

2018 Student Housing Sustainability
ANNUAL REPORT



The UC Irvine Department of Student Housing is committed to the University of California's sustainability goals. The UC Carbon Neutrality Initiative pledges to reach net zero greenhouse gas emissions for buildings and fleet vehicles by 2025, inspiring innovative campus solutions, policies, and practices. Student Housing makes important contributions toward these goals in areas of energy efficiency, green building, green cleaning, water conservation, waste reduction, sustainable food options, and student engagement. Despite adding over 1500 resident bed spaces in the last decade, we continue to reduce resource consumption at impressive rates.

Student Housing will integrate sustainability into business practices and educational programming to foster healthy environments, social justice, and economic viability.

Student Housing embraces its unique access to the campus community, with the goal of increasing environmental sustainability through education and agency of residents and employees throughout the department. Together we will serve as change agents and adopt a life-time of behaviors that foster healthy environments, social justice, and economic viability.

Student Housing's work on sustainability supports larger campus efforts that have earned UC Irvine a place on The Princeton Review's Green College Honor Roll for the past six years. Focusing on sustainability also aligns with priorities of students pursuing a college education. A majority (63%) of the parent and student respondents to The Princeton Review's 2018 College Hopes & Worries Survey indicated that they would value having information about a college's commitment to the environment and that it might impact their decision to apply to or attend the school. Nearly a quarter (25%) said this information would "strongly" or "very much" contribute to decisions about which schools to apply to or attend."

Surveys of incoming residents also indicate that a majority of students (roughly 80%) are interested in sustainability, and 89% describe sustainability as an important issue for individuals and communities to take action on.



“ We are proudly committed to systematically addressing the urgent environmental and social challenges impacting our world. Through both our facilities planning and our residential programming, UCI Housing provides a robust model for sustainable operations.

*Tim Trevan
Executive Director
Student Housing*



“ Our dedication to sustainability inspires and is inspired by the generations of student residents who will continue the collaborative, interdisciplinary work of building community resilience to climate change through their academics, career choices, and ways of life.

*Rachel Harvey
Sustainability Program Manager
Student Housing*



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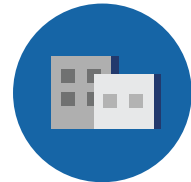
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Executive Summary



ENERGY

Department energy consumption is down over **40%** saving 5,300 metric tons of CO₂ emissions in 2017-18 compared to 2006-07, enough energy to power 572 homes for one year.



GREEN BUILDINGS

Six buildings in Mesa Court and Verano Place are **LEED Platinum Certified**, the highest possible rating for Leadership in Energy and Environmental Design.



WATER

Potable water consumption decreased by **25,371,316 gallons** in 2017-2018, as compared to Housing's 2008-2017 average.



WASTE

Student Housing sent **38.1** tons of food waste to compost in 2017, a **7 ton** increase from the previous year.



GROUNDS & MAINTENANCE

Since 2010, Student Housing has planted over **1,000 trees** with the help of student volunteers.



GREEN CLEANING

82% of custodial product purchases are third-party certified to be safer, environmentally-friendly, and/or include recycled content.



GREEN LIVING & EDUCATION

At Move Out 2017, **65% of residents** agreed that their environmental understanding or concern regarding environmental issues had grown due to efforts from Student Housing.



FOOD & DINING

Zero Waste: Residential dining halls, the Anteatory and Pippin Commons, divert over **97%** of waste from landfills.





Energy Savings

HIGHLIGHTS

More than 8,000 light fixtures have been retrofitted or replaced to reduce electricity use, resulting in a reduction of greenhouse gas emissions by 990 metric tons, the equivalent of taking 212 gas powered vehicles off the road or of cutting the annual energy use of 107 homes.

Four Housing communities, Arroyo Vista, Campus Village, Mesa Court, and Middle Earth, are recorded in the EPA's ENERGY STAR Portfolio Manager. In total, 113 buildings are performing with higher energy efficiency than 88% of peer institution residential buildings.

Student Housing has installed 66 Enovative AutoHot demand controllers regulating hot water circulation in over 2,817 units in residential buildings in partnership with Enovative Group and SoCal Gas. Based on the estimated savings, this equates to roughly 396.4 metric tons of carbon dioxide emissions or removal of 83 cars from the road for one year, or the total amount of energy consumed by 36 homes in one year.

