

# GOING GREEN

SUSTAINABILITY  
REPORT  
2014

DIVISION OF BUSINESS AND FINANCE  
CALIFORNIA STATE UNIVERSITY, CHICO



“Believing that each generation owes something to those which follow, we will create environmentally literate citizens, who embrace sustainability as a way of living. We will be wise stewards of scarce resources and, in seeking to develop the whole person, be aware that our individual and collective actions have economic, social, and environmental consequences locally, regionally, and globally.”

Sixth Strategic Priority  
California State University, Chico



PAUL J. ZINGG  
President

Leadership in sustainability comes in many forms at California State University, Chico, and several of these are highlighted in this new edition of *Going Green*. I appreciate the efforts of Vice President for Business and Finance Lori Hoffman, Business Services Director Dale Wymore, and many others for producing an update of this important publication.

In these pages, you will read about our extraordinary conservation programs, including Diversion Excursion, which diverted a record 17 tons of waste in 2014 from local landfills as students moved out of residence halls; sustainable food service practices, which won accolades this year from the California Higher Education Sustainability Conference and *GoodHousekeeping.com*; energy reductions from building monitoring, use consolidation, retrofitting, and other efforts; and many other sustainability areas.

We have goals both aspirational and realistic to reduce our carbon footprint and be good stewards of our resources. While much work lies ahead, results to date are very

encouraging. The University's third Greenhouse Gas Emissions Inventory was completed last year and found cross-campus emissions levels had decreased by 37 percent since the previous survey. The Associated Students are at an 85 percent diversion rate, close to their goal of being a Zero Waste facility.

Our campus has won numerous awards—most recently Second Nature's Climate Leadership Award—because of the deep engagement on the part of our students, faculty, staff, industry and community partners, and significantly and increasingly, our alumni. Our invitation earlier this year to be a founding member of the U.S. Alliance for Resilient Campuses is a testament to our national standing in sustainability. All members of our campus community should justifiably take pride in these achievements.

Thank you for reading *Going Green*. I hope you enjoy learning more about Chico State and our campus's core commitment to sustainability.



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## LORRAINE B. HOFFMAN VP for Business and Finance

I am pleased to present this sustainability progress report to our university community and to the wider Chico community. The report highlights much of the good work that our staff, faculty, and students have done and, when compared to the first *Going Green* publication, shows steady progress was made in the past three years.

Second Nature recognized our campus's continued progress in the area of sustainability and resilience by awarding us with the 2014 Climate Leadership award. In addition, President Zingg was one of 30 college and university presidents in the nation to sign on as a founding member of the Alliance for Resilient Campuses this year.

With a goal of climate neutrality by 2030, the key progress indicator is a 37 percent decrease in greenhouse gas emissions when compared to 2007-08. The reduction is primarily a result of a change of our energy mix to cleaner production, energy savings from our lighting retrofit program and upgrades to HVAC systems, weekend building use consolidation, and an increased use of alternative transportation modes.

Also significant to the University is the achievement of a Gold STARS rating from the Association for the Advancement of Sustainability in Higher Education (AASHE). This effort was led by the Institute for Sustainable Development and our Campus Sustainability Committee. STARS is an overall measure of campus sustainability, touching every area of operations: planning, education and research, administration, engagement, and innovation.

Buildings that reduce energy and water consumption and use sustainable construction practices are important to the University for long-term sustainability. I am pleased to report that the University now has five buildings certified by the Leadership in Energy and Environmental Design (LEED). Four received gold ratings (including one that has been registered

as a NetZero facility) and one received silver. Our sixth building, a 90,000-square-foot arts and humanities building, is under construction with a goal of LEED Gold or Silver.

Needless to say, I am proud of the accomplishments celebrated in this publication—more and more, sustainability is becoming



Displaying the Second Nature Climate Leadership Award are (L-R) Lorraine Hoffman, VP of Business and Finance; Jim Pushnik, Director of the Institute for Sustainable Development; Taylor Herren, Associated Students President; Timothy P. White, Chancellor.

central in the way that we operate, plan, and work. But although we have a strong track record, there are areas where we can still improve. We must be reminded that our operation is complex and institutional change can be difficult, but thanks to committed students, staff, and faculty, we continue to assess, regroup, and move forward.

I trust you will recognize the University's commitment to sustainability, and for a moment, please think about the contribution you can make toward sustainability.

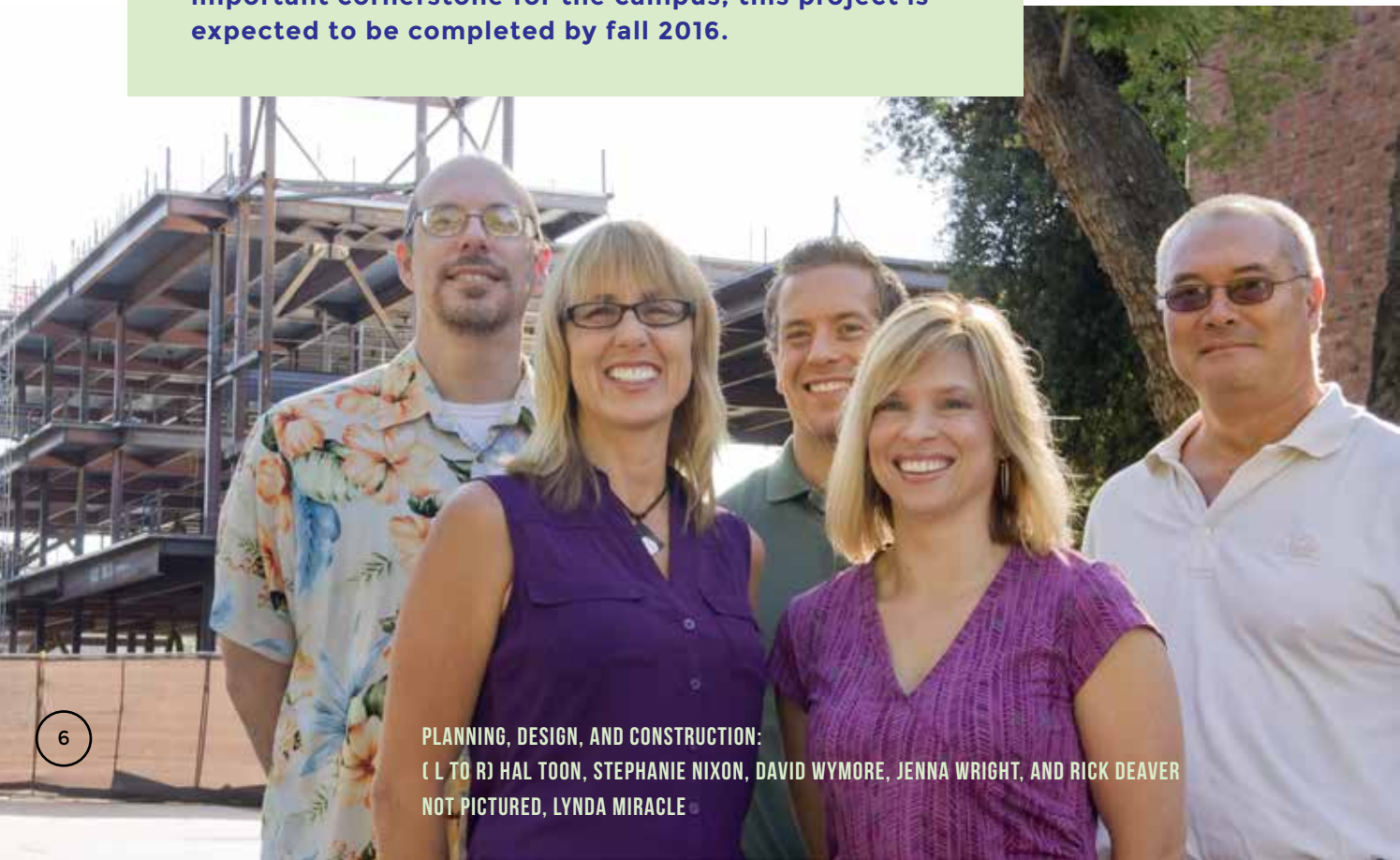
Thank you.



