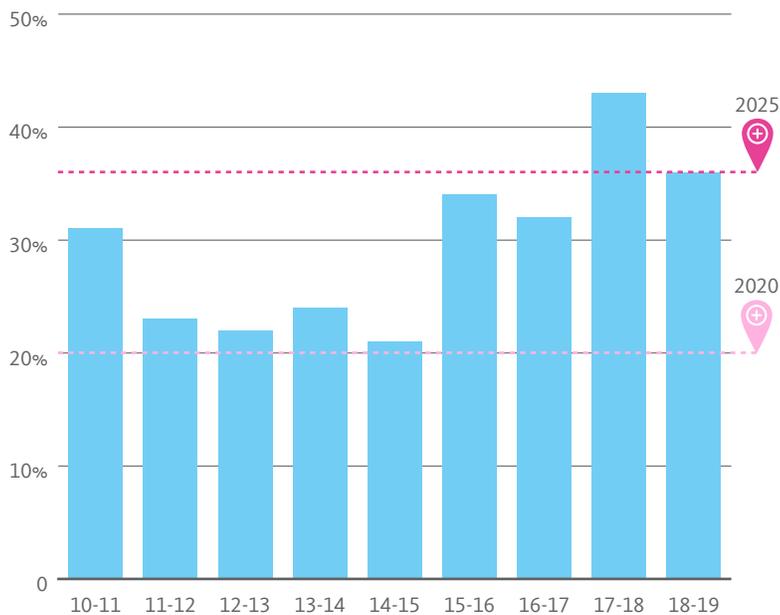
Goal:

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

Progress:
- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 15,591

WASTE

(Daily per capita waste generation in pounds)
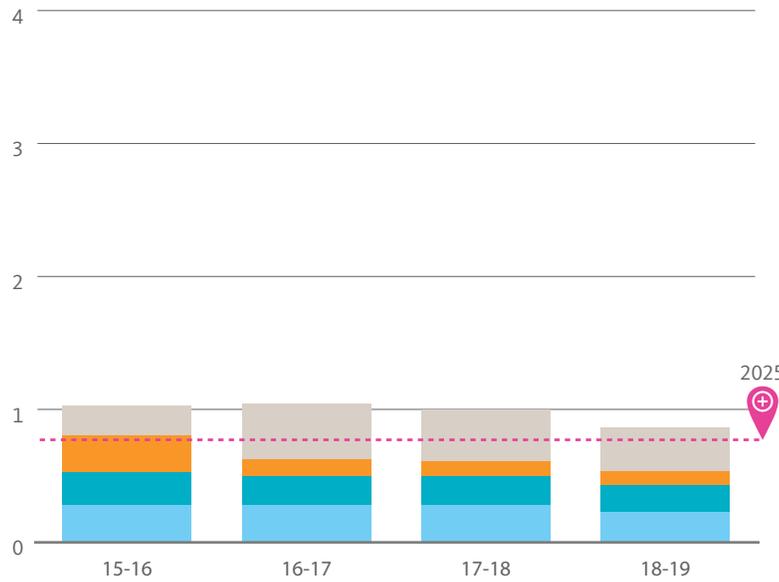
- Recyclables
- Organics
- Allowable conversion
- Landfill

Goals:

- 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

- Zero waste by 2020
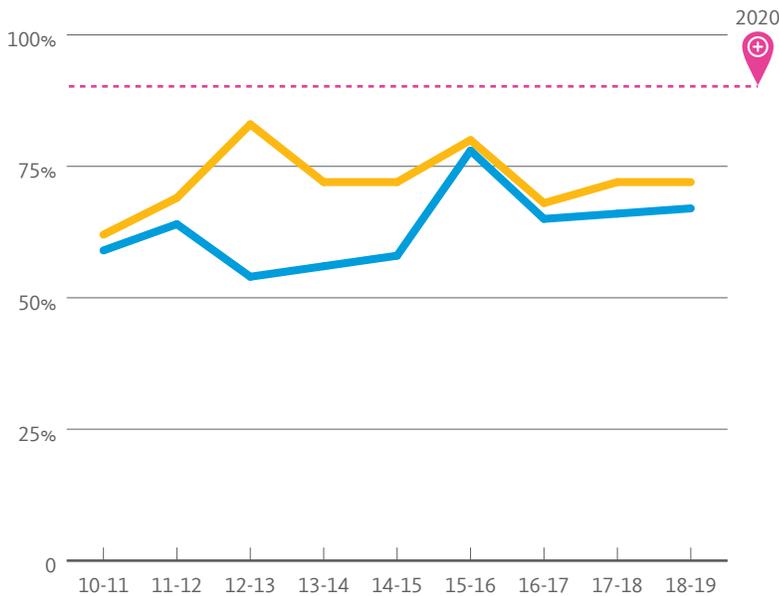
(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 26%
Retail: 10%

UC Riverside has met the 2020 goal for residential sustainable food service spend.

PROCUREMENT

Goal:

- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 90%

UC Riverside has met the green spend goal for cleaning supplies.

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Riverside added one new LEED Platinum building in 2019 to total:

Platinum: 1
Gold: 4
Silver: 1
Certified: 1

Number of LEED EBOM projects: 3

UC Riverside has met the LEED EBOM project goal.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:

- Assess three research labs

Progress:
Number of assessed research labs: 18

UC Riverside has met the sustainable research lab assessment goal.

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 35%

Alternative commute rate:

Overall: 22%
Employee: 40%

UC San Diego

UC San Diego's Tritons are putting their learning into action in order to drive change for sustainability. The student-led Food Recovery Network kept over eight tons of food out of the landfill and instead on the plates of students and community members in need — including nearly six tons of food that went to the university's on-campus food pantry. Interns at the Sustainability Resource Center helped certify 32 laboratories through the campus's Green Labs Program. To date, students and staff have certified 69 labs on campus — the most in the UC system.

UC President Janet Napolitano honored undergraduate student and Bonnie Reiss Carbon Neutrality Initiative fellow Enid Partika '18 with the annual President's Award for Outstanding Student Leadership. One of two students systemwide receiving this commendation, Partika was recognized for her work creating and building an anaerobic digester at a student-run campus garden that turns organic waste into energy and fertilizer. She and fellow Triton Will Tanaka were recognized with a 2019 Lemelson-MIT Student Prize for integrating hydroponics, solar power and biogas production into a single system.

Students studying green building design worked with staff and contractors to help UC San Diego break ground on the North Torrey Pines Living and Learning Neighborhood, which is striving for LEED Platinum in 2021.

Anika Ullah '18 integrated her studies in biology, media arts and environmental health to found Intersectional Health Project San Diego, with the mission of investigating and tackling overshadowed health and social issues in San Diego's border communities. Ullah directed a documentary film about the link between pollution, respiratory health and environmental justice in the California border town of San Ysidro, including exploring the potential of citrus fruit as publicly accessible biosensors for air pollution. Her community-engaged projects and multimedia artworks have been recognized by the U.S. Congress, TEDx Talks, Museum of Contemporary Art San Diego, CalEPA and others.

But perhaps Chengcheng Fang, a materials science and engineering Ph.D. student at the Meng Lab in the Jacobs School of Engineering, best personifies the convergence of education and sustainability. Fang led a research team that discovered why lithium metal batteries fail. An essential part of the next generation of battery technologies, lithium metal batteries have the potential to last longer and weigh less than lithium ion batteries. Fang and her team's research could potentially double the range of electric vehicles — a literal driving force for sustainability.


Anika Ullah. Credit: Erik Jepsen

GREENHOUSE GAS EMISSIONS
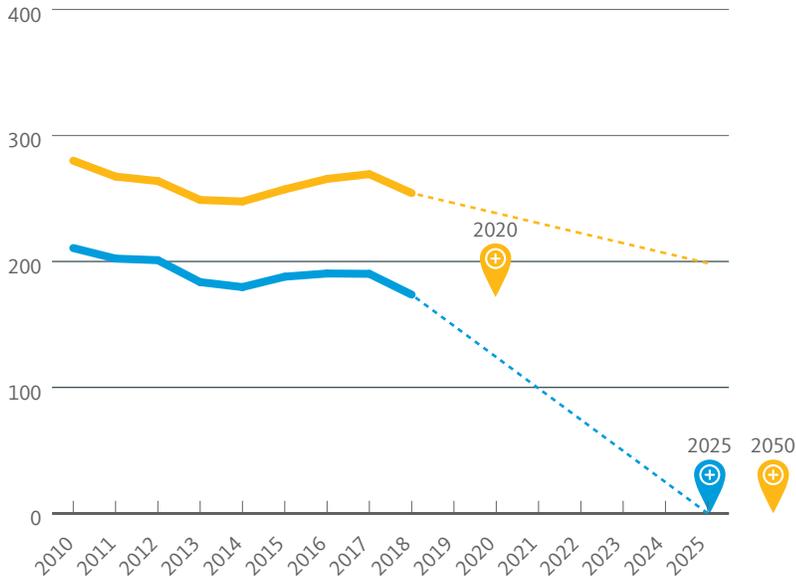
(1,000 metric tons CO_2e)

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

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

WATER

(Percent reduction in per capita potable water consumption)
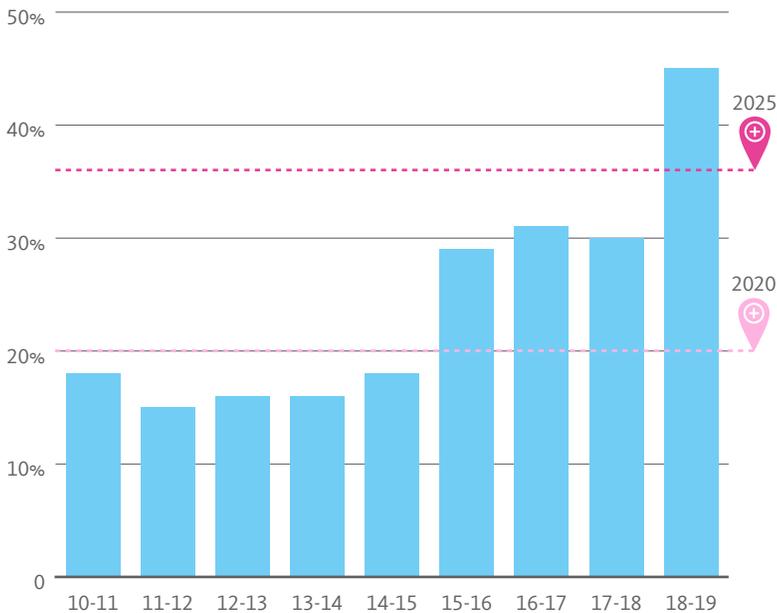
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
- ● 2020 goal met
- ● 2025 goal met

