

# CAL POLY

# SUSTAINABILITY

2018 SEVENTH BIENNIAL PROGRESS REPORT



*Developed by Facilities Management & Development (FM&D)  
in cooperation with the Sustainability Advisory Committee and  
the Academic Senate Sustainability Committee.*

[sustainability.calpoly.edu](http://sustainability.calpoly.edu)

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## A LETTER FROM OUR PRESIDENT

This is an exciting time in campus history as we envision the facilities needed to ensure future generations of students will get the most from Cal Poly's hands-on Learn by Doing education. Our student-created Climate Action Plan to achieve carbon neutrality and climate resilience is a tremendous example of Campus as Living Lab, and will help guide campus development to ensure these new facilities are not only beautiful and functional, but achieve high performance and sustainability through innovation and integrated design.

**Jeffrey D. Armstrong**  
President | Cal Poly  
San Luis Obispo, California

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*Cal Poly defines sustainability as the ability of the natural and social systems to survive and thrive together to meet current and future needs. This requires that development consider and balance protection of the natural environment, sound economics, and social justice.*

# 01

## POLICY, PLANNING, AND LEADERSHIP

### CSU SUSTAINABILITY POLICY UPDATE

Last updated in 2014, many [CSU Sustainability Policy](#) goals are approaching their target year of 2020. To ensure a timely and meaningful update of this policy, Cal Poly's Energy, Utilities, and Sustainability department hosted sustainability champions from across the CSU to begin development of the next iteration of CSU systemwide sustainability goals in a Learn by Doing two-day workshop. Led by Cal Poly's [Central Coast Lean](#) and expert campus facilitators, attendees created a framework for the next generation of CSU Sustainability Policy, setting new goals around buildings, energy, water, waste, transportation, food, climate, curriculum, and community engagement. In addition to jump-starting this policy update, the workshop exposed participants to the fundamentals of Lean Process Improvement and [Liberating Structures](#) facilitation to enhance strategic planning and stakeholder engagement on their own campuses.

### AASHE STARS

In February 2017, Cal Poly earned a [STARS Silver](#) rating in recognition of its sustainability achievements from the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS, the Sustainability Tracking, Assessment & Rating System, awarded Cal Poly high ratings in curriculum, campus engagement, planning, and water and greenhouse gas emissions management. Cal Poly intends to resubmit for a Gold rating in spring of 2019, with additional credits for the new solar farm, increased sustainability course offerings, and other ongoing initiatives.

### STRATEGIC PLANNING

Over the last two years, Cal Poly has undertaken a comprehensive strategic planning process at the [university](#), [division](#), and [department](#) levels. Sustainability is a fundamental part of these plans, charting the course for Cal Poly to continue growing as a leader in sustainability with targeted initiatives around energy, water, waste, transportation, and further infusion into curriculum, research, and student life.

### CAMPUS MASTER PLAN UPDATE

Cal Poly is in the process of updating the [Campus Master Plan](#) through 2035. Much of the plan is focused on developing additional student and workforce housing, which will reduce regional traffic congestion, improve air quality, and reduce carbon emissions from commuting. Research shows that housing all first- and second-year students should significantly increase student success, retention, and graduation rates. New academic and support facilities, and enhanced outdoor spaces will accommodate a future enrollment of 25,000.

Sustainability is a guiding principle of the Master Plan. Smart growth measures include high-density infill development, protection of important environmental resources such as prime agricultural land and open space, protective buffers around

creeks, and continuing the transition to a pedestrian- and bicycle-friendly campus core. New facilities and campus infrastructure must be environmentally responsible, energy and water efficient, and showcase advancements in sustainable technologies.

### UTILITY MASTER PLAN

To support the enrollment growth and new facilities envisioned by the Master Plan, Cal Poly is undertaking a comprehensive Utility Master Planning process in 2018. Like a small city, Cal Poly manages utility infrastructure systems for electricity, natural gas, district heating and cooling, water, sewer, storm water, and telecommunications. These systems are being evaluated to ensure adequate capacity to support Master Plan development in a sustainable manner — considering issues such as efficiency, carbon emissions, life cycle cost, and climate resilience.