# BUILDING GREEN

**C**alifornia State University, Chico has achieved several project certifications through the Leadership in Energy and Environmental Design (LEED) rating system, the U.S. Green Building Council's certification program for high-performance, sustainable buildings. CSU, Chico has now completed five buildings that qualify for LEED certification, of which four are gold and one is silver.

Currently under construction is the new arts and humanities building—a 90,000-square-foot building that is being built to LEED Silver specifications. An important cornerstone for the campus, this project is expected to be completed by fall 2016.



PLANNING, DESIGN, AND CONSTRUCTION:  
( L TO R ) HAL TOON, STEPHANIE NIXON, DAVID WYMORE, JENNA WRIGHT, AND RICK DEEVER  
NOT PICTURED, LYNDIA MIRACLE



## OFFICE COMPLEX EARNS GOLD



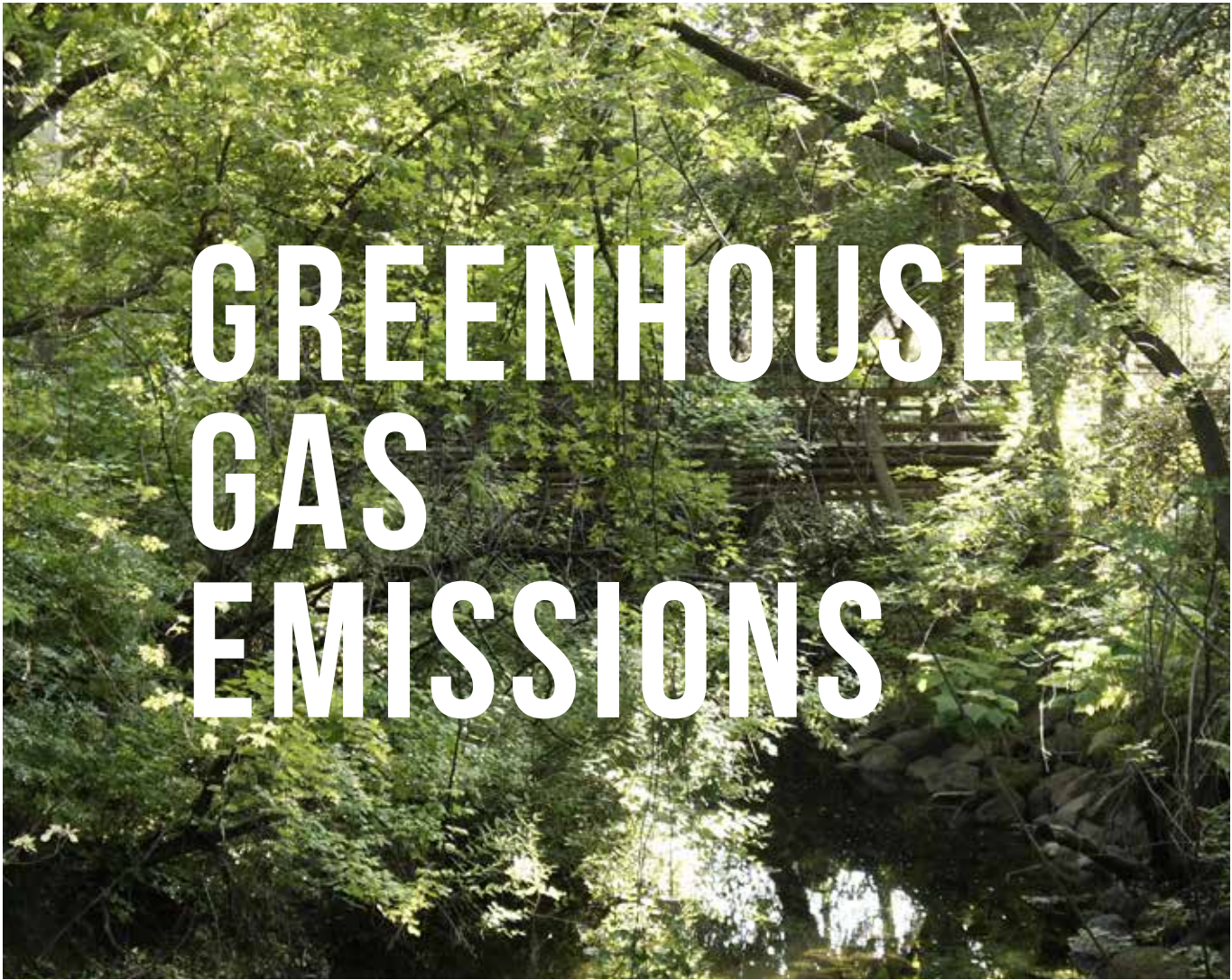
Completed in October 2012, the University's new office complex houses the University Police Department, Environmental Health and Safety, the Campus Information Center, and the Emergency Operations Center. It was built in conjunction with Parking Structure II, a four-level, 349-space structure. The LEED features of this building include the following:



- A cool-roof system that helps maintain interior temperatures by reflecting the sunlight and decreasing heat absorption. This results in reduced energy use during the hot summer months.
- Landscaping and irrigation systems that are designed to reduce water consumption by 52 percent through the use of drought-tolerant plants and low-flow irrigation.
- Nine electric vehicle charging stations to encourage the use of alternative transportation.

- Efficient building systems that reduce energy costs by 57 percent.
- A storm-water system that treats 100 percent of rainwater before it goes to the storm drain and eventually makes its way into the creek.
- Sustainable construction practices: 21 percent of the total building materials content had recycled content, 85 percent of the construction waste was diverted from landfill, and 66 percent of the wood-based building materials were from sustainably harvested wood content.
- Registered through the International Living Future Institute for Net Zero Energy Buildings with exceptional energy conservation and on-site renewables, the solar panels on Parking Structure II provide the renewable energy used for the office building and parking structure. The solar panels offset 41 percent of the building's total energy costs.