2018-19 gallons per capita: 12,684

WASTE

(Daily per capita waste generation in pounds)
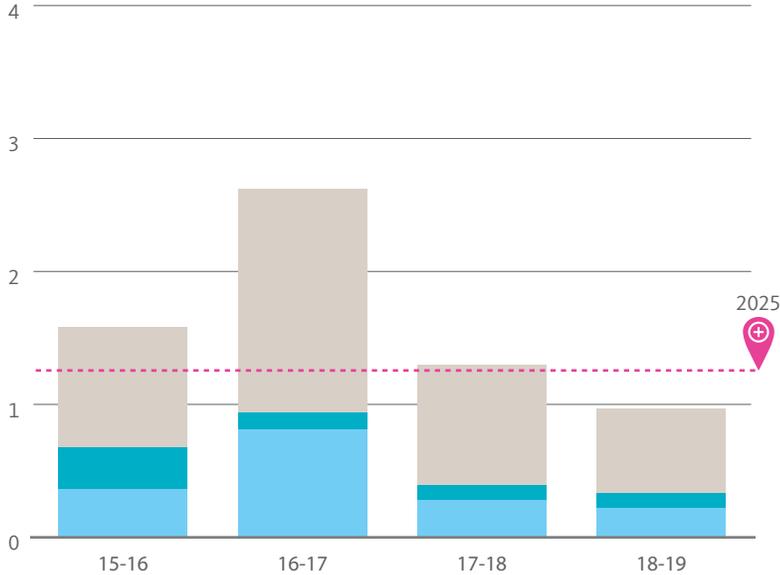
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)
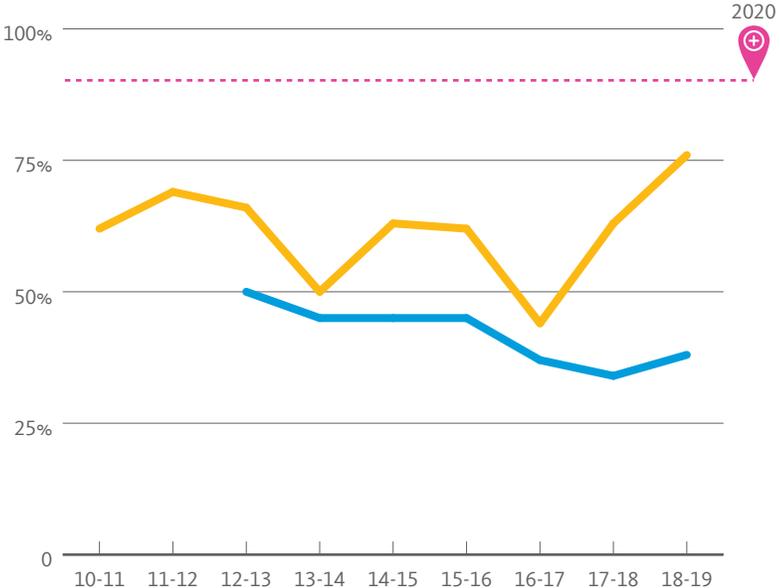
FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 24%
Retail: 22%

UC San Diego has met the 2020 goal for residential and retail sustainable food service spend.

PROCUREMENT

Goal:
- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 84%

UC San Diego has met the green spend goal for cleaning supplies.

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

GREEN BUILDING

Goals:
- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC San Diego has the following LEED certifications:

Platinum: 4
Gold: 23
Silver: 12
Certified: 2

Number of LEED EBOM projects: 3

UC San Diego has met the LEED EBOM project goal.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:
- Assess three research labs

Progress:
Number of assessed research labs: 69

UC San Diego has met the sustainable research lab assessment goal.

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 74%

UC San Diego has met the light-duty fleet vehicle goal.

Alternative commute rate:

Employee: 55%

UC San Francisco

With a mission of advancing health worldwide, UC San Francisco recognizes the impact of climate change on global health and is working to advocate climate action through the lens of health. UC San Francisco has faculty representation on the Medical Consortium on Climate and Health and Physicians for Social Responsibility as well as other professional organizations. UC San Francisco's Institute for Global Health Sciences hosted the Global Climate and Health Forum ahead of Governor Brown's Climate Action Summit with 250 dignitaries from around the world in attendance.

UC San Francisco's newly formed Human Health and Climate Change student group mobilizes students to take action by creating awareness and enacting change around climate-health issues. Carbon Neutrality Initiative fellows work to engage students and faculty across the school. The Program on Reproductive Health and the Environment and the Pediatric Environmental Health Speciality Unit work to create resources to educate health professionals and families on reducing chemical exposures that affect childhood development.

For the past several years, UC San Francisco 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 UC San Francisco School of Medicine's Bridges Curriculum, a visionary four-year curriculum launched in 2016, has already incorporated environmental health material into its Life Stages Block and its Core Inquiry Curriculum.

The Environmental Health Initiative — a collaborative transdisciplinary network of academics across UC San Francisco committed to solving the growing burden of chronic diseases by identifying and preventing harmful environmental exposures — is spearheading the move to further integrate environmental health into the UC San Francisco medical curriculum.


Physician faculty and students at the Climate Strike. Credit: Bradley Heinz.

GREENHOUSE GAS EMISSIONS
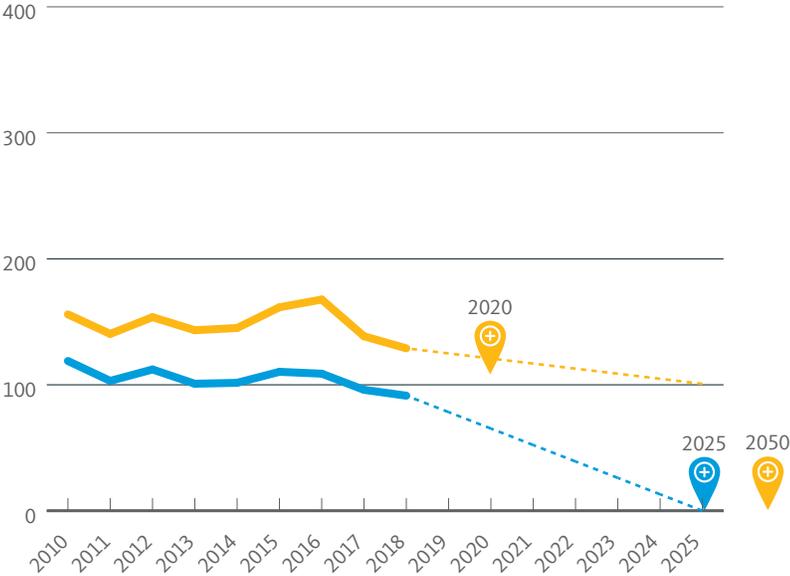
(1,000 metric tons CO$_2$e)

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

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

WATER

(Percent reduction in per capita potable water consumption)
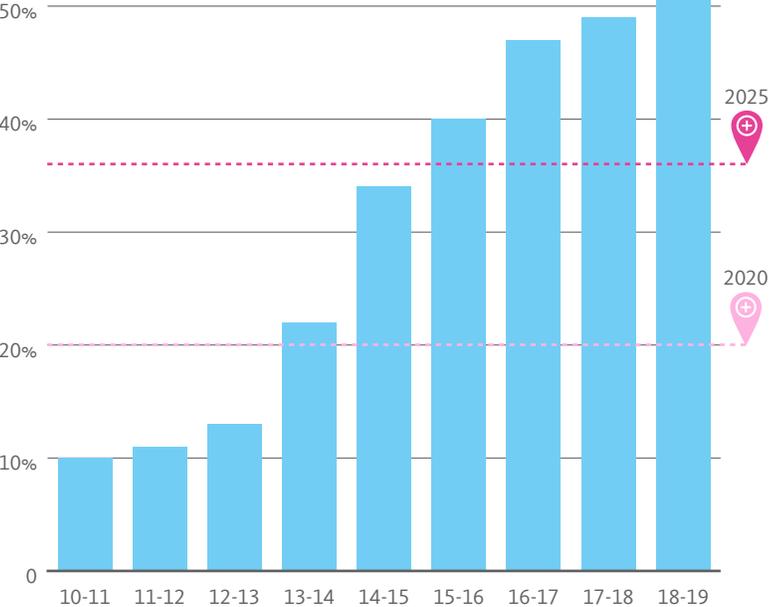
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
- 2020 goal met
- 2025 goal met

2018-19 gallons per capita: 8,818

WASTE

(Daily per capita waste generation in pounds)
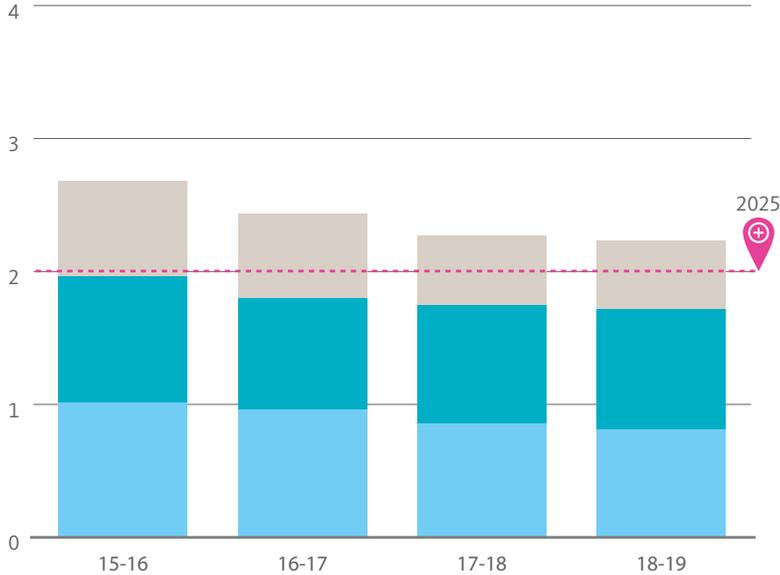
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020

2025

	15-16	16-17	17-18	18-19

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

2020

	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
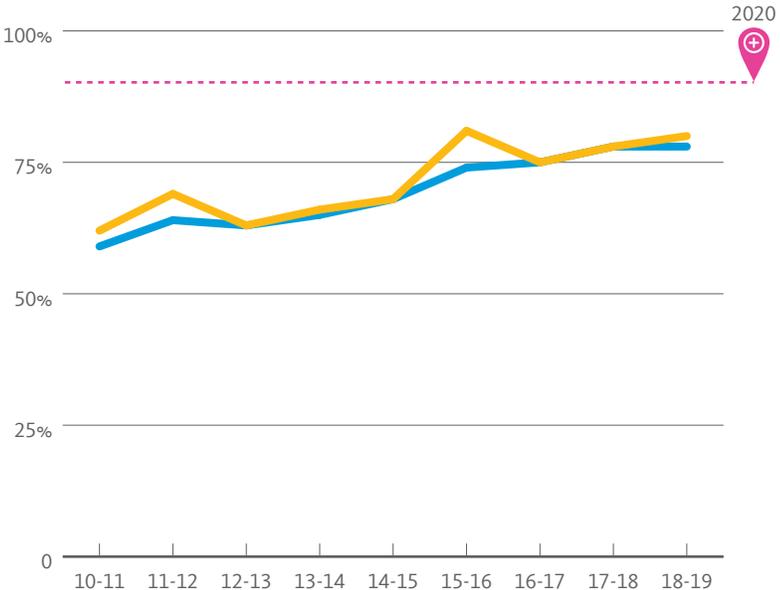
FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Retail: 56%

UC San Francisco has met the 2020 goal for residential and retail sustainable food service spend.