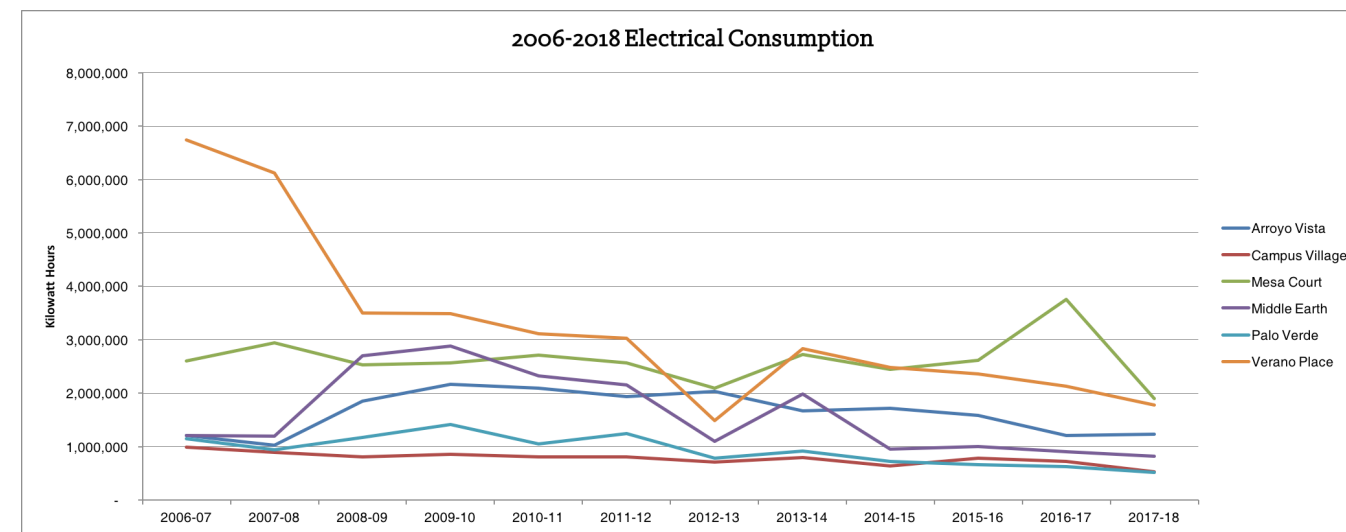
Housing regularly replaces aging appliances, boilers, and electronics with ENERGY STAR rated machines. These products are independently certified to deliver quality, performance, and savings for department residents.

Housing IT selects high-performance electronics that support our sustainability goals. All newly purchased computers and accessories are rated EPEAT Gold or Silver. Managed by the Green Electronics Council, EPEAT addresses the full product lifecycle, from design and production to energy use and recycling.