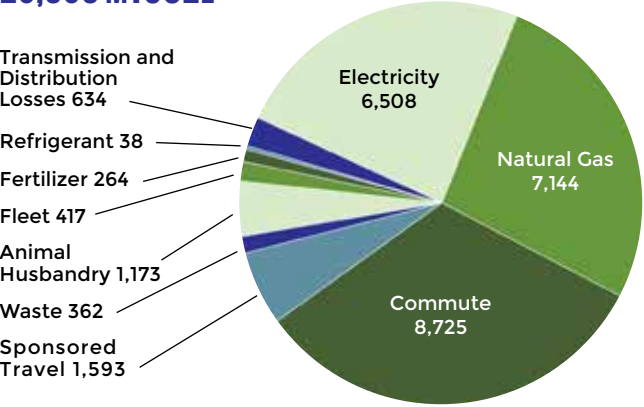
INVENTORY RESULTS

The University’s third greenhouse gas emissions inventory was completed in 2013 for the fiscal year 2010–11. Compared to 2007–08, the net institution-wide emissions levels decreased by 37 percent—including decreases in emissions from nearly every source within the scope of the inventory.

The most substantial reduction resulted from a switch to Pacific Gas & Electric as the campus’s purchased energy provider. PG&E has one of the cleanest grid mixes in the nation. Additional reductions have resulted from the following actions:

- Saving 889,060 kWh annually, the Meriam Library lighting retrofit project replaced 4,800 lighting fixtures. This project received a Best Practice Award from the California Higher Education Sustainability Conference in 2012 for best Lighting Design/Retrofit.
- The expansion of campus bicycle support facilities.
- Expanded promotion of the University’s full subsidy of transit ridership for all students, staff, and faculty.
- Five existing buildings have employed a process called Monitoring Based Commissioning (MBCx) to optimize building operations. The project has increased the efficiency of building heating, cooling, and air-handling systems.
- The adoption of on-campus car-sharing and ride-sharing programs.
- On-campus vehicle access limitations and the conversion of fleet vehicles to electric and high-efficiency models.

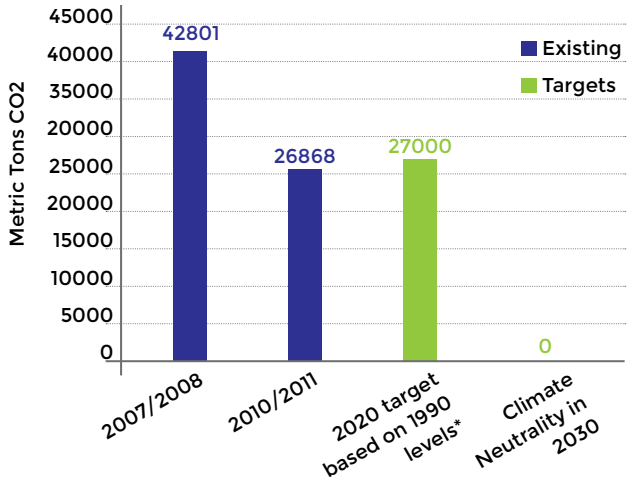
EMISSIONS BY SOURCE FOR FISCAL YEAR 2010-2011  
26,868 MTCO2E\*



Approximately 25 percent of the total emissions generated were from electricity use, 25 percent from natural gas consumption, 33 percent from commuting, and the remaining 17 percent from a variety of uses.

\*Metric Ton Carbon Dioxide Equivalent

GREENHOUSE GAS EMISSIONS TARGETS



CSU, Chico’s Climate Action Plan commits to achieving climate neutrality by the year 2030 with an interim target of 1990 emissions levels by the year 2020. The last emissions inventory (2010–11) indicates that the University is essentially at 1990 levels, well ahead of 2020. (\*For ease of comparison, 1990 level adjusted to include estimates of sponsored travel.)

LEADERSHIP IN CLIMATE ACTION & RESILIENCY

**2014** Recognized for innovation and leadership in campus sustainability efforts, CSU, Chico is one of only six universities and the only university in California to receive the 2014 Second Nature Climate Leadership Award in May 2014.

**2014** Second Nature publicly announced the creation of the Alliance for Resilient Campuses. The alliance is a pact among colleges and universities to solve some of the biggest problems presented by climate change and helps campuses move from focusing on climate-change mitigation to becoming climate-change resilient. As a leader in sustainability, CSU, Chico was selected as a founding member of the new alliance and is one of 30 founding signatory institutions.

**2013** Third greenhouse gas inventory completed.

**2011** CSU, Chico adopted a Climate Action Plan in May 2011. The plan aims to shape ongoing decisions and operations in support of achieving climate neutrality by the year 2030, with an interim target of reaching 1990 emission levels by the year 2020. The largest opportunities for reduction lie in the sectors of purchased electricity, natural gas use, commuting habits, and university-sponsored travel.

**2011** The Campus Sustainability Committee was established in 2011. The committee provides leadership in identifying ways to integrate sustainability concepts into all core functions of the University.

**2009** The second greenhouse gas inventory was completed in 2009 for the 2007–08 year and included university-sponsored travel.

**2007** The first greenhouse gas emission for CSU, Chico was completed in 2007. The inventory consisted of greenhouse gas emissions for the 1990–2006 fiscal years and did not include sponsored travel.

**2007** President Paul J. Zingg signed the American College and University Presidents’ Climate Commitment (ACUPCC) as one of the 12 founding signatories in 2007. As of June 2014, over 684 institutions of higher education in the United States have signed on. The commitment states that CSU, Chico will pursue the necessary steps to achieve climate neutrality by 2030.



# SUSTAINABLE FOOD

**T**he California State University Board of Trustees' approval of a systemwide sustainable food policy in May 2014 was just frosting on the cake, so to speak, for Associated Students (AS) Dining Services at Chico State. Already immersed in sustainable food practices prior to adoption of the policy, AS Dining Services provides thousands of students with cost-effective, healthy, and flavorful meals at Sutter Residential Dining Center and also operates several coffee and convenience stores and the Marketplace Café.

Under the new sustainable food policy, AS Dining Services will have until 2020 to ensure that at least 20 percent of all food spending goes to local, sustainable farms and food businesses that meet the national student group Real Food Challenge's guidelines: local and community-based, fair, ecologically sound, and/or humane. CSU, Chico has been using the Real Food Calculator for about a year. This student-designed assessment tool helps research what percent of the school's current purchases meet the "real food" or sustainable food criteria.

**The CSU, Chico Organic Vegetable Project (OVP) is a self-sustaining education, research, and production facility for organic vegetables located at the University Farm. When available, OVP provides produce for Marketplace Café, Sutter Hall Dining, and AS Catering. OVP also holds a weekly market on campus to sell organic produce.**

## REAL FOOD

Chico State's AS Dining Services has several programs that demonstrate a commitment to protecting and preserving the environment through sustainable practices.

- CSU, Chico is the only CSU that is participating with the University of California system in a joint procurement contract to supply sustainable food. The contract calls for increases in the availability of local food sourcing in a concerted effort to meet the guidelines of the Real Food Challenge.
- In spring 2014, the Sustainability Fund Allocation Committee (SFAC) funded a student-run tower garden that is operated at the Wildcat Recreation Center. AS Dining and AS Sustainability are currently assessing the possibility of serving harvested food served on campus.