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC San Francisco has the following LEED certifications:

Platinum: 0
Gold: 10
Silver: 7
Certified: 4

Number of LEED EBOM projects: 2

UC San Francisco has met the LEED EBOM project goal.

PROCUREMENT

Goal:

- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 82%

UC San Francisco has met the green spend goal for cleaning supplies.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:

- Assess three research labs

Progress:
Number of assessed research labs: 28

UC San Francisco has met the sustainable research lab assessment goal.

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 100%

UC San Francisco has met the light-duty fleet goal.

Alternative commute rate:

Employee: 75%
Overall: 75%

UC San Francisco has met the employee and overall alternative commute goals.

UC Santa Barbara

UC Santa Barbara is committed to global leadership in sustainability through education, research and action. Over the past two years, the campus launched several programs to help increase food security on campus and in 2019 won a best practice award in sustainable food service for Housing, Dining, and Auxiliary Enterprises' (HDAE) Miramar Food Pantry. Fully funded by HDAE, the pantry offers free food items, including fresh produce and other healthy options, to students in need. Additionally, the Edible Campus Program Student Farm broke ground in October 2018 and had its soft launch in February 2019. All the food grown at the farm is donated to the Associated Student Food Bank.

UC Santa Barbara integrated concepts of sustainability and climate change into curricula and used the campus as a living laboratory for learning new and improving technologies. For example, more than half of academic departments offer at least one course related to sustainability, and this past year the campus supported 84 paid student interns in the UC Santa Barbara Sustainability Internship Program. Additionally, an Environmental Leadership Incubator was launched.

Faculty-led teams at the Institute for Energy Efficiency and the Bren School are developing innovative international carbon offset programs that also serve to address social inequities. For example, Unite to Light has successfully provided solar lamps to students across the globe. Unite to Light also began a pilot project to help entrepreneurs in Rwanda and Uganda sell solar lights. These small businesses will create income, reduce pollution and fire risks, and generate carbon credits and research opportunities for UC.

Through collaboration between staff and researchers across Procurement, Grounds, and Custodial Services, and the Holden Laboratory at Bren, with funding from vendors and the UC Healthy Campus Network, a study was conducted to analyze the efficacy of a safer, less toxic product for restroom cleaning and disinfection. The results found significant reduction of selected bacterial populations and potential pathogens.

*The Edible Campus Program's student farm*

GREENHOUSE GAS EMISSIONS
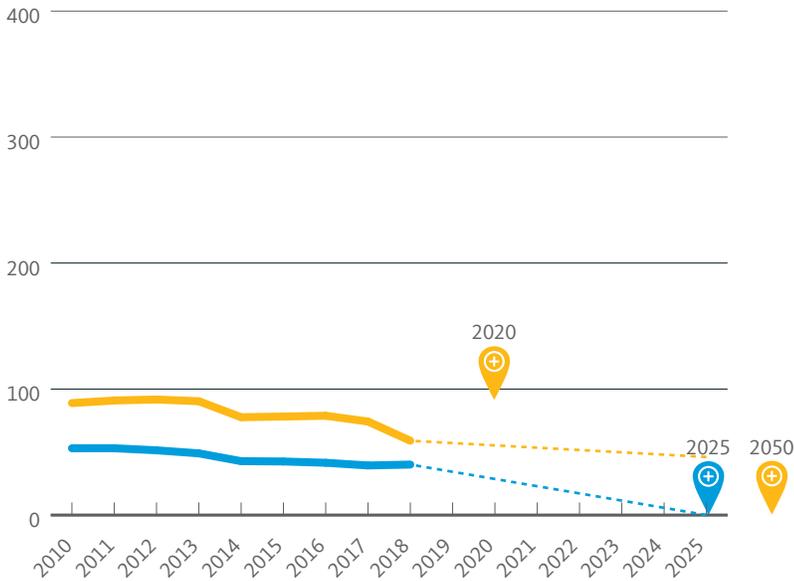
(1,000 metric tons CO_2e)

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

Goals:
- 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

WATER

(Percent reduction in per capita potable water consumption)
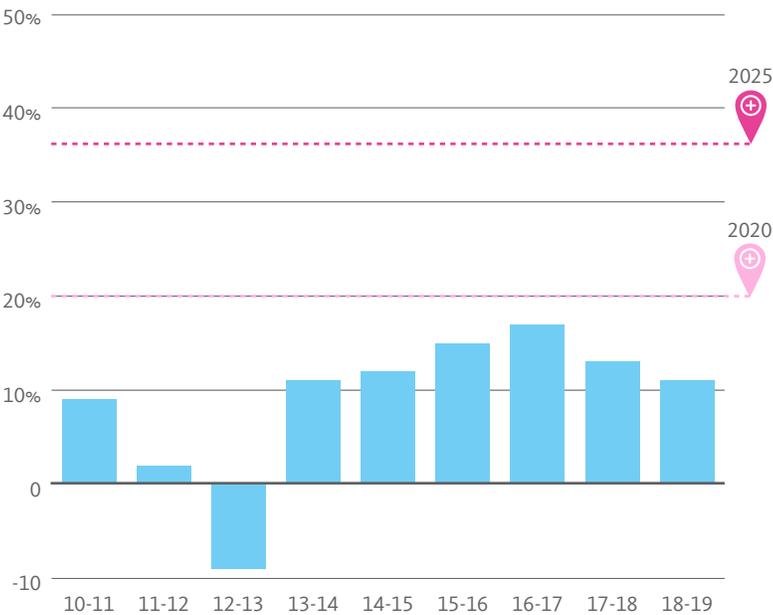
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:

2018-19 gallons per capita: 9,581

WASTE

(Daily per capita waste generation in pounds)
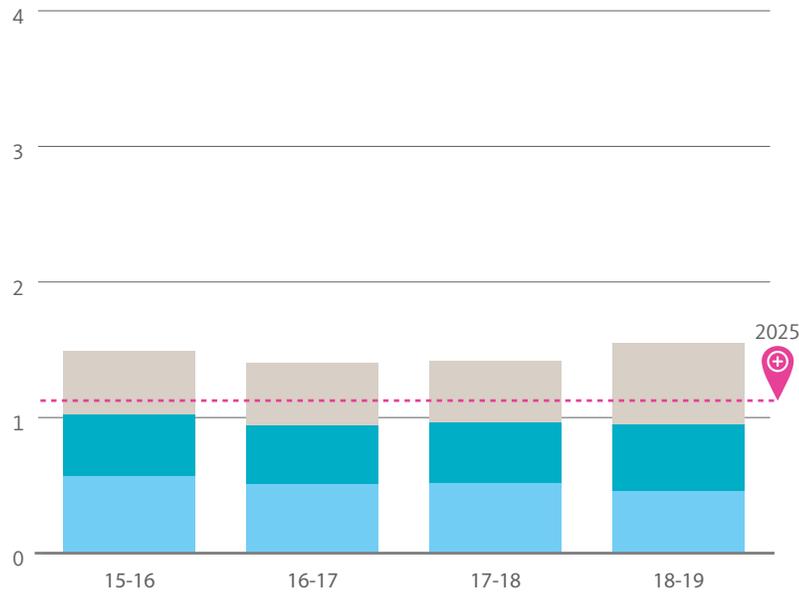
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)
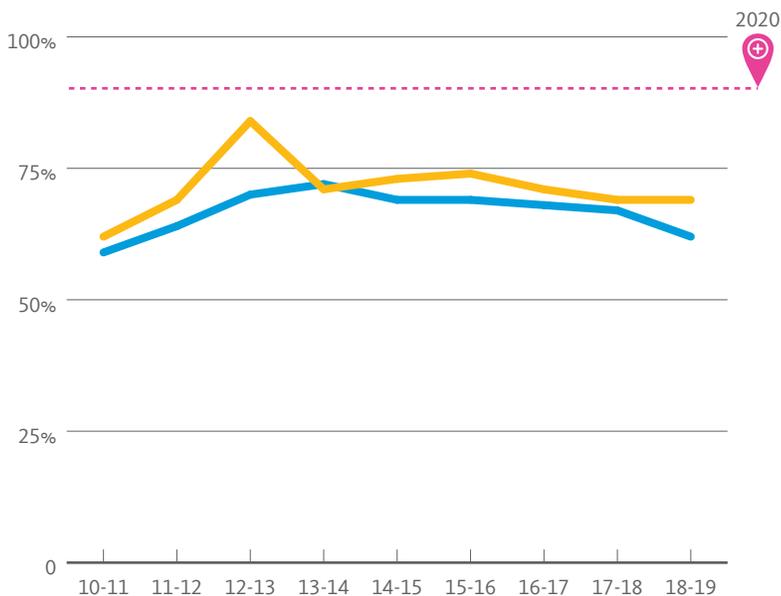
FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 35%
Retail: 23%

UC Santa Barbara has met the 2020 goal for residential and retail sustainable food service spend.

PROCUREMENT

Goal:
- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 64%

UC Santa Barbara has met the minimum green spend target for cleaning supplies (75% is the preferred goal in this category).

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 62%

UC Santa Barbara has met the light-duty fleet vehicle goal.