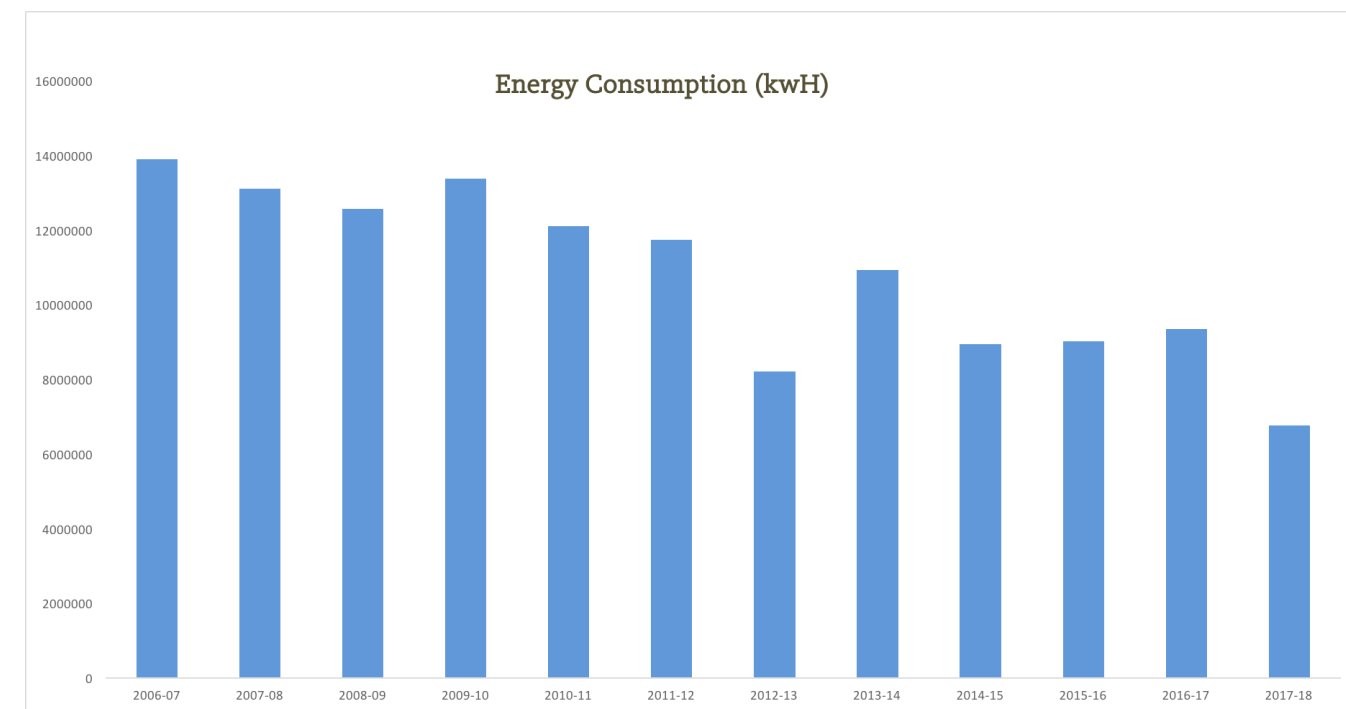


Graduate Housing now features electric vehicle charging stations available for residents.

Department energy consumption is down over 40%, despite growth, since 2006, saving 5,300 metric tons of CO₂ emissions in 2017-18 compared to 2006-7, enough energy to power 572 homes for one year.



Energy consumption in kilowatt hours by residential community 2006 to June 2018.



Energy consumption in kilowatt hours for the entire department 2006 to June 2018.

Green Building

HIGHLIGHTS

Six buildings in Mesa Court and Verano Place are LEED Platinum certified, the highest possible rating for Leadership in Energy and Environmental Design – a green building rating system. Every aspect, from landscaping and energy systems to furnishing is designed to maximize sustainability and minimize environmental impacts while maintaining residential comfort and quality.

According to the US Green Building Council, LEED-certified buildings have 34 percent lower CO₂ emissions, consume 25 percent less energy and 11 percent less water, and have diverted more than 80 million tons of waste from landfills.

The Mesa Court Towers earned a 2017 Best Practice Award winner for Overall Sustainable Design by the California Higher Education Sustainability Conference (CHESC). The buildings' energy efficiency measures are expected to reduce annual energy use by 53% below State of California standards. Water heating is supplemented by 45 rooftop solar thermal panels and a 2,500-gallon hot water storage tank. Together these provide 40% of the hot water demand for 1,000 residents.

The Towers are also selected as the 2017 Project of the Year by The Design-Build Institute of America. Design-build is a method of project delivery in which one entity – the design-build team – works under a single contract with the project owner to provide design and construction services. Mesa Court Towers were designed to create a first-in-class experience in a residential 'living-learning community,' blending together student life and co-curricular learning to provide a safe and fulfilling campus living environment.



► Housing hosts 3 student run gardens in Palo Verde, Verano Place, and Arroyo Vista.

Grounds & Maintenance

HIGHLIGHTS

Annual tree planting is part of UCI's commitment to sustainable landscaping and healthy urban forests. Since 2010, UC Irvine has been recognized as a Tree Campus USA University by the Arbor Day Foundation. Our department has planted over 1,000 trees in this period with the help of student volunteers. Trees add beauty and value to the community, help cool the buildings, break the cold winds to lower heating costs, filter the air, and reduce carbon dioxide in the atmosphere.

Housing implements an **Integrated Pest Management program**, eliminating chemical and fertilizers in favor of beneficial fungi mycorrhiza and reducing use of herbicides in favor of installing dense groundcovers, frequent use of organic mulch, increased manual labor, and relocating bee hives. These practices create a balanced ecosystem and reduce the environmental and monetary costs of commercial chemicals pesticides.