Expanding its offerings of "real food," AS Dining Services offers two new Local Lunches every week in the Marketplace Café. The lunches feature items made with at least 50 percent locally produced ingredients. An incentive stamp card enables customers to receive a complimentary lunch after purchasing eight Local Lunches.



## PACKAGING & DISPOSABLES

- The switch was made to compostable packaging for grab 'n' go items such as salads, sandwiches, and wraps in March 2014 to complement the compostable service ware, cups, plates, and napkins that were already in place. Signage in the grab 'n' go area lets customers know that the packaging is compostable. Interns educate customers at the beginning of each semester about where their compostable packaging goes after they have finished. Potentially, 2,800 pounds of packaging is saved from the landfill each year.
- To help eliminate single-use containers going to the landfill, a discount on beverages is offered at all dining locations for those who bring their own cup, and Eco Take-Out containers are available at the Marketplace Café in Bell Memorial Union. Eco Take-Out containers are sturdy, reusable containers that patrons can use and return to be cleaned.
- 100 percent of the napkins purchased for dining halls, convenience stores, and the Marketplace Café are made from recycled fiber.

**DINERS ARE ENCOURAGED TO LOOK FOR THE GREEN LEAVES AT EACH DINING SERVICES LOCATION.**





# 2013 & 2014 AWARDS

A LEADER IN SUSTAINABILITY, CSU, CHICO CONTINUES TO MAKE GREAT STRIDES IN SUSTAINABILITY PROGRAMS, POLICIES, AND PRACTICES, WHICH IS REFLECTED IN THE ACHIEVEMENT OF MANY AWARDS OVER THE YEARS. IN 2013 AND 2014, CSU, CHICO WAS PROUD TO RECEIVE NATIONAL AWARDS THAT REPRESENT SIGNIFICANT SUSTAINABILITY ACHIEVEMENTS IN ACADEMICS, INFRASTRUCTURE, POLICIES, PRACTICES, PLANNING, INNOVATION, CAREER PLANNING, EDUCATION, CLIMATE MITIGATION, AND RESEARCH.

## SECOND NATURE CLIMATE LEADERSHIP AWARD 2014

Second Nature's Climate Leaderships Awards have been presented annually since 2010 to signatory institutions of the American College and University Presidents' Climate Commitment (ACUPCC) that demonstrate innovative and advanced leadership in education for sustainability, climate mitigation and adaptation, and institutionalized sustainability. Signatories of the ACUPCC, which is overseen by Second Nature, pledge to eliminate their campuses' net greenhouse gas emissions and make sustainability a part of the educational experience of all of their students. The network is made up of more than 680 colleges and universities, representing nearly 6.6 million students—approximately one-third of all college and university students in the United States. CSU, Chico is one of six institutions recognized with a Climate Leadership Award in 2014 and the only in the Master's Granting class in what was the most competitive pool of nominations to date, with more than 50 institutions entered. The winners were among the 20 finalists chosen by Second Nature's board and represent the diversity of higher education institutions across the country.



## STARS GOLD RATING 2013

In November 2013, CSU, Chico achieved a "gold" rating in a comprehensive higher education sustainability assessment from the Association for the Advancement of Sustainability in Higher Education (AASHE). Established in 2006, AASHE aims to improve sustainability across all sectors of higher education. The association's Sustainability Tracking, Assessment & Rating System (STARS) is a self-reporting, comprehensive framework allowing colleges and universities to measure their sustainability performance and create a baseline for improvement—and has become the national standard assessment in this area. The framework assesses institutional sustainability across four broad categories: Education and Research; Operations; Planning, Administration, and Engagement; and Innovation. CSU, Chico is a STARS Charter Participant. In the University's first completed assessment, CSU, Chico scored a gold rating. Other levels of achievement include platinum, silver, and bronze. Just 62 of over 350 reporting campuses have achieved a gold rating since the STARS program launched in 2010.

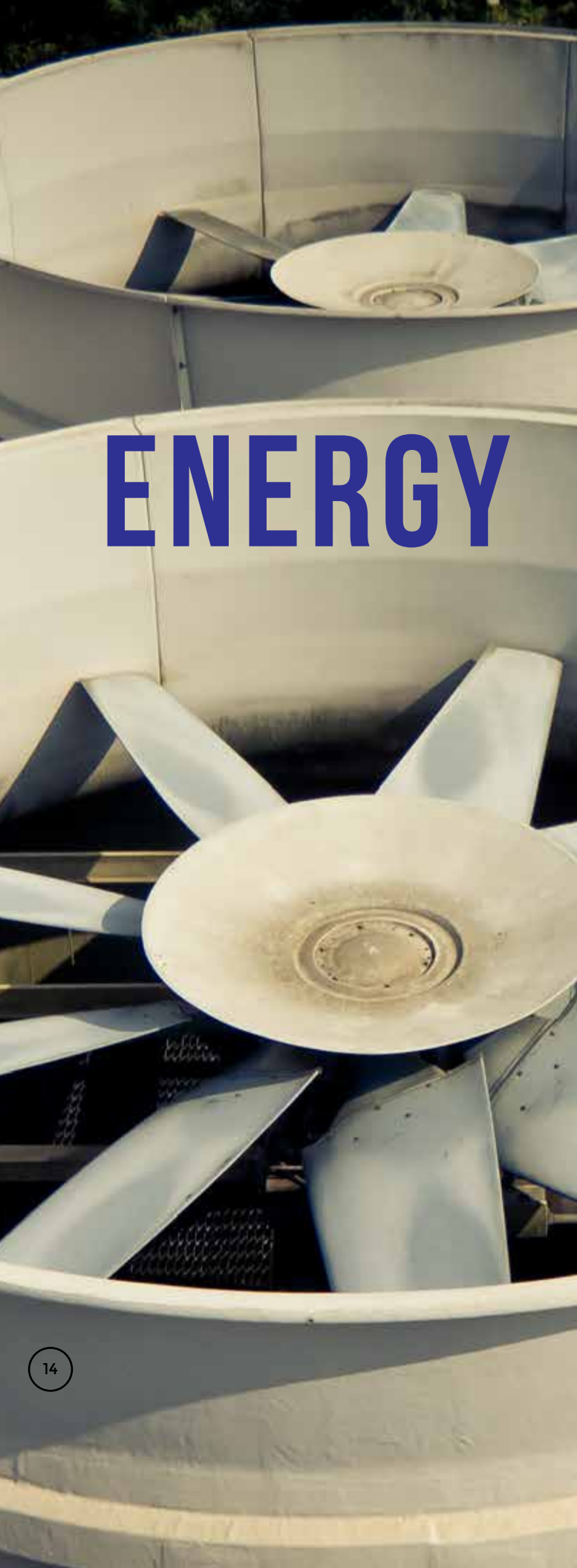


## PRINCETON GREEN GUIDE HONOR ROLL 2013 & 2014

CSU, Chico was included in the *Princeton Review's* 2014 Guide to 322 Green Colleges, which profiles higher education institutions in the United States and Canada that demonstrate a strong commitment to sustainability in their academic offerings, campus infrastructure, activities, and career preparation. Using survey data that covered more than 25 fields, the *Princeton Review* developed a "Green Rating" (scores from 60 to 99) for over 800 schools. The 300+ schools included in the guide each year received scores of 83 or above in that assessment. CSU, Chico has been included in the Green Guide each year since the guide's inception in 2010. In 2014, for the second consecutive year, CSU, Chico was named to the Green Honor Roll—a distinction for those schools scoring a perfect 99 out of 99 in the *Princeton Review's* assessment. Only 21 colleges and universities were named to the Green Honor Roll in 2014. CSU, Chico is the only CSU campus on the 2014 list and one of only eight schools nationwide to repeat from 2013.