Alternative commute rate:

Employee: 39%
Overall: 83%

UC Santa Barbara has met the overall alternative commute goal.

GREEN BUILDING

Goals:
- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Santa Barbara has the following LEED certifications:

Platinum: 13
Gold: 40
Silver: 15
Certified: 2

Number of LEED EBOM projects: 13

UC Santa Barbara has met the LEED EBOM project goal.

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:
- Assess three research labs

Progress:
Number of assessed research labs: 59

UC Santa Barbara has met the sustainable research lab assessment goal.

UC Santa Cruz

UC Santa Cruz debuted as the second-best university in the country for social mobility in U.S. News & World Report's first-ever social mobility list, recognizing decades of leadership the campus has provided around the issues of diversity, equity and inclusion (DEI). In 2018, UCSC admitted more than 9,500 first-generation college students from California, and 8,722 of the admitted UC Santa Cruz students were from low-income families.

UC Santa Cruz is proud to continue DEI leadership through the People of Color Sustainability Collective (PoCSC). The group aims to further develop the campus's leadership in environmental justice, recognize changing demographics and pressing ecological challenges, and raise awareness about the contributions that people of color have made to the environmental sustainability movement.

The Sustainability Office's Sustainability Certificate Program for faculty, staff and graduate students was formally institutionalized after a successful pilot year. The program examines sustainability through multiple half-day workshops on diverse topics, including waste reduction, social justice, climate science, policy and behavior change.

The campus's academic options in sustainability also grew this year with a new graduate program in coastal science and policy.

It is an interdisciplinary master's degree program that prepares students to design and implement solutions to the complex social, ecological and technological problems facing the world's coastal ecosystems and communities. Additionally, one of UC Santa Cruz's living lab programs, Impact Designs: Engineering and Sustainability through Student Service (IDEASS), partnered an undergraduate research class with staff members of multiple operational departments to complete a LEED EBOM feasibility study for three campus buildings.

Other highlights include the development of the new Cowell Coffee Shop for the Peoples, an innovative non-transactional food store and cafe to support food insecure students. The 25-acre Center for Agroecology and Sustainable Food Systems (CASFS) — ranked sixth-best college farm by Best Value Schools — helps provide fresh produce to the program. In transportation, Fleet Services completed a full switch from diesel to biodiesel fuel for campus-owned vehicles. This switch of approximately 90,000 gallons a year will reduce Fleet's emissions by one-third and UC Santa Cruz's total gross emissions by approximately 2.2 percent.

GREENHOUSE GAS EMISSIONS
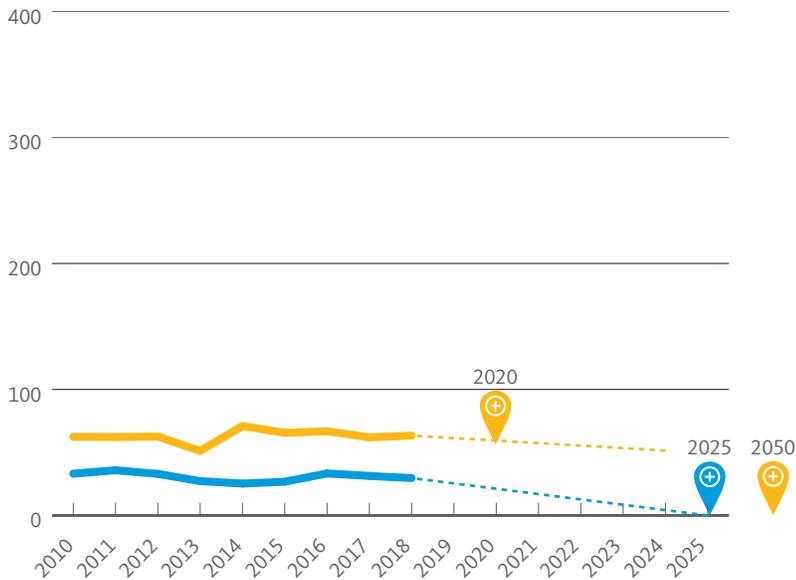
(1,000 metric tons CO_2e)

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

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

WATER

(Percent reduction in per capita potable water consumption)
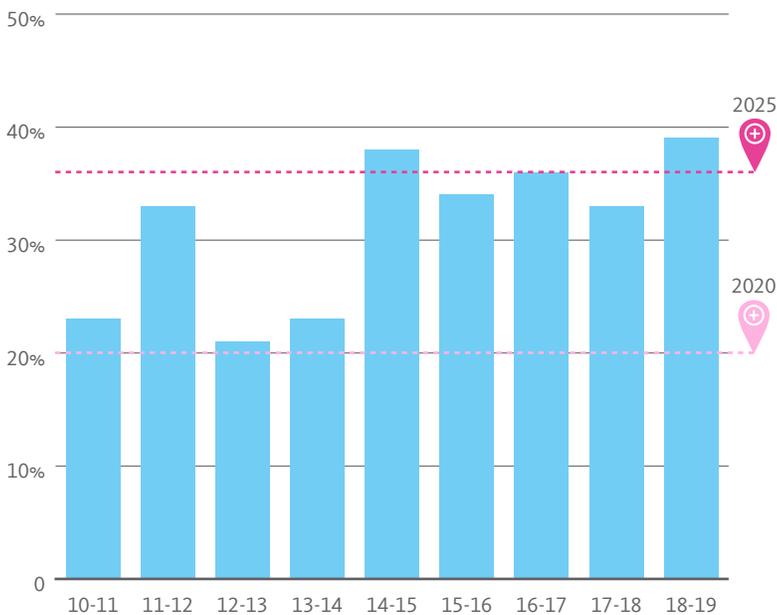
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:

2018-19 gallons per capita: 8,461

- ● 2020 goal met
- ● 2025 goal met

WASTE

(Daily per capita waste generation in pounds)
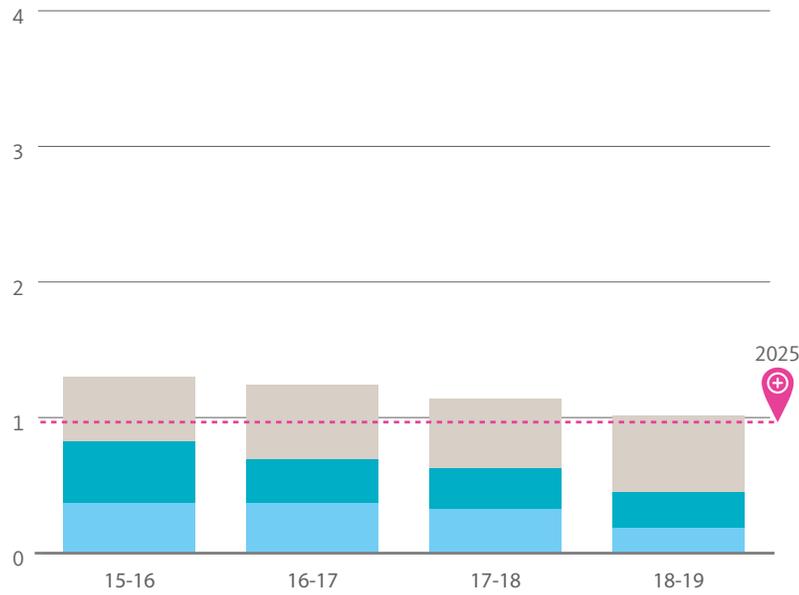
- Recyclables
- Organics
- Landfill

Goals:

- 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
- Zero waste by 2020
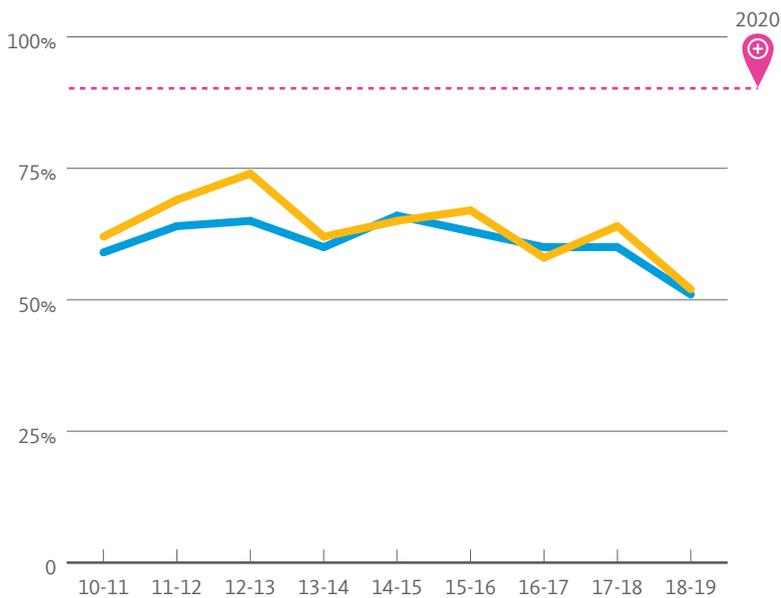
(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Residential: 24%
Retail: Data not provided

UC Santa Cruz has met the 2020 goal for residential sustainable food service spend.

PROCUREMENT

Goal:
- 25% green spend as a total percentage of spend per product category

Progress:
Cleaning supplies: 89%

UC Santa Cruz has met the green spend goal for cleaning supplies.

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 20%

UC Santa Cruz purchased five light-duty vehicles and one was a hybrid.

Alternative commute rate:

Employee: 49%
Overall: 72%

UC Santa Cruz has met the overall alternative commute goal.

GREEN BUILDING

Goals:
- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UC Santa Cruz has the following LEED certifications:

Platinum: 0
Gold: 7
Silver: 5
Certified: 1

Number of LEED EBOM projects: 0

SUSTAINABLE BUILDING OPERATIONS AND LABS

Goal:
- Assess three research labs

Progress:
Number of assessed research labs: 32

UC Santa Cruz has met the sustainable research lab assessment goal.

UC Davis Health

In 2019, UC Davis Health won a Practice Greenhealth Emerald Award for outstanding hospitals focused on advanced sustainability programs, as well as Greening the OR Recognition, which is awarded to hospitals that have made substantial strides in promoting sustainable practices in operating rooms.

In addition to a Circle of Excellence Award for Climate, highlighting hospitals at the forefront of tracking and measuring carbon dioxide emissions and developing climate programs, UC Davis Health also garnered a Circle of Excellence Award for Green Building, presented to hospitals demonstrating innovative green building achievements over the past five years. Toward that end, the recently completed North Addition to UC Davis Medical Center has received LEED Platinum certification.