### WE ARE STILL IN

In February 2017, with the United States preparing to withdraw from the Paris Climate Agreement, President Armstrong signed the [We Are Still In](#) pledge, reaffirming Cal Poly's commitment to climate neutrality. Shortly thereafter, CSU Chancellor Timothy White signed the pledge on behalf of the entire CSU.

-  **2,500+** SIGNATORIES
-  **\$6.2 TRILLION** OF U.S. ECONOMY
-  **9** STATES
-  **252** CITIES AND COUNTIES
-  **1,780** BUSINESSES AND INVESTORS
-  **339** COLLEGES AND UNIVERSITIES
-  **213** COMMUNITIES OF FAITH
-  **130 MILLION** AMERICANS REPRESENTED

# 02

## SUSTAINABILITY IN FACILITIES AND HIGHER EDUCATION

The language used in the sustainability profession has evolved over time to reflect the issues of the day. Renewable became sustainable. Global warming became climate change. Practitioners in diverse professions worked on climate action planning, then mitigation, then adaptation, and now resilience. This change in the lexicon underscores the dramatic speed with which the impacts of climate change have evolved from theory to painful reality.

While we continue to work diligently to reduce greenhouse gas emissions through energy and water conservation, renewable energy, high performance buildings, and alternative transportation, we must also develop and implement plans to prepare our society and critical infrastructure to be resilient — to withstand and recover from disasters that we may no longer be able to call “natural.”

After years of drought, California experienced the most destructive wildfire season in history in 2017, with over 1.3 million acres burned by over 9,000 fires, nearly 10,000 structures destroyed, over \$13 billion in damages, and more than 40 lives lost. The Southern California Thomas Fire was immediately followed by heavy rains in Santa Barbara and Ventura, resulting in massive mudslides from fresh burn areas in the mountains. The city of Montecito saw more than 100 homes destroyed, 23 lives lost, and Highway 101 closed for nearly two weeks while crews cleaned up mud and debris flows 12 feet deep.

The work of university facilities organizations and local resilience planners creates transformative opportunities to involve faculty and students in hands on Learn by Doing projects that benefit local communities. Climate adaptation and resilience planning must include emergency management, public safety, and public health. The work undertaken must also incorporate social equity and environmental justice to ensure those at greatest risk, with the least ability to defend themselves — often low-income areas and communities of color — are protected. Cal Poly and the CSU remain committed to this work. This is the seventh biennial report of progress toward Cal Poly’s sustainability goals.



## CAL POLY SUSTAINABILITY INDICATORS



### ENERGY USE

- BTUs per square foot of building
- Percentage of electricity from renewable resources

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### TRANSPORTATION

- Percentage of students living on campus
- Number of bike rack spaces
- Parking permits sold per capita
- Public transit ridership
- Fossil fuel usage avoided by EV charging
- Percentage of fleet vehicles using alternative fuel

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### WATER RESOURCES

- Total water by source
- Total water by use
- Fecal coliform in Stenner Creek
- Nitrates in groundwater monitoring wells
- Pollutants in wastewater

PAGE 14



### LAND USE AND DEVELOPMENT

- Percentage of campus square footage in LEED-certified buildings

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### PROCUREMENT

- Percentage of recycled content paper

PAGE 18



### GREENHOUSE GASES

- Percentage below 1990 baseline
- Percentage of electricity from non-GHG emitting sources

PAGE 20



### SOLID WASTE AND RECYCLING

- Percentage of solid waste diverted from landfills
- Per capita landfill disposal

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### CURRICULUM

- Number of sustainability courses, majors, and minors

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*Cal Poly's highly impactful Sustainability Charrettes use Lean Process Improvement and Liberating Structures facilitation to bring out the best ideas from stakeholders and turn them into action.*

# 03

## SUSTAINABILITY HIGHLIGHTS AND AWARDS

### PRESIDENT'S SUSTAINABILITY AWARD

The President's Office bestows a number of awards each year to members of the Cal Poly community that demonstrate commitment to the University's highest values — teaching, scholarship, philanthropy, and diversity. To recognize the importance of sustainability as a core value of Cal Poly, a President's Sustainability Award is being added in the coming year. The nomination and award process will be created and overseen by the Energy, Utilities, and Sustainability department in Facilities Management and Development.