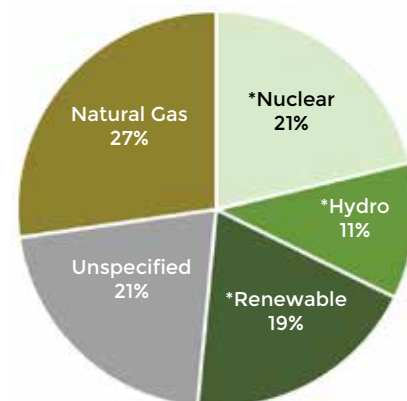


Consumption of energy is CSU, Chico's largest source of greenhouse gas emissions, accounting for nearly 50 percent of the University's total emissions. This energy is ultimately tied to buildings—heating, cooling, and lighting more than 2.1 million square feet of building space on the main campus. In addition, the buildings house electronic equipment that requires a great deal of energy to operate: computers, servers, smart classroom technology, and more. Energy conservation is a critical component for reducing greenhouse gas emissions in addition to providing resource savings.

## 2012 PG&E POWER MIX

CSU, Chico switched to Pacific Gas and Electric (PG&E) in 2009 because the energy company has one of the cleanest grid mixes in the nation. PG&E reported in 2012 that 19 percent of its power mix was from renewable resources such as wind, geothermal, biomass, solar, and small hydro, and 51 percent is greenhouse gas-free.

\*These resources are greenhouse-gas free and/or renewable.



## ENERGY REDUCTION PROJECTS

Investments in greener buildings, equipment retrofits, renewable energy, energy management systems and processes, and behavior changes all contribute to reducing energy consumption—and it's starting to pay off.

■ **Elevators** – New elevators were installed in Meriam Library in summer 2014 and in Butte Hall in summer 2013. The elevators include energy saving controls and the systems use efficient LED lights in cab panels, overhead lighting, and in floor indicators. They also include door drive motors that can enter a standby mode or efficiently recover from removal of power when not in use. Additionally, the elevators in Meriam Library convert lost energy into electricity. Through the regenerative drive system, every time the elevator slows down, brakes, or goes up, the motor spins creating energy; this energy is captured and sent back to the power grid.

■ **Lighting retrofits** – In the years 2011, 2012, and 2013, comprehensive lighting upgrades were completed in eight buildings on the main campus. More than 8,000 fluorescent lighting fixtures were replaced, saving 1.2 million kWh annually. This is equal to 861 metric tons of reduced carbon (CO<sub>2</sub>) output per year. The upgraded lighting in the Performing Arts Center; O'Connell Technology Center; and Holt, Langdon, Plumas, Trinity, Modoc, and Tehama Halls also provides brighter, whiter, cooler light and lasts longer.

A total of 80 light fixtures in Acker and Shurmer Gymnasiums were replaced in 2011 with induction lighting, saving 75,000 kWh annually, equivalent to 51 metric tons of CO<sub>2</sub> per year. Induction lighting is a form of fluorescent lighting with a bulb life of over 15 years. These energy-saving fixtures provide instant light and improved light output.

Several bathrooms across campus were retrofitted with occupancy sensors that provide energy savings. Rather than lights staying on all day, the sensor turns lights on and off automatically based on motion.

The campus continues to install outdoor LED lighting that features lower energy usage and longer bulb life. The Bell Memorial Union/Trinity Commons area of the First Street Promenade was completed summer 2011 and the Kendall Hall node was completed summer 2012. The final segment of the promenade will be completed with the new humanities and fine arts building in summer 2016.

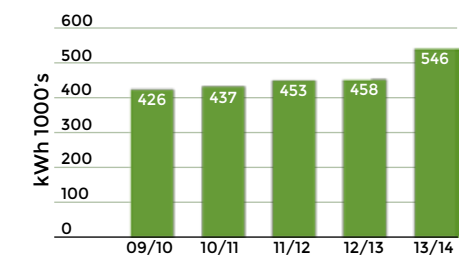
■ **PG&E's Demand Response Program** As part of a statewide program, CSU, Chico reduces energy use during periods of hot weather and high electrical load across the state. Participation in the program helps to prevent rolling brownouts.

■ **Monitoring-Based Commissioning (MBCx)** – Designed to achieve energy and peak power savings, CSU, Chico has five existing buildings that are participating in this program. Installation of energy information systems, data monitoring, and equipment and operational changes produce more efficiently run buildings. The overall result is a combined savings of 448,774 kWh annually in Yolo and Tehama Halls, the Student Services Center (SSC), Performing Arts Center, and O'Connell Technology Center.



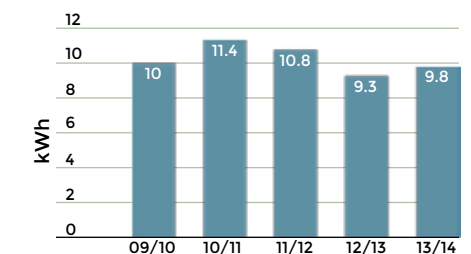
Both Yolo Hall and the Student Services Center received Best Practice Awards at the California Higher Education Sustainability Conference for the Energy Efficiency Partnership Program with the CSU system. The improvements made for the SSC were deemed the best in both the UC and CSU systems. Dan Hayden, facilities control specialist, displays awards (above).

## ON-SITE SOLAR GENERATION



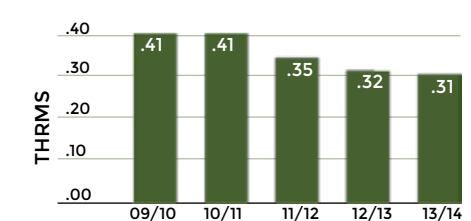
On-site renewable energy is generated through the use of photovoltaic panels installed on the roofs of Yolo Hall, Acker Gymnasium, and Parking II and is used to offset kWh usage. Solar energy continues to trend upward each year due to fewer days of rain. Also, the increase in 2013-14 can be attributed to the new solar array installed on the roof of Parking II beginning October 2013. Future solar panel installations are planned for the new humanities and fine arts building.

## KILOWATTS PER GROSS SQ. FOOT<sup>1</sup>



The primary use for electricity is for cooling, lighting, and plug load (electronics). There are slight variations from one year to the next due to the number of days needed for cooling. However, over the last 10 years, average kWh use continues to trend downward despite thousands of new square footage of building space added.

## THERMS PER GROSS SQ. FOOT<sup>1</sup>



Natural gas is used primarily to heat buildings. The downward trend is due to fewer days that buildings required heating, lower thermostat settings beginning in 2011, and utilization of class-scheduling software to determine building operation run-times.