Housing is committed to **phasing out gas and diesel powered lawn and grounds equipment by 2020**. In 2018, the department purchased an electric mower. With zero emissions as well as lower noise, vibration, pollution, and maintenance, electric equipment is an investment in the health of the planet and our workforce.

Water Savings

HIGHLIGHTS

Replacement of toilets, bathroom sink aerators, and shower heads with super high efficiency produces a 37% drop in residential water consumption and an annual savings of 70 million gallons as compared to 2008.

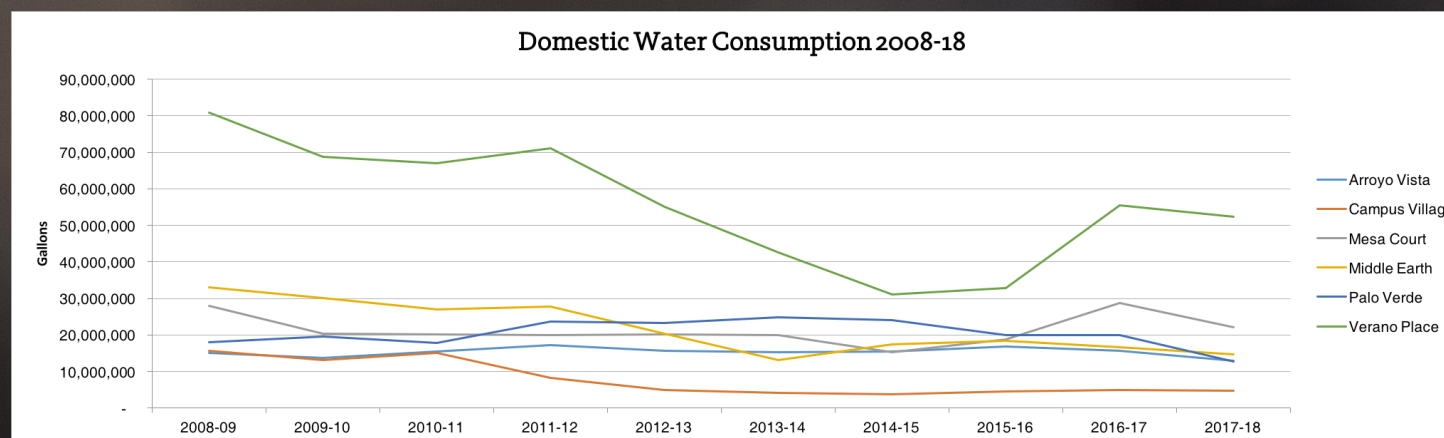
Mesa Court replaced 1,500 irrigation nozzles in existing grass turf areas with high efficiency models, consuming 20% less water. This equates to an estimated savings of almost 3 million gallons of water per year.

Housing upgraded the existing irrigation system in all 6 communities, with 5 of those communities now controlled by a central irrigation computer. This system utilizes weather based information gathered from the weather station located in Palo Verde, which thereby increases the efficiency of landscape irrigation and adjusts to real time climate conditions.