### A GROWING ENERGY, UTILITIES, & SUSTAINABILITY (EU&S) ORGANIZATION

In early 2017, the Cal Poly EU&S team added an AmeriCorps Volunteer Infrastructure Program (VIP) member for a one-year term to design and run a Zero Waste Ambassadors program. This initiative recruits and trains student volunteers to tackle event waste, assisting the Cal Poly Athletics program to achieve Zero Waste goals at Mustang Stampede events for home football games. In 2018, a permanent new staff position — Zero Waste Program Coordinator — was added to improve Cal Poly's waste diversion programs campuswide, funded entirely by the savings it will achieve.

### SUSTAINABILITY IN UNIVERSITY HOUSING

In 2017, Housing added a new Assistant Director of Facility Operations and Sustainability to manage energy, water, and waste programs, and help the Green Campus students and Residential Life staff support increased sustainability education in campus housing.

*Cal Poly participates in several certification and rating systems to measure the effectiveness of programs and shares lessons learned with peer institutions through statewide best practice award competitions.*



## AWARDS AND ACCOLADES

Cal Poly continues to build a reputation for leadership in sustainability in operations and academics. In 2018, Cal Poly received its 31<sup>st</sup> Sustainability Best Practice Award from the UC/CSU/CCC Energy Efficiency Partnership Program. The university received significant funding to advance sustainability programs and initiatives, completed LEED Certification of three buildings, and received recognition for student leadership, sustainable food service, transportation programs, building design, nationally ranked academic programs, and student design competitions.

### UC/CSU/CCC ENERGY EFFICIENCY PARTNERSHIP PROGRAM

- 2018 Student Sustainability Leadership — Climate Change Action Research Group
- 2018 Waste Reduction — Zero Waste Ambassadors Program
- 2018 Sustainability in Academics — Interdisciplinary First-Year Honors Experience
- 2017 Student Leadership — The Student Sustainability Leadership Summit
- 2017 Dining Services — Sustainable Dining to Reduce the University's Footprint
- 2017 Innovative Waste Reduction (Honorable Mention) — Cooperation (and Good Data) Makes it Happen!
- 2017 Sustainability Innovations — Creative Solutions for Large Scale Renewables
- 2016 HVAC Retrofit — Variable Chilled Water Pumping and Plant Optimization

### OTHER GRANTS, AWARDS, AND RECOGNITION

- 2018 California Climate Change Research Program Grant — The Future of San Joaquin Valley Agriculture Under Climate Change and SGMA — \$531,000
- 2018 CSU Hunger-Free Campus Designation and Grantee — \$130,000
- 2018 California State University Transportation Consortium (CSUTC) Research Grantee — \$75,000
- 2018 International Parking Institute — Parking Matters Award
- 2018 Center for Urban Transportation Research — Best Workplace for Commuters
- 2017 CSU Chancellor's Office capital allocation for exterior LED lighting and variable flow pumping retrofits — \$1,070,000
- 2017 LEED O+M Silver Certification — Advanced Technologies Laboratory, Cotchett Education, and the Construction Innovations Center
- 2017 Center for the Built Environment Livable Building Award — Warren J. Baker Center for Science
- 2017 Outstanding Student Employee of the Year — Green Campus Team Manager Molly Barker
- 2017 National Arbor Day Foundation — Tree Campus USA Certification
- 2017 League of American Bicyclists — Bicycle Friendly University Bronze
- 2017 America's Best Architecture & Design Schools (Undergraduate) — Best in the West, Number 2 in the Nation
- 2017 Best in the West — College of Architecture and Environmental Design Intelligence (DI) Rankings
- 2017 American Society of Civil Engineers World Environmental and Water Resources Congress — First Place, Parsons Brinkerhoff Student Design Competition
- 2016 National Arbor Day Foundation — Tree Campus USA Certification

# 04

## ENERGY

### RENEWABLE ENERGY

With completion of the 4.5 MW **Gold Tree Solar Farm**, Cal Poly has created the single largest solar array in the CSU system. The single-axis tracking array generates more than 11,000,000 kWh per year — 25 percent of the university's total electricity needs. Funded by a power purchase agreement with **REC Solar**, a San Luis Obispo-based company founded by Cal Poly graduates, the system will save the university some \$17 million over the next 20 years.