<sup>1</sup> Includes main campus buildings only



# WATER CONSERVATION

CSU, Chico recognizes that we must permanently change the way we view and use water in order to ensure long-term availability of this precious resource. The greater frequency and severity of droughts in past years and the current drought condition puts pressure on an already constrained resource and continues to propel these projects forward.

One of the largest uses of water on campus is for irrigation, and while short-term adjustments to irrigation systems can be made easily, it is long-term improvements and conservation efforts that make the greatest impacts. The University began several water conservation projects in 2008 that include the use of technology, native and drought-resistant plant species, and an awareness of climate conditions so as to minimize water use and increase system efficiency.

## ONGOING IRRIGATION CONSERVATION PROJECTS

- Existing irrigation controllers located at Modoc Hall; Amyer J. Hamilton, University and Nettleton Stadiums; and Athletic Fields 6 and 7 are being upgraded with “smart,” centralized, programmable controllers in summer 2014. This is phase one of a five-year upgrade. By targeting the largest areas in the first phase, over 60 percent of the irrigated acreage on campus will be under a central-control system. The controllers provide immediate information about leaks and damaged system components, allowing for real-time maintenance as well as the ability to program controllers centrally. The controllers receive temperature, humidity, wind, and precipitation data daily, which is used to automatically adjust the sprinkler run-time and shut off irrigation completely when it is raining. Phase two is slated to begin in fall 2014 and will include Parking Structure I, the

First and Orange Street Parking Lot, Bell Memorial Union, and Acker and Shurmer Gymnasiums. All phases will be completed by spring 2018.

- The campus has 600 irrigation zones, and each year zones are targeted for improvement and decreased water usage by either retrofit or redesign. From 2011 to 2013, 19 zones were retrofitted, and an additional 28 zones have been audited with plans to retrofit in the near future.

- In spring 2014, the irrigation design at the golf green was modified to increase efficiency, improve the health of the green, and minimize overspray.

- By spring 2014, 250 irrigation heads at Lassen and Shasta Halls had been replaced with nozzles that use one-half less flow to reach the same radius of a conventional spray nozzle.

## BUILDING WATER SYSTEMS

- Since 2008, all new buildings on campus have been constructed to meet Leadership in Energy and Environmental Design (LEED) Silver standards. This internationally recognized green building certification system focuses on five key areas of sustainability, one of which is water savings. The University's five LEED-constructed buildings all include water-saving fixtures such as sensor faucets, low-flow showerheads, waterless urinals, and low-flow irrigation and drought-resistant landscaping. In addition, the Student Services Center features a bioswale system to control rain water runoff, the Gateway Science Museum utilizes permeable concrete paving to allow for 90 percent water retention, and Parking Structure II has a storm-water system that treats rainwater. The new arts and humanities building will feature water-saving fixtures and low-flow irrigation as well.

- The Facilities Management and Services standard is to replace old lavatories and urinals with new low-flow fixtures that use one-third the water of a standard fixture.

- Almost all faucets on campus have been fitted with water-limiting aerators that use almost 60 percent less water (1.5 gallons per minute as compared to 3.5 gallons per minute).

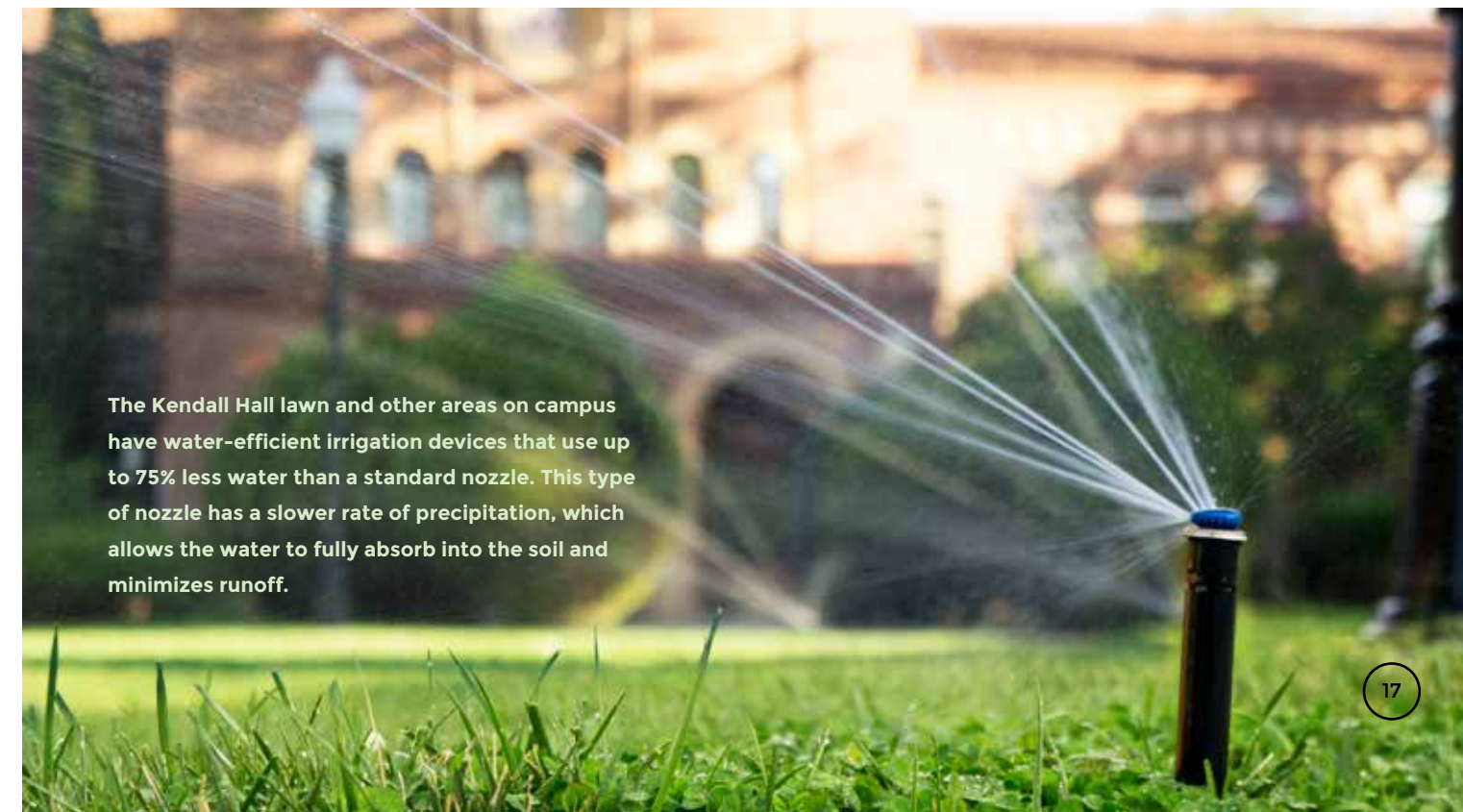
- Hose bibs throughout campus have been replaced, locked, or removed, which prevents misuse and thousands of gallons of annual waste.