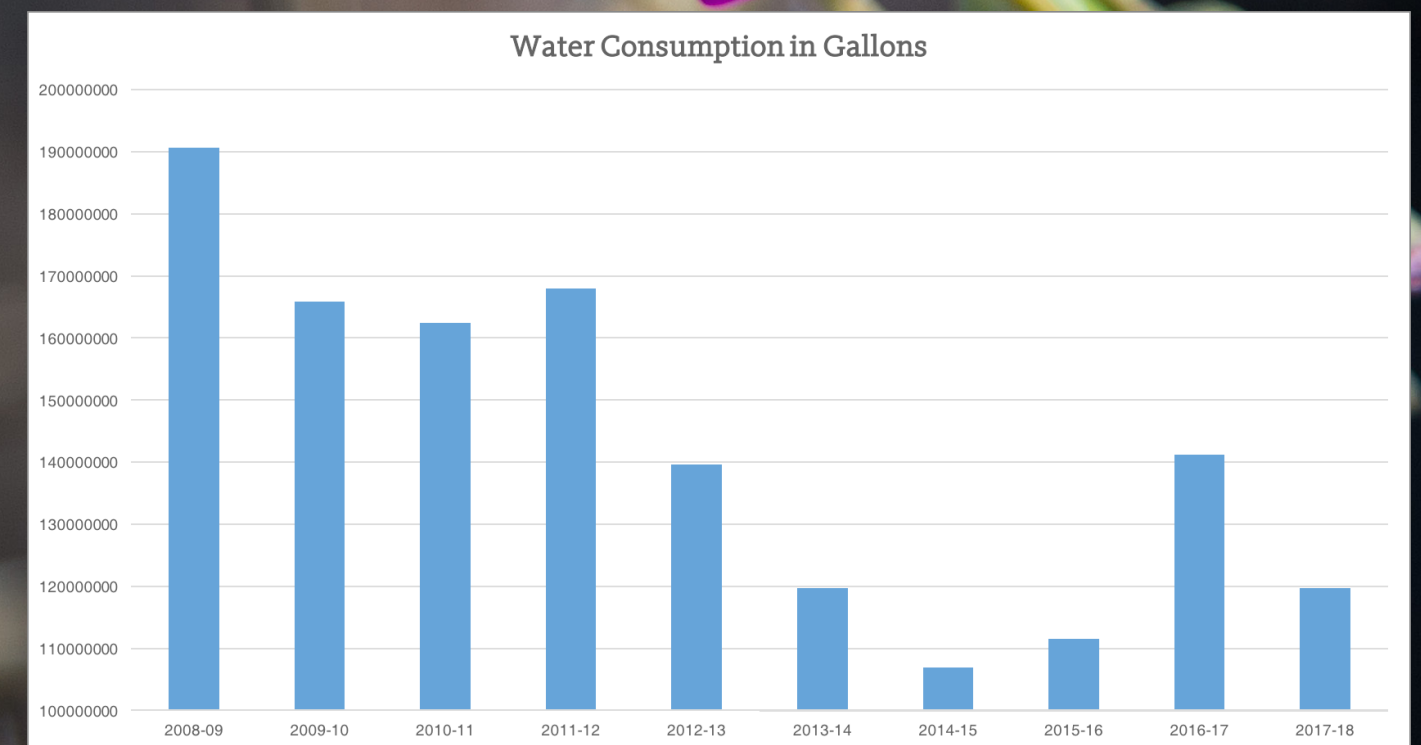
We can boast over 400,000 square feet of turf replacement since 2011, supporting campus savings of 3.5 million gallons of water annually.

Grass areas are replaced with California natives or climate appropriate plants with the co-benefits of reduced maintenance, refuge space for wildlife, and more colorful aesthetics.

Housing implemented a range of low-impact development features, such as a storm water biofiltration system in Mesa Court and Verano Place that treats storm water on site before entering the storm drain system and our urban watershed of Upper Newport Bay.



Potable water consumption in gallons by residential community 2008 to June 2018.



Department potable water consumption in gallons 2008 to June 2018.