To bring the solar farm into the classroom and laboratory, a comprehensive array of instrumentation and a web-based dashboard will make weather and performance data available for curriculum, applied research, and student projects. Constructed on 18.5 acres of Cal Poly sheep pasture, the site will continue to be grazed by the **Animal Science Department's** sheep herd to research vegetation management practices for utility scale solar farms. With a number of small solar arrays in the campus core, the project will also create a hands-on solar engineering and microgrid laboratory at the **Electrical Engineering** building.

Cal Poly's approach to collaborative public-private partnerships that integrates academics into infrastructure will be a model for the future and is a fundamental part of the next round of energy generation projects being developed — an anaerobic dairy digester and biogas-fueled cogeneration system, an on-campus waste water recycling facility, and a 800 kW rooftop solar system on the new **Yak?it'utu** student housing complex.

Cal Poly continues to procure some of the cleanest energy in the nation. PG&E's reported 2017 **Power Mix** included 33 percent from "qualified renewables" — solar, wind, geothermal, biomass, and small hydro — achieving the state's 2020 Renewable Portfolio Standard mandate four years early. With large hydroelectric and nuclear included, 79 percent of PG&E's energy came from carbon-free sources. Like many California cities and counties, the CSU system is pursuing creation of a **Community Choice Energy** program for eligible campuses, clearing the way for the CSU to accelerate progress toward climate neutrality.

The state's electrical grid must develop significantly more energy storage infrastructure to balance intermittent solar and wind energy generation with demand. Until then, Cal Poly is working to further optimize use of thermal energy storage at the central chiller plant, develop a megawatt-scale battery storage project at the campus substation, and expand and automate its Demand Response program. Together, these initiatives are expected to result in over \$100,000 per year in utility savings.

The CSU, with support from Cal Poly, is participating in a \$4 million California Energy Commission (CEC) grant working to accelerate adoption of clean distributed energy resources (DERs) by identifying and leveling barriers, aggregating the buying power of major institutions, and facilitating streamlined procurement.

### ENERGY EFFICIENCY

Energy efficiency and demand response continue to be at the top of California's energy "loading order" for statewide planning. By continuing to reduce consumption, especially at times of pressure on the state utility grid, California avoids the need to build new power plants or operate existing plants with the highest carbon emissions.

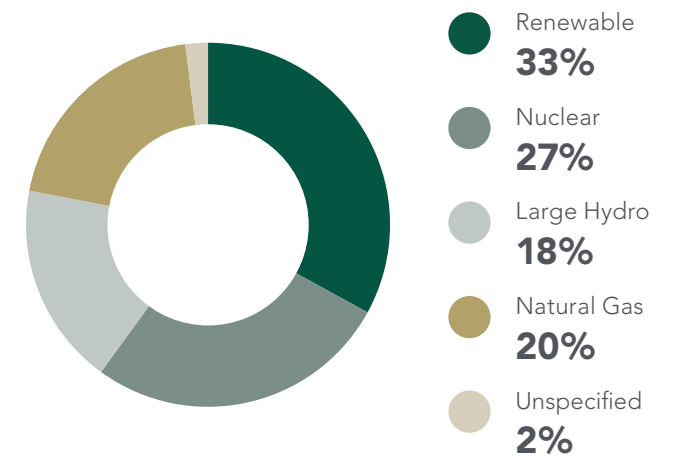
Building on the campuswide LED streetlight retrofit completed in 2016, Cal Poly replaced exterior lighting on 11 residence halls with LED, reducing energy consumption by nearly 50 percent while improving light quality and safety. Mott Gymnasium received an LED upgrade that reduced energy use significantly while bringing light levels up to NCAA standards for televised games and creating an amazing fan experience. The University Union underwent a buildingwide LED lighting redesign that transformed the look of one of the busiest locations on campus. With receipt of \$1,070,000 in funding from the Chancellor's Office, Cal Poly is planning a major upgrade to LED exterior lighting across the campus in the next year and will retrofit hot water pumping systems to variable flow in numerous buildings.