Educating the health community and the general public through sustainable food practices is one area where UC Davis Health is leading the way. About 6,500 meals are served each day at the medical campus's cafes, and Executive Chef Santana Diaz, who oversees the area's largest "farm-to-fork" food service, aims to source all ingredients within a 250-mile radius of Sacramento. In 2019, UC Davis Medical Center became the first hospital in the nation to earn a James Beard Foundation Smart Catch Leader designation, recognizing Food and Nutrition Services' commitment to sourcing clean, sustainable seafood.

UC Davis Health also consistently educates staff about sustainable practices. In addition to actively promoting participation in events such as the Cool Campus Challenge (UC Davis Health finished second among the health campuses), California Clean Air Day and Bike to Work Day, UC Davis Health has made significant strides in making it easier for employees to choose green commute options. In the past year, UC Davis Health has rolled out financial incentives to encourage Sacramento Regional Transit ridership, provided special offers for ZipCar car-sharing services, offered free bike clinics, substantially increased the number of bike racks and launched a new shuttle service connecting the medical campus with Elk Grove, a Sacramento suburb.

Looking ahead to fiscal year 2019-20, hospital leadership has set a goal of reducing red bag waste by 2 percent, or 26,000 pounds. This campaign represents UC Davis Health's commitment to further educating its staff and continuing to build on the system's momentum in achieving its sustainability vision.

WATER

(Percent reduction in per capita potable water consumption)
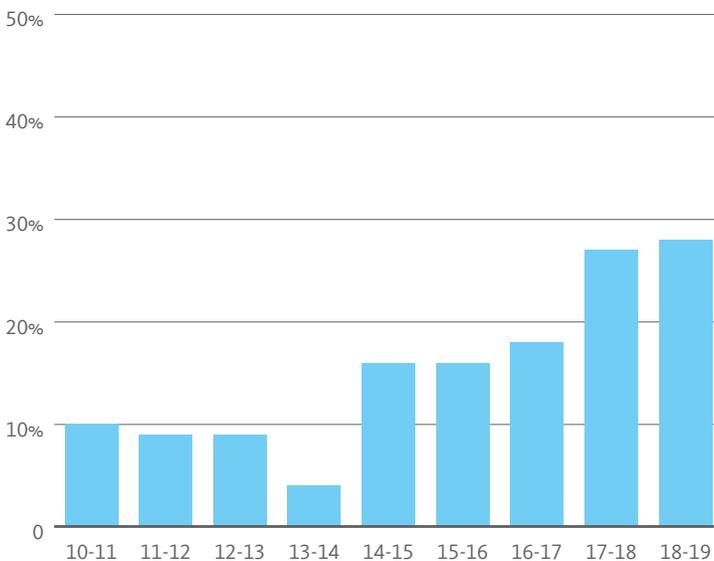
Goal:
- UC Davis Health is working to develop specific water reduction goals by 2020.

Progress:
2017-18 gallons per capita: 525

SOLID WASTE DIVERTED FROM LANDFILL
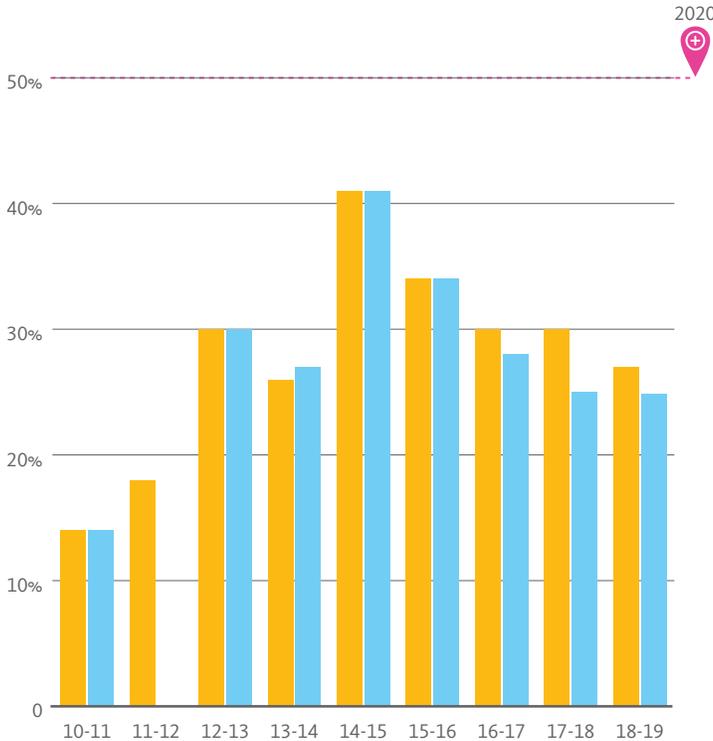
● Municipal solid waste (no C+D)
● Total waste

Goal:
- UC Davis Health is working to develop specific waste diversion goals by 2020

2020

FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Percent of food spend from sustainable products: 45%

UC Davis Health has met the 2020 sustainable food service spend goal.

TRANSPORTATION

Goals:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025
- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 56%

UC Davis Health has met the light-duty fleet vehicle goal.

Alternative commute rate:

Employee: 21%
Overall: 22%

UC Irvine Health

The UC Irvine Health System Sustainability Team expanded to include new Environmental Service and Dietary partners. The team revised its internal metric reporting tool used to track sustainability metrics identified through the Practice Greenhealth partnership. The team is now developing specific strategies for waste diversion and reduction for 2020, especially given the health system's new waste diversion goal of 50 percent by 2020.

UC Irvine Health also conducted a campuswide exterior lighting assessment to identify inadequate and inefficient fixtures with recommendations for energy efficient alternatives. Additionally, the Energy Management team at the health system completed comprehensive energy audits on the most energy-intensive buildings, which make up 65 percent of the campus's total square footage; 27 energy conservation measures were identified and included in a five-year energy efficiency plan with an estimated cost savings of over $3 million.

The health system also supported the grassroots efforts of clinical staff to divert outdated and unused medical equipment and supplies to the Not Just Tourists program, which has resulted in the annual diversion of over 3,000 pounds of otherwise wasted materials from the landfill.

Recycling and redistributing medical supplies to international care providers

WATER

(Percent reduction in per capita potable water consumption)
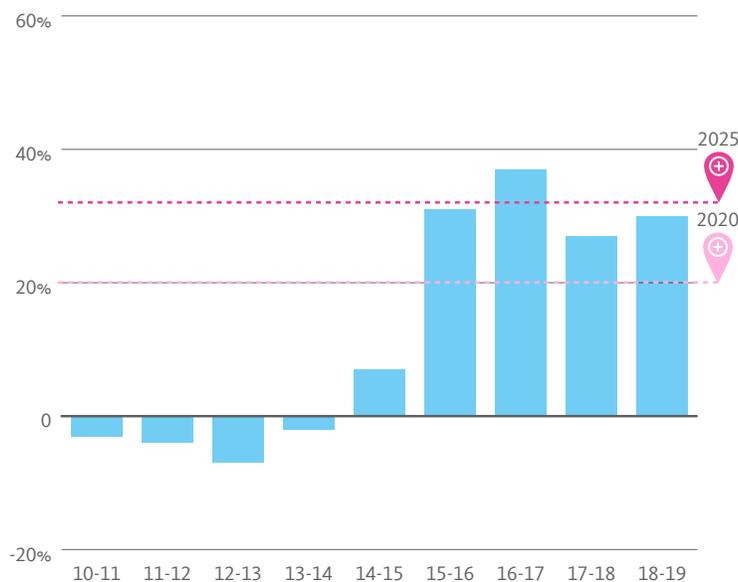
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025.

Progress:
2018-19 gallons per capita: 451

● 2020 goal met

Water reduction increased 3% from last year. The increase can be attributed to a new cooling tower that came online in Q3 2018. UC Irvine Health continued training throughout 2018 to implement a water monitoring program and reduce potable water consumed for irrigation.

SOLID WASTE DIVERTED FROM LANDFILL
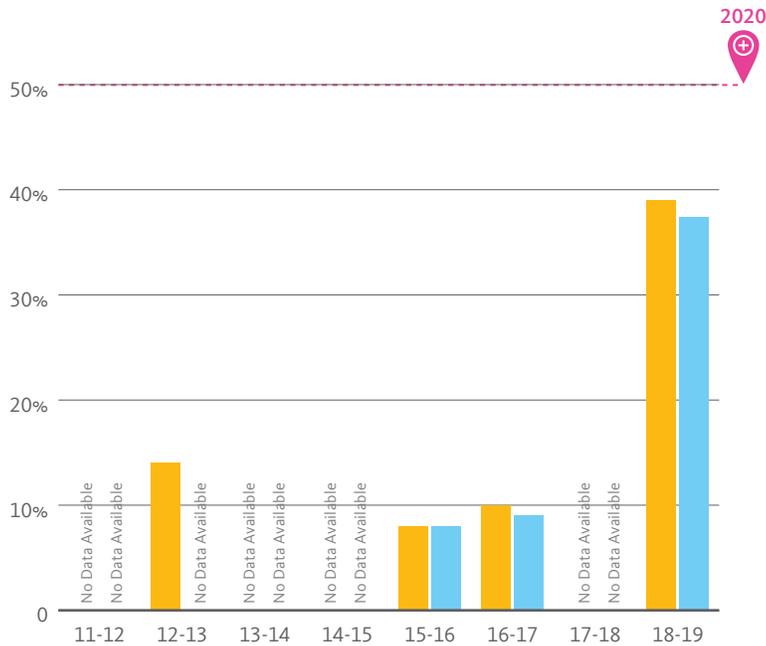
- Municipal solid waste (no C+D)
- Total waste

Goal:

- 50% diversion by 2020

Progress:

UC Irvine Health established a waste reduction commitee to develop protocols for tracking waste metrics and identify waste reduction strategies.

2020

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19

(Chart: 50% goal line shown dashed. Bars — 11-12: No Data Available; 12-13: ~14.5% Municipal, No Data Available Total; 13-14: No Data Available; 14-15: No Data Available; 15-16: ~8% Municipal, ~8% Total; 16-17: ~10% Municipal, ~9% Total; 17-18: No Data Available; 18-19: ~39% Municipal, ~37.5% Total)

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:

Percent of food spend from sustainable products: Not reported

UC Irvine Health is in the process of establishing processes to track and measure the amount spent on sustainable products.

TRANSPORTATION

Goal:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025

Progress:

UC Irvine Health's fleet data is included with the campus data. See UC Irvine's campus profile for details on progress.