## TAKING IMMEDIATE ACTION

In an effort to meet Governor Brown's call on all Californians to reduce their water use by 20 percent in 2014, the usual pressure washing of building exteriors did not take place as has been typical each summer. In addition, the washing of the exterior windows campuswide was suspended. The University Farm has let 40 acres of land lay fallow this year due to water limitations and planted fewer water-intensive crops.



Michael Alonzo operates the “smart” watering system at the soccer field.



The Kendall Hall lawn and other areas on campus have water-efficient irrigation devices that use up to 75% less water than a standard nozzle. This type of nozzle has a slower rate of precipitation, which allows the water to fully absorb into the soil and minimizes runoff.



# WASTE DIVERSION



The Office of Property Management is increasing the use of surplus property on campus through innovative use of Facebook. Campus departments can “like” the Facebook page and get updates about surplus events such as staff and faculty viewing days, public auctions, public and private school giveaways, and nonprofit donation days. Department personnel can also view photos of surplus items on Facebook to see what is available for reuse. (Pictured above are Erika Eden-Zamarron and Jason Smock, property clerks.)

Since 2000, CSU, Chico has been working toward goals to reduce, reuse, and recycle waste. The initial goals were to divert 25 percent of the campus’ solid waste from landfills by 2002 and 50 percent by 2004. The Campus Conservation Committee, established in 2000, reviews the University’s waste management procedures and makes recommendations on how to increase waste diversion.

## REDUCE, REUSE, RECYCLE

CSU, Chico uses a variety of methods to reduce, reuse, and recycle waste. There are programs that have been in place for many years, such as AS Recycling, which collects recyclables campuswide. The University’s surplus computers and electronic waste are donated to Computers for Classrooms, which repairs them for use in schools and by low-income students. The reduction of paper use has been promoted heavily for years by encouraging double-sided printing and copying; eliminating phone books; and putting forms, syllabi, and course materials online.

The campus program Diversion Excursion set a record this year by diverting more than 17 tons from the local landfill. More than 130 student, staff, and faculty volunteers collected donations from the 1,600 University Housing residents when they moved out at the end of spring semester. The unwanted furniture, household goods, and other items were donated to local nonprofits or recycled. The amount represents nearly twice that collected last year.

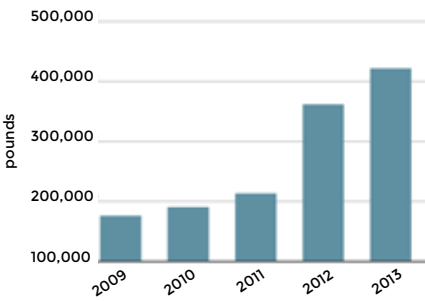
## NEW PROGRAMS & IMPROVEMENTS

- Large construction projects generate tons of waste, and diverting that waste from landfills so that it can be recycled for new uses is a high priority. While state law requires a minimum 50 percent diversion rate, CSU, Chico realizes a much higher percentage. For example, in August 2011, the University parking lot on Second Street was demolished to make way for the new office complex and parking structure located on the same site. Eighty-five percent of the construction waste generated on-site was diverted from landfills—35 percent more than required.



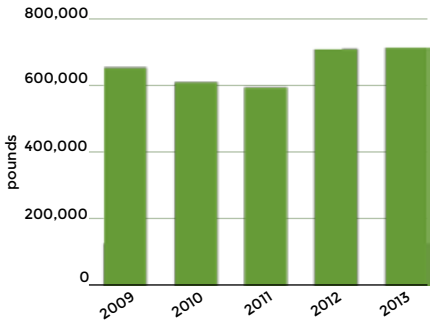
- The Associated Students was selected for a best practice award from the California Higher Education Sustainability Conference for its Green Event Consulting Team. The team aims to improve the sustainability of campus events, and as a result, 40,000 pounds of waste has been diverted from landfills and more than 100 Zero Waste events have been executed.
  - The AS Recycling Program was awarded \$55,000 by CalRecycle in 2012 to purchase outdoor recycling bins. Placement of the new bins continues through 2014.
  - The Associated Students organization is committed to becoming a Zero Waste organization by 2015. As of 2013, the AS diversion rate was approximately 85 percent.
  - A large-scale trash compactor was installed in June 2013 as the final phase of the campuswide dumpster-reduction project. The objective of this multiyear collaborative effort by the Campus Conservation Committee and Facilities Management and Services (FMS) was to eliminate dumpsters on campus and centralize trash collection. The trash compactor reduces trash-hauling trips to campus, reduces truck traffic on campus, and provides improved waste-to-landfill metrics.
- Pictured, left to right, are Richard Perelli (EHS), Durbin Sayers (FMS), and Jeffrey Hensley (FMS).*

## AS COMPOSTING PROGRAM



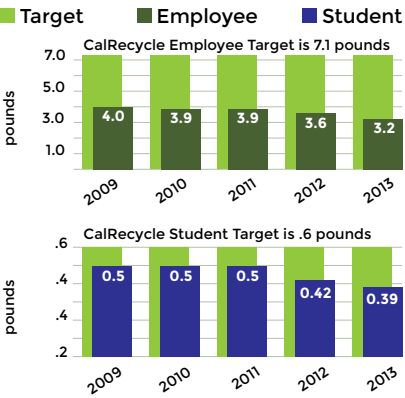
In 2013, AS Dining Services composted 422,000 pounds and recycled nearly 150,000 pounds of material from kitchen and dining facilities on campus. In addition, used cooking oils are turned into biodiesel fuel.

## AS RECYCLING TOTALS



On average, 22 students collect recycling and compost from over 2,100 bins throughout campus. When comparing 2011 to years 2012 and 2013, the annual increase of over 100,000 pounds of total recycling can be attributed to the successful composting program implemented in AS Dining Services.

## SOLID WASTE DISPOSAL PER CAPITA



The State of California in 2007 assigned the University a 50 percent-per-capita disposal target for staff and students based on the pounds of waste sent to landfill in 2006. As you can see from the graph above, CSU, Chico meets and exceeds annual waste diversion targets each year and continues to trend downward.





# TRANSPORTATION

**C**SU, Chico is working hard to reduce single-occupant vehicle trips to campus by promoting a range of alternatives. The University's Transportation Demand Management Plan developed in 2008-09 by transportation consultants continues to guide both administration and the Campus Transportation Committee in these efforts. Their goal is to make policy and infrastructure changes that will promote walking, biking, transit, and other forms of alternative transportation as a convenient, safe, and practical means for campus trips.

## NO CAR, NO WORRIES

Students have the flexibility of a car without the hassle of traditional car ownership with Zipcar. CSU, Chico adopted the service in 2009 and now has 650 members who appreciate the self-service access to cars 24/7 with Zipcars located right on campus. The low hourly and daily rates include gas and insurance.

## MAKE A B-LINE TO THE BUS STOP

Continuing to invest in alternative transportation, the University and Associated Students pay \$265,000 annually to the Butte County Association of Governments so that CSU, Chico students and employees can ride the B-Line (Butte Regional Transit) free with their Wildcat ID card. This regional public transit system travels locally in Chico, Oroville, Paradise, and between communities throughout Butte County.