With the adoption of "big data" computing analytics through its new Energy Information System, Cal Poly is deploying automated fault detection and diagnostics to work toward continuous commissioning and optimization of central plants and building HVAC systems. The first phase of this project will focus the technology on some of Cal Poly's biggest energy users — lab buildings and an aging HVAC infrastructure. The **SkySpark** based **EcoVox** software solution that came out on top of a CSU systemwide solicitation was developed by Cal Poly Mechanical Engineering graduates and is being deployed on 18 of the 23 CSU campuses.

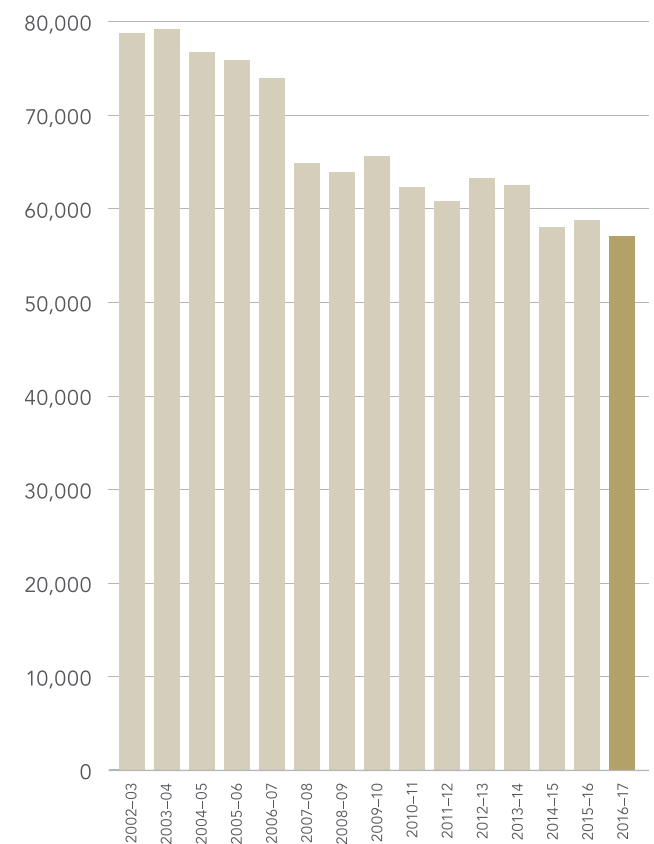
Through a new partnership with Amazon Web Services, Cal Poly is moving its aging data center to the cloud to take advantage of state-of-the-art computing horsepower and cyber security, while significantly reducing the energy and environmental footprint of a critical business and academic function. The partnership also creates the Cal Poly **Digital Transformation Hub** — the world's first university-based cloud innovation center to accelerate digital transformation in government, education, and nonprofit sectors.

### 2017 POWER MIX

In 2017, over three quarters of the electricity PG&E provided customers came from sources that were renewable or non-carbon emitting.



### BTU PER SQUARE FOOT OF BUILDING



Since 2003, Cal Poly's total building energy use per square foot has been reduced by over 27%.

# 05

## TRANSPORTATION



### TRANSPORTATION STATISTICS 2016–2017

**33%**

Students Living on Campus  
*14% increase since 2006*

**7,291**

Bike Racks on Campus  
*5,191 new racks since 2005/2006*

**0.19**

Parking Permits per Capita  
*Decrease of 0.11 since 2006*

**724,647**

Cal Poly SLO Transit Ridership  
*Increase of 180,517 rides since 2006/2007*

**4,900**

Gallons of Gasoline Saved Through the Use of Campus Charging Stations  
*Increase of 1,026 gallons since 2015/2016*

**29%**

Percentage of Alternative Fuel Campus Vehicles  
*Increase of 1% since 2015/2016*

### SUSTAINABLE TRANSPORTATION PROGRAMS

#### TAPS MISSION

Transportation & Parking Services (TAPS) supports access to the campus through financially and environmentally sustainable practices, innovation, and professional management of transportation and parking resources. TAPS offers numerous options to get faculty, staff, and students out of single passenger vehicles and into mass transit, carpool, vanpool, and other alternative modes of transportation.