UCLA Health

UCLA Health was honored with the Practice Greenhealth Partner for Change award this year. The health system has focused on integrating its sustainability program into its clinical initiatives by creating committees, chaired and supported by senior leadership, to green the operations rooms and labs.

From October 2018 to April 2019 UCLA Health did not have a sustainability manager. During the summer months, a portable chiller was needed and took the place of the recycling compactor at the Santa Monica hospital due to minimal dock capacity. Additionally, three new compactors (two trash and one recycling) were installed at UCLA Ronald Reagan Medical Center. Because waste and recycling streams had to be combined during installation, diversion was adversely affected, but the health system expects to see improved diversion and cost savings going forward.

UCLA Health continued its single-use device reprocessing program and achieved nearly $400,000 in savings during the fiscal

year. It expanded the number of electric-vehicle (EV) charging stations at its Santa Monica hospital and purchased its first all-electric bus to transport supplies and staff members. It also began purchasing 100 percent renewable energy for its Santa Monica hospital through the Clean Power Alliance.

Integrating sustainability into education for nursing and medical students is a priority for UCLA because they are the sustainability champions of tomorrow. Working with the UCLA campus sustainability team, UCLA Health's sustainability manager participates in lectures to nursing students and is working with medical students to add curriculum focused on climate change and public health. Additionally, UCLA Health has forged partnerships between its Community Engagement teams and the UCLA Fielding School of Public Health to address climate-vulnerable populations in the greater Los Angeles area.

SOLID WASTE DIVERTED FROM LANDFILL
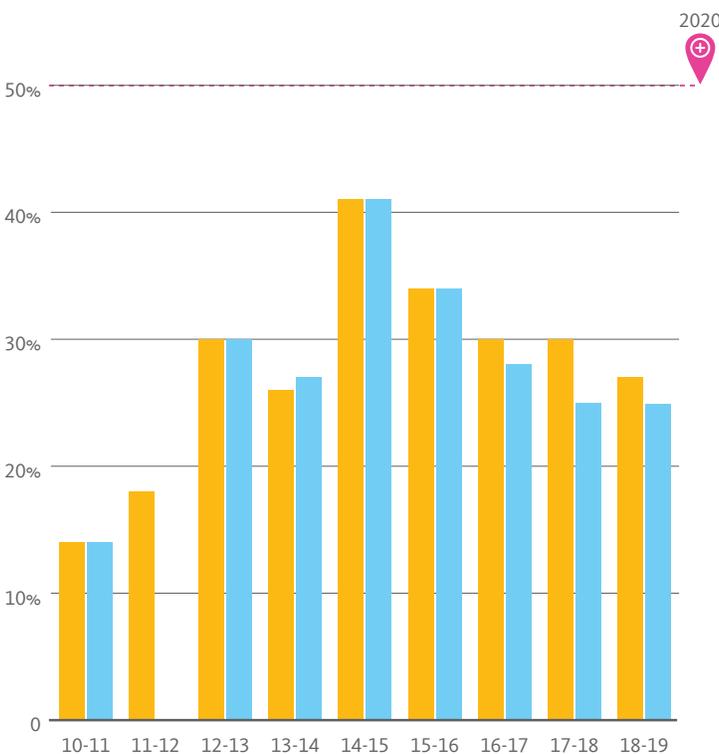
● Municipal solid waste (no C+D)
● Total waste

Goals:

- 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:

During the summer months, a portable chiller was needed and replaced the recycling compactor at Santa Monica hospital due to minimal dock capacity. Additionally, three new compactors (two trash and one recycling) were installed at its main Ronald Reagan hospital. These projects adversely impacted the health system's total diverted recycling tonnage during their implementation, but it expects to see improved diversion and cost savings going forward.

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:
Percent of food spend from sustainable products: 21%

UCLA Health has met the 2020 sustainable food service spend goal.

TRANSPORTATION

Goals:

- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025

- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:

- UCLA Health's fleet is included with the campus fleet data. See UCLA's campus profile for details on progress.

- UCLA Health's commute mode split is included with the campus commute mode split data. See UCLA's campus profile for details on progress.

WATER

Note:

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

UCLA Health's first all-electric bus, purchased from Build Your Dream (BYD). Credit: Martin Lingard

UC San Diego Health

UC San Diego Health has demonstrated continuous improvement in sustainability programs, achieving Practice Greenhealth Greening the Operating Room recognition and a second Partner for Change award.

UC San Diego Health's Ongoing Energy Commissioning Program was active throughout the year. Fifty areas of operational energy waste were identified, and 25 have been fully addressed, achieving annual energy savings of over 20,000 MMBTU. UC San Diego Health Facilities Engineering won the UCSD Outstanding Department Sustainability Award for collaborative and ongoing strategies to reduce energy consumption.

In alignment with the Cool Food Pledge to reduce greenhouse gas emissions from food by 25 percent by 2030, UC San Diego Health's Food and Nutrition Services Team offered new menus beginning in fall 2019, including 20 vegan Ornish Lifestyle Medicine entrees and a variety of vegetarian options.

UC San Diego Health is in the process of establishing more transparent waste and cost tracking and will set a waste reduction goal by January 2020. Current waste created is about 30 pounds of total waste per adjusted patient day (APD). While disposing of almost 3,200 tons of regular trash last year, at a cost of almost $1.2 million, the health system also recycled and composted over 2,200 tons of materials. An RFP for waste services is underway, to be awarded in winter. Challenges include finding recyclers for food waste, blue wrap, cardboard and wood pallets. Other challenges include expanding recycling programs and educating staff, physicians, patients and families on proper segregation.

FDA-approved reprocessing/remanufacturing programs for single-use devices have room for growth at UC San Diego Health, for both waste reduction and financial savings. Potential procurement savings of $1 million have been identified.

Environmental Services (EVS) successfully exceeded the 25 percent required spend on green cleaning supplies, achieving 40 percent sustainable cleaning and restroom supplies. This includes 89 percent sustainable paper products, 70 percent sustainable hand care products and 2 percent green chemicals.


UC San Diego Health's Nursing Team members, participating in the Cool Campus Challenge. Credit: Barbara Hamilton

SOLID WASTE DIVERTED FROM LANDFILL

- Municipal solid waste (no C+D)
- Total waste
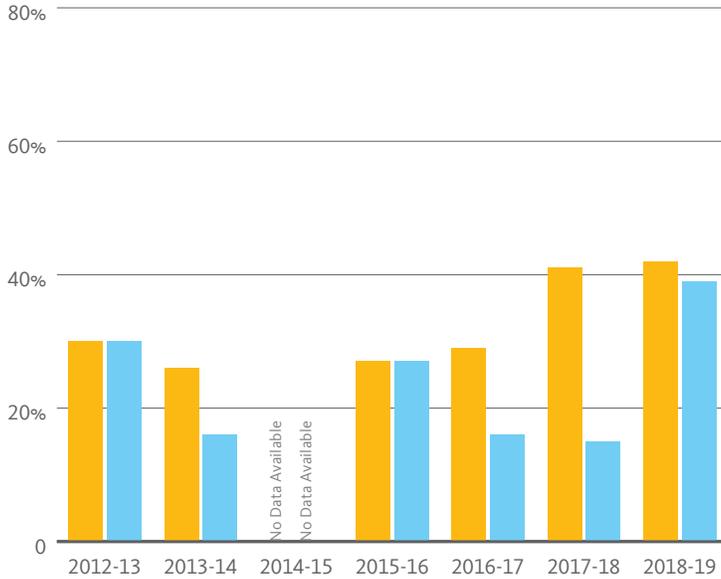
Goal:
- UC San Diego Health is working to develop specific waste diversion goals by 2020

FOOD

Goal:
- 20% of food service spend to be from sustainable products by 2020

Progress:
Percent of food spend from sustainable products: 24%

UC San Diego Health has met the 2020 sustainable food service spend goal.

TRANSPORTATION

Note:
UC San Diego Health's fleet is included with the campus fleet data. See UC San Diego's campus profile for details on progress.

WATER

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.

UC San Francisco Health

UC San Francisco Health is a longtime member of Practice Greenhealth and received the Emerald Award this year by supporting and promoting sustainability solutions that benefit patients, employees, communities, financial security and the climate. UC San Francisco was also recognized by Becker's Hospital Review as one of the greenest hospitals in the U.S. Sustainability has been embedded into everyday practices such as the reprocessing of surgical and non-surgical single-use medical devices, saving over $3 million per year. Other practices include waste reduction through recycling and compost, and new construction beyond LEED building standards to include the elimination of environmental exposure hazards in furnishings and interiors. UC San Francisco continues to be challenged by stricter waste sorting requirements through local ordinances.

WATER

(Percent reduction in per capita potable water consumption)
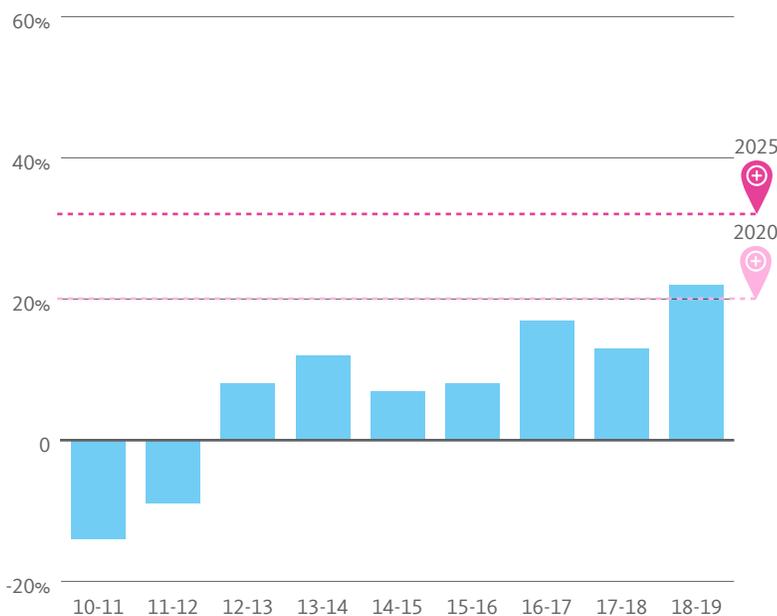
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
2018-19 gallons per capita: 296

● 2020 goal met.