Waste Reduction

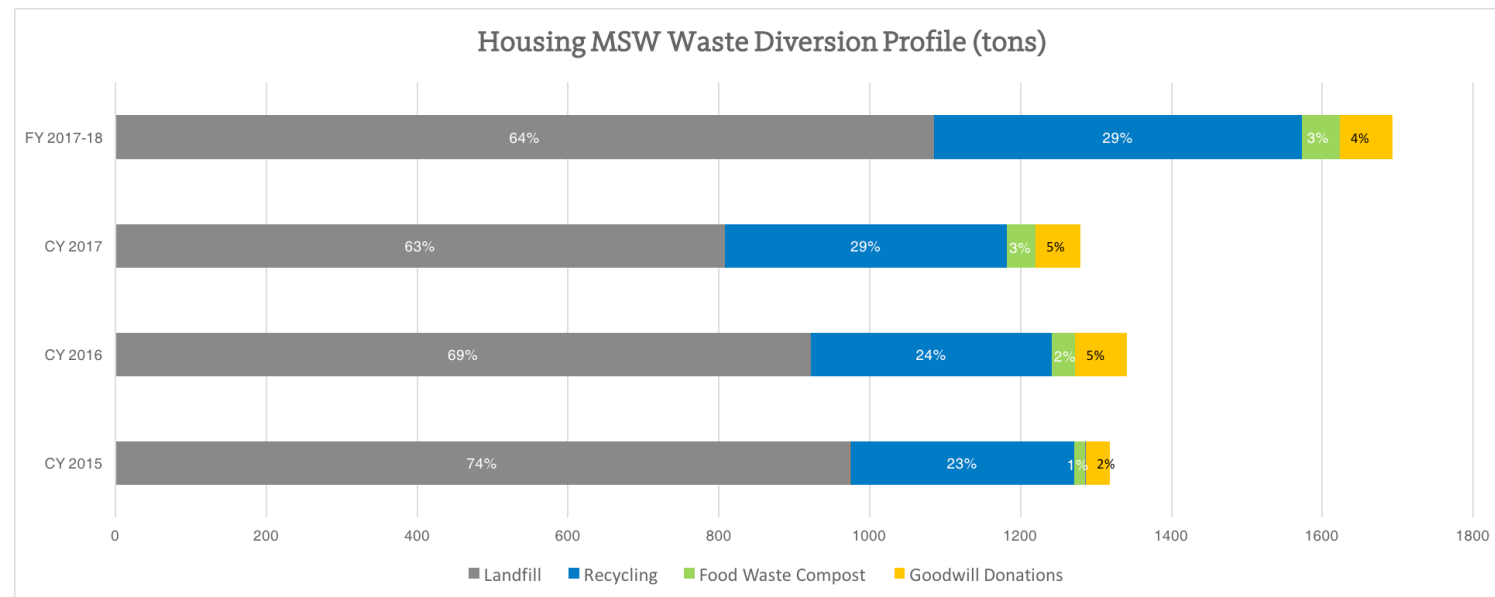
HIGHLIGHTS

Student Housing contributes to the campus's 83% landfill diversion rate and participates in green waste and food waste composting in all residential communities. Achieving zero waste is a primary challenge and focus of both our staff and resident education programming.

In 2017, Housing sent 114 fewer tons of waste to landfill than in 2016. Our overall diversion rate has jumped from 26% in 2015 to 37% in 2017. We're currently composting over 38 tons per year. That is equivalent to 33.56 metric tons of CO₂ emissions or taking 87 gas-powered cars off the road.

We support reuse and our local community with 19 Orange County Goodwill bins located throughout our communities. Additional bins are brought in for a robust Annual Move Out Donation Drive. In 2017-18, Housing donated over 67 tons of clothing and home goods to support Goodwill's workforce development programs.

► Housing increased diversion to landfill by 52.7 tons in 2017



Department residential waste composition and diversion rates 2015 to June 2018.

Green Cleaning

HIGHLIGHTS

All residential communities are committed to using green cleaning products in our operations to provide a healthy and safe learning environment. Currently, over 82% of department spending for custodial products purchases chemical and paper products that are third-party certified to be safer, environmentally friendly, and/or include recycled content.

Green Living & Education

HIGHLIGHTS

At Move Out in 2017, 65% of residents agreed that their understanding or concern regarding environmental issues had grown due to the events, activities and/or courses offered by Student Housing.

The Department supports an annual class of 20 EarthRep Ambassadors to serve as peer-to-peer education leaders in their resident communities on topics such as zero waste, water conservation, energy efficiency, environmental justice, and sustainable cooking.

Since 2012, 112 students have participated in the Costa Rica Program, an alternative spring break and academic experience in global sustainability, leadership, and cultural immersion.

Students in three sustainability-themed halls are invited into a holistic, community living-learning experience. Residents learn stewardship through multidisciplinary hall programming that guides residents in audits of energy and water use, recycling and waste patterns, and local food production possibilities to lessen the group's total impact on the environment. Essential community building skills are offered as well as programming on interrelated environmental, economic, and social justice concerns. A wide variety of activities are offered, including vegetarian dinners, faculty and community interactions, organic gardening, and student led projects.



Student Voices

This [Costa Rica] Program was without a doubt the most academically stimulating experience I have had here at UCI. I was able to conduct research and learn useful skills and information that truly drive my passion.”



Food & Dining

HIGHLIGHTS

In all dining commons, UCI Hospitality and Dining offers healthy menus, vegan options, and culinary classes, boasting over 26% sustainable ingredients (locally sourced, organic, cage-free eggs, seafood watch or fair-trade certified).

Residential dining halls, the Anteater and Pippin Commons, divert over 97% of waste from landfills. Unserved prepared food is donated to the UCI Fresh Basic Needs Hub and local churches.

In 2017-18, residents donated over 4,350 pounds of food to the campus FRESH Basic Needs Hub food pantry.


Student Voices

“I enjoyed learning about the impact of wasting food, which has now made me more aware of the choices I make when eating.”

UC Irvine

housing.uci.edu/sustainability

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