## CATCH A RIDE

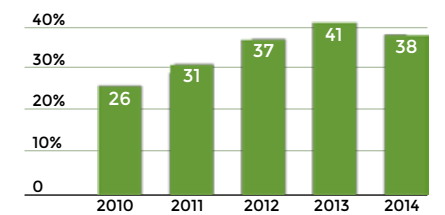
Zimride is a fun and easy way for students and employees to share the seats in their car or catch a ride. Members can find CSU, Chico friends, classmates, and coworkers going the same way, whether it's commuting back and forth to school, taking road trips, or attending popular events. CSU, Chico joined the program in 2010 and currently has 1,650 members.

## ELECTRIC VEHICLES

In October 2012, nine new electric-vehicle charging stations opened on the top floor of the new parking structure located at Second and Chestnut Streets. The energy used by the stations is offset by an 80-kWh solar photovoltaic array located on the roof of the same parking structure. The stations encourage the purchase and use of electric vehicles by providing access to charging infrastructure, and the stations are compatible with all electric or plug-hybrid-electric vehicles.

The University continues to expand its fleet of electric vehicles with widespread adoption by Facilities Management and Services, Business Services, University Housing, and the campus in general. In 2014, electric vehicles comprised 38 percent of the fleet, which is a significant increase when compared to 31 percent in 2011.

### PERCENTAGE OF CAMPUS VEHICLE FLEET USING ELECTRICITY



## ALTERNATIVE TRANSPORTATION

The Alternative Transportation Group (ATG) was established in the fall of 2011 to focus on education and outreach to the campus community relating to alternative modes of transportation such as walking, biking, car sharing, carpooling, public transit, and others. Members can often be found on campus giving away smoothies made in their popular bike blender to students and staff who stop by their table to find out about alternative transportation.



## ULTRA-LOW EMISSIONS VEHICLES

In cases where an electric vehicle is not suitable, ultra-low emission vehicles (ULEVs), have been utilized. A ULEV is a vehicle that has been verified by the California Air Resources Board (CARB) to emit 50 percent less polluting emissions than the average for new cars released in that model year. Facilities Maintenance and Services currently has 11 Ford Ranger pickups that are classified as ULEVs.





# BIKING— A WAY OF LIFE IN CHICO

**C**SU, Chico continues to promote bikes (and skateboards) as a convenient means of transportation to campus. Several improvements have been made in the last few years that support biking and skateboarding:

- New bicycle parking was added behind Siskiyou Hall, at Laxson Auditorium, and in front of the University Police Department on Second Street. These new lots are on the perimeter of the campus, provide easy access, and help to preserve the pedestrian-friendly campus core. Also in the works is an expansion of the bicycle parking at the Student Health Center slated for completion during fall 2014. The expanded lot will feature 46 Park-A-Bike racks as well as improved lighting for safety.

- Old and obsolete bike racks are being replaced with bike racks that have a more stable structure and provide enough space to secure both the bike frame and tire. Over the last few years, 1,376 bike racks have been replaced, netting 260 additional racks compared to 2008.

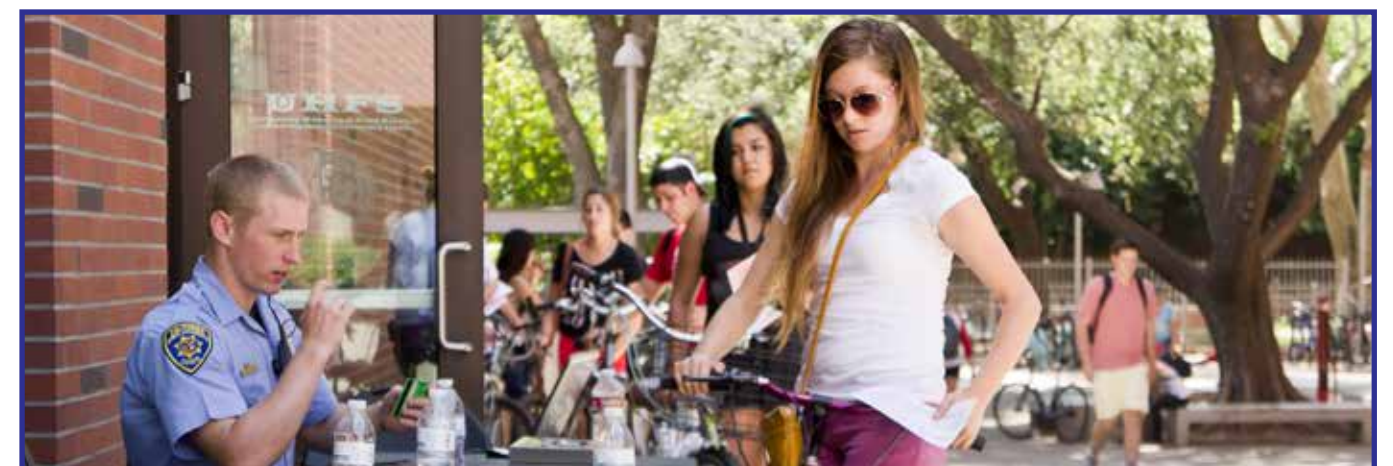
- A bike path on the west side of campus is planned to open fall 2014. This will be a safe path of travel for bicyclists making their way to Yolo Hall and the gyms. Blue-light phones with direct access to University Police are located at the railroad crossing and near the end of the path at the Yolo Hall south entrance. Also included in the project is the removal of existing bike racks surrounding Yolo Hall and the installation of 164 new Park-a-Bike racks on the west side of Yolo Hall.

- In 2013, an east-west Class II bike lane along Second Street was completed by the City of Chico in partnership with the University. This new, safer lane is the main east-west route for bicyclists making their way to campus.

- First-year students are encouraged to use alternative transportation and are discouraged from bringing cars to campus. This is partially accomplished by providing limiting vehicle parking at the residence halls. CSU, Chico continues to have the lowest ratio of parking spaces to potential campus users in the entire CSU system.

- With funds from the Sustainability Fund Allocation Committee (SFAC), the University installed four bicycle maintenance stations on campus in 2013-14 to support bicycle commuters. The stations are located near busy bicycle-parking areas and each include an air pump, a set of tools for basic repairs, and hanger arms for mounting a bicycle for work. The stations are popular with bicyclists and have received a substantial amount of use in their first semesters. They are a great 24/7 complement to existing bicycle support services and facilities.

- To promote safe travel to and from campus, the University Police launched a pilot program in spring 2014 to give away 150 free bike lights to students whose bikes were without lights. Bike registration fees were used to purchase the lights, which were installed at no cost by student employees at the Adventure Outings Bike Cart. Because the pilot program was so well received, it is anticipated that 500 more lights will be given away during bike registration in fall 2014.



Community Service Officer Erick Fuchs (University Police) is registering bikes during the first few days of the fall 2014 semester. To promote safe travel to and from campus, some of the fees collected from registrations are used to purchase and give away free bike lights to students whose bikes are without lights. The program began in spring 2014, and so far, 650 lights have been given away. The lights are installed at no cost by student employees at the Adventure Outings Bike Cart.



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