SOLID WASTE DIVERTED FROM LANDFILL
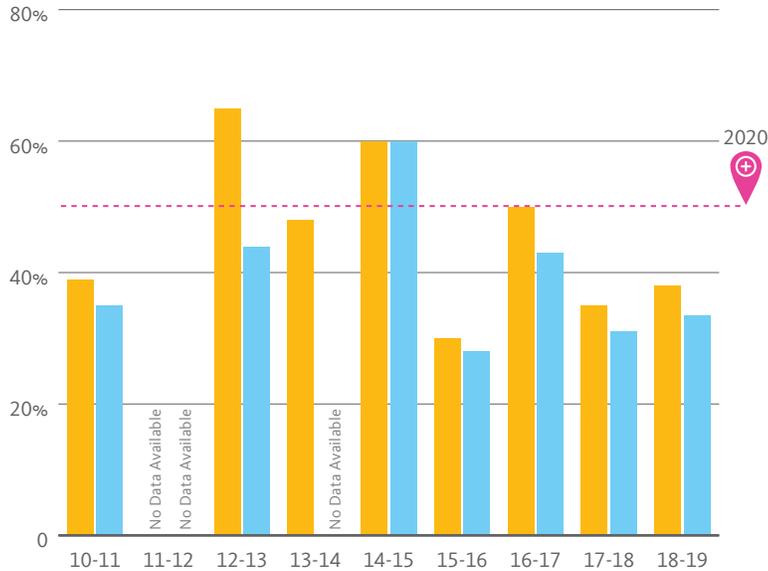
● Municipal solid waste (no C+D)

● Total waste

Goals:

- By 2020, 50% of total solid waste diverted from landfill and incineration

- By 2020, 40 lbs of total solid waste per Adjusted Patient Day

FOOD

Goal:

- 20% of food service spend to be from sustainable products by 2020

Progress:

Percent of food spend from sustainable products: 27%

UC San Francisco Health has met the 2020 sustainable food service spend goal.

TRANSPORTATION

Goal:

- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:

UC San Francisco Health's commute mode split is included with the campus commute mode split data. See UC San Francisco's campus profile for details on progress.

Agriculture and Natural Resources

UC's Division of Agriculture and Natural Resources (ANR) is the 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 on five campuses and in county offices throughout the state, enabling them to deliver programs to California's 58 counties. UC ANR also operates nine Research and Extension Centers (RECs), which provide research services and extend science-based solutions to promote sustainability.

Examples of how UC ANR is improving sustainable practices at its RECs and for the public through its research and extension efforts follow:

- South Coast REC used 54.2 million gallons of tertiary treated reclaimed water for agricultural and landscape research and its general landscaping.

- West Side REC converted landscape areas from sprinklers to drip irrigation and improved automation of its water treatment plant to reduce waste water. West Side REC further uses compost materials from events and harvest operations to enrich the soil in its agricultural fields.

- To protect California oaks from the invasive golden spotted oak borer beetle, UC ANR researchers shared best practices leading to the treatment of 14,800 acres of woodlands involving 100 cooperators.

- An agricultural groundwater banking index was developed by a UC ANR scientist and is being used to support reports required by the Sustainable Groundwater Management Act.

- Marin County UC Master Gardeners help Garden Walks participants save 9,000 gallons of water per year, resulting in 27 million gallons over the lifetime of the program.

- The Nutrition Policy Institute helped initiate California's inaugural Food Waste Prevention Week.

- Latinx youth participated in the UC ANR 4-H pilot ¡Descubre Outside! Discover Afuera! Ninety-seven percent expressed that they care about the environment, and 80 percent learned about environmental issues.

- The UC ANR California Naturalist Program completed a strategic plan to develop a Climate Stewards course as part of its California Naturalist certification program for the public. Certified Climate Stewards will help improve climate literacy, advance resiliency and build support and capacity to advance state and local climate goals.

In 2019-20 UC ANR is establishing baselines for waste, water and energy use for its facilities that are in line with the metrics that the campuses use.

Credit: Elena Zhukova

GREENHOUSE GAS EMISSIONS

(Metric tons CO_2e)
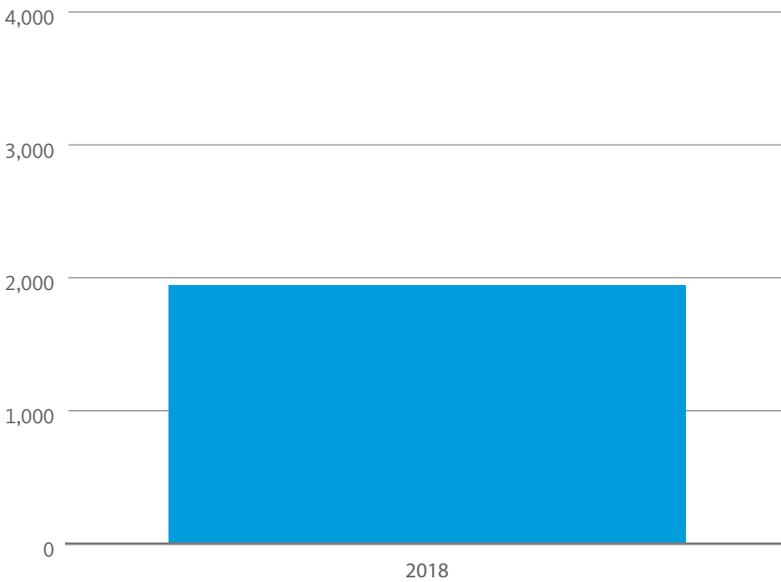
● Scopes 1 (natural gas, campus fleet, fugitive) + 2 (purchased electricity)

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

Progress:
ANR is reporting its scopes 1 and 2 greenhouse gas emissions separately for the first time this year.

TRANSPORTATION

Goal:
- 50% of all new light-duty fleet vehicles purchased at each campus will be zero-emission or hybrid by 2025

Progress:
Percent of all new light-duty fleet vehicles zero-emission or hybrid: 0%

WATER

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

Progress:
ANR is in the process of collecting data for the first time and will begin reporting in the future.

Lawrence Berkeley National Laboratory

Lawrence Berkeley National Laboratory (Berkeley Lab) is a Department of Energy Office of Science research laboratory operated by UC. Berkeley Lab has over 3,100 full-time equivalent employees and approximately 3,000 affiliated researchers, and hosts nearly 12,000 users annually in its scientific facilities. Sustainability performance highlights from the past year include:

- **Maintained energy savings:** Berkeley Lab maintains a portfolio of energy and water savings generated since 2015, which now totals 7.7 million kilowatt-hours of annualized, weather-corrected electricity and natural gas savings and over 19 million gallons of water savings. The annual energy savings is equivalent to the generation from a 5.0-megawatt photovoltaic array.

- **Measured energy savings:** The lab's total weather-corrected energy consumption is 5.8 percent lower than in 2015. Natural gas consumption is 15.1 percent lower than in 2015.

- **Greenhouse gas emissions:** Total reported greenhouse gas emissions are 25 percent below 2008 levels and 15 percent below 2015 levels.

- **Ongoing commissioning team:** The lab operates an Ongoing Commissioning Team that works continuously to identify, prioritize and resolve operational problems in buildings and generate energy savings. The team won a UC Best Practices award for its use of analytical tools.

- **Leadership in efficient high-performance computing:** During the last two years, Berkeley Lab optimized its high-performance computing center with annual maintained savings of 1.8 million kilowatt-hours — 37 percent of the baseline non-compute electricity use — and over a half million gallons of water.

- **New construction:** The lab plans to open its Integrative Genomics laboratory in November 2019. This facility is designed to meet deep energy efficiency targets, use no natural gas for water or space heating, offset about 15 percent of its total energy use with rooftop photovoltaics (to be installed after construction) and reduce utility bills by over $650,000 annually. See details about the Integrative Genomics Building Design at sbl.lbl.gov/progress.

- **ISO 50001 implementation:** The lab has completed a two-year project to align energy and water management activities to ISO 50001, an international energy management standard.

- **Zero waste:** The lab carefully audits waste coming from its primary buildings to drive zero waste efforts. From 2018 to 2019, diversion at the building level increased by 23 percent and contamination of landfill containers (with material that could go in recycling and compost) decreased 10 percent. Three facilities have now reported waste diversion exceeding 90 percent.

GREEN BUILDING

Goal:
- LEED Silver minimum for all new construction

Progress:
LBNL has the following LEED certifications:

Platinum: 1
Gold: 5

GREENHOUSE GAS EMISSIONS

(1,000 metric tons CO_2e)


● Scopes 1+2+3

Goal:
- Berkeley Lab has a climate goal in line with State of California targets: Reduce Scope 1, 2, and 3 greenhouse gas emissions by 30% from 2015 levels by the end of FY2025.

WATER

(Percent reduction in per capita potable water consumption)

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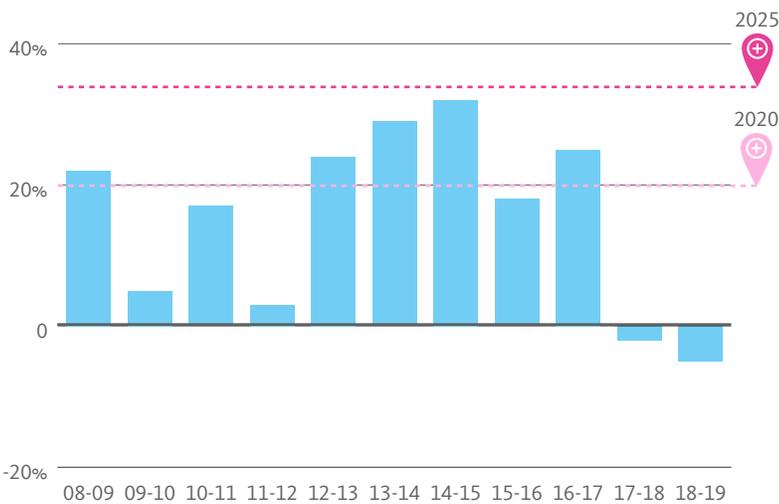
Progress:

2018-19 gallons per capita: 17,104

WASTE

(Daily per capita waste generation in pounds)

- Recyclables
- Organics
- Landfill

Goals:

- 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

- Zero waste by 2020

2025

| | 15-16 | 16-17 | 17-18 | 18-19 |

(Diversion rate)

- Diversion Rate (C&D + MSW)
- Diversion Rate (MSW)

2020

100%

75%

50%

25%

0

| | 15-16 | 16-17 | 17-18 | 18-19 |
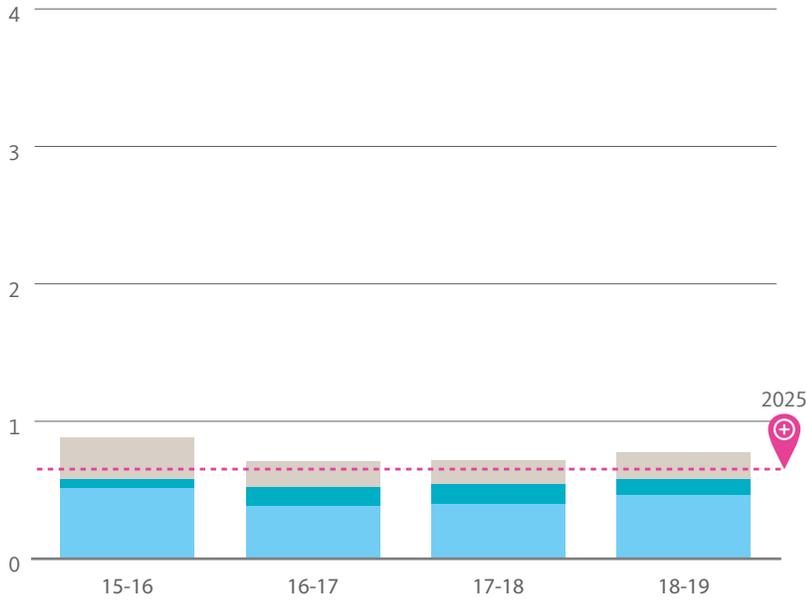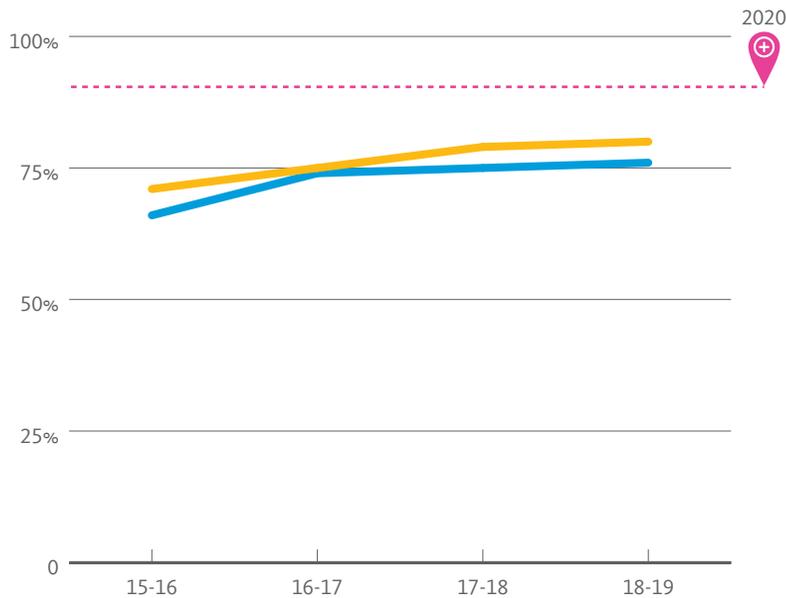
UC Office of the President

The UC Office of the President (UCOP) 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 health systems. UCOP owns and leases space primarily in California, but also has properties in Washington, D.C., and Mexico City.

UCOP's scope 1 and 2 emissions dropped by 38 percent last year. UCOP's Washington, D.C., location — UCDC — has historically been UCOP's largest source of greenhouse gas emissions, due to its mix of office space, classroom space and student housing. However, UCDC is now purchasing 100 percent renewable energy, and the site has observed a more than 60 percent decrease in greenhouse gas emissions for fiscal year 2018-19. Additionally, the solar photovoltaic system installed at the UCPath Center in Riverside, California, in July 2017 contributed to the site's decrease in greenhouse gas emissions by nearly 60 percent for fiscal year 2018-19. Emissions reporting for fiscal year

2018-19 allowed the Energy and Sustainability team at UCOP to locate a malfunction in a chilled water valve at the building at 415 20th St., Oakland. This malfunction caused UCOP's natural gas usage to significantly increase in fiscal year 2018-19. The issue has since been fixed.

UCOP has completed a waste plan outlining recommendations to meet UC's waste diversion goals. Recommendations for the waste plan have been reviewed and will be implemented in fiscal year 2020-21, helping UCOP make further progress toward UC's diversion goal. Waste audits were conducted at UCOP's headquarters (1111 Franklin St., Oakland) and the UCPath Center. Waste audits show the Franklin building and UCPath Center's waste diversion rates to be 66 percent and 17 percent, respectively, for fiscal year 2018-19. One recommendation being implemented is the introduction of a composting service at UCDC. This is the first year UCOP has reported waste data.

Staff participating in the Cool Campus Challenge. Credit: Emma Finn

GREENHOUSE GAS EMISSIONS
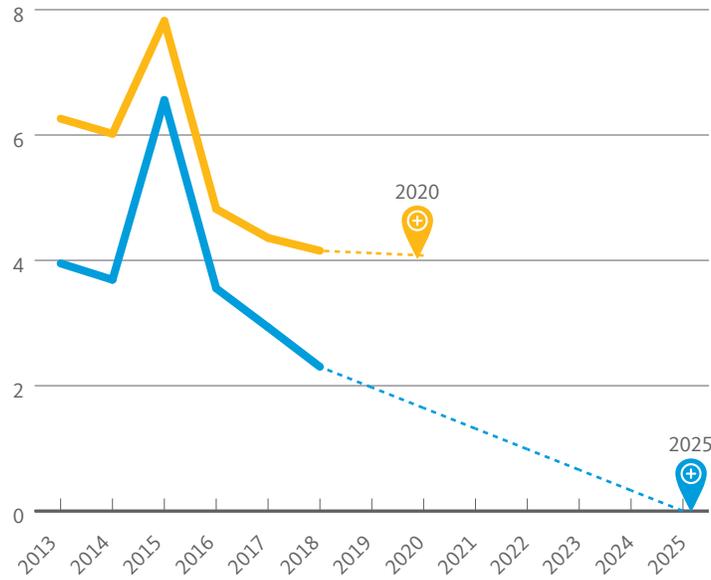
(1,000 metric tons CO_2e)

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

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

Progress:
UCOP reduced the emissions from natural gas and electricity use by 38% in 2018.

WATER

(Percent reduction in per capita potable water consumption)
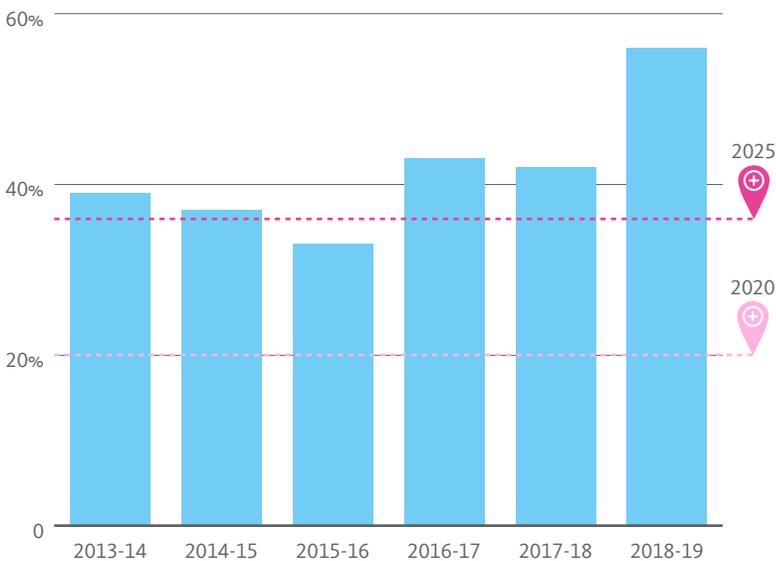
Goal:
- 20% reduction from baseline in per capita potable water use by 2020 and 36% reduction from baseline in per capita potable water use by 2025

Progress:
2018-19 gallons per capita: 6,472

- ● 2020 goal met
- ● 2025 goal met

SOLID WASTE DIVERTED FROM LANDFILL

(Daily per capita waste generation in pounds)
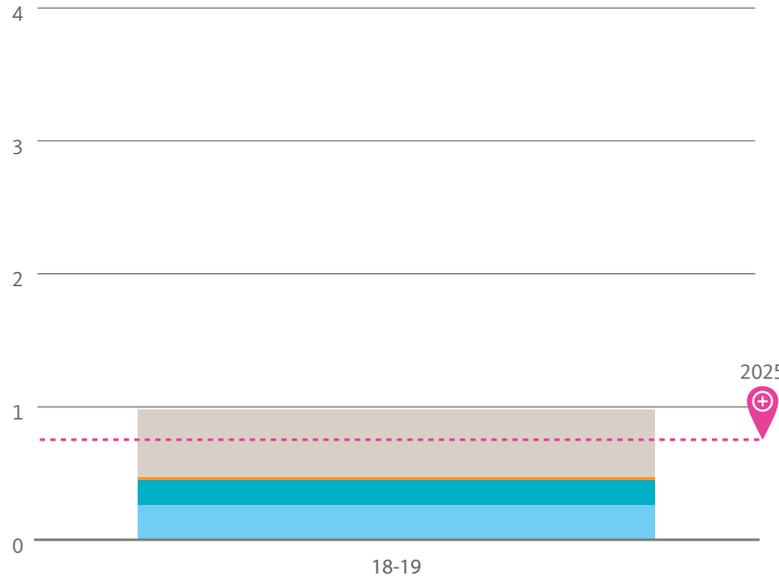
- ● Recyclables
- ● Organics
- ● Allowable conversion
- ● Landfill

Goals:

- 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
- Zero waste by 2020

2025

18-19

GREEN BUILDING

Goals:

- LEED Silver minimum for all new construction
- Certify at least one LEED EBOM project on each campus

Progress:
UCOP has the following LEED certifications:

Platinum: 0
Gold: 1
Silver: 1
Certified: 0

Number of LEED EBOM projects: 1

UC Office of the President has met the LEED EBOM project goal.

TRANSPORTATION

Goal:

- Reduce SOV commute rate to no more than 40% of employees and no more than 30% of all employees and students by 2050. (In other words, 60% of employees and 70% of employees and students will use alternative commute modes to get to campus)

Progress:
Alternative commute rate:

Employee: 73%

UC Office of the President has met the employee alternative commute goal.

This data is from a commuter survey of mostly Oakland-based UCOP staff.

More Information

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:
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