#### BEST WORKPLACES FOR COMMUTERS

Cal Poly was named one of San Luis Obispo County's "Best Workplaces for Commuters in 2018." TAPS works to provide exceptional commuter benefits to all Cal Poly employees.

#### "MY OTHER CAR IS" CAMPAIGN

At the start of 2017–18 academic year, TAPS rolled out the "My Other Car Is" campaign, highlighting the most popular alternative and sustainable transportation modes used by members of the campus community. This campaign targeted university stakeholders living, working, and visiting Cal Poly. During the first full month of the campaign, there were 141,000 views of Cal Poly's alternative transportation messaging.

#### RE-CYCLE BIKE AUCTION

The annual fall bike auction was held in October 2017, recycling 133 bikes back into the community. Proceeds from the auction continue to fund university bicycle safety and education programs.

#### BICYCLE FRIENDLY UNIVERSITY DESIGNATION

Cal Poly was recognized by the League of American Bicyclists with a Bicycle Friendly University Bronze award, joining over 180 colleges and universities across the country. The Bicycle Friendly University program evaluates campus efforts to promote bicycling in five primary areas: engineering, encouragement, education, enforcement, and evaluation/planning.

#### ASI/TAPS BIKE RACK PARTNERSHIP

Over 2017–18, approximately 600 bike parking spaces were added to key locations throughout campus. ASI Student Government and TAPS partnered to fund the purchase and installation of these racks to accommodate the increased number of bikes on campus. Cal Poly uses PEAK racks, which were originally developed at Cal Poly and are considered easier to use and more secure than older style racks previously used throughout campus.

#### BOLTABOUT POLICE BIKES

BoltAbout Electric Bike Rental Company was founded by Cal Poly students with support from Cal Poly's Center for Innovation and Entrepreneurship. Electric bicycles in the police fleet allow for a more environmentally sustainable way for police officers to serve the campus community.

#### ZIPCAR ADDITIONS

In 2017, Cal Poly's student, faculty, and staff Zipcar members helped reduce carbon emissions by over 1,100 metric tons. Use of Cal Poly's 10 available Zipcars was equivalent to the elimination of 103 personally owned vehicles on campus. Cal Poly is one of two CSUs where Zipcars are available for hourly or daily rental. Adoption by campus departments for day-to-day business should reduce the size of the campus fleet, the cost to maintain it, and carbon emissions associated with older fleet vehicles.

#### SLO TRANSIT

SLO Transit adopted its short-range transit plan during the summer of 2017, providing new and more efficient routes to and from campus. Cal Poly represents approximately 50–60 percent of the SLO Transit ridership. TAPS pays a subsidy to SLO Transit from parking citation fines to allow all Cal Poly students, staff, and faculty to ride free of charge.

# 06

## WATER

### WATER CONSERVATION

Cal Poly continues to make water conservation a high priority. Three state buildings and three housing buildings were converted to low-flow plumbing fixtures, and over nine miles of aging underground hot water distribution piping were replaced to reduce leakage. The campus's new *wireless irrigation control system* is being expanded from its current 50 percent of landscaped areas to optimize landscape irrigation across the entire campus core.

Areas where turf was removed in response to the drought are being redesigned using drought-tolerant and native plantings to create beautiful water-wise landscapes. After the popular Cal Poly Rodeo was held in Spanos Stadium for Open House 2016, which put significant strain on the underlying sports turf, Cal Poly chose to experiment with a new water conservation technology to help the field recover. *AquaCents* — an inert, non-toxic water-holding polymer — was injected at the turf's root zone, holding water where the grass can make optimal use of it and decreasing the need for irrigation. Case studies show a potential 45 percent water savings with no reduction in turf health or appearance, and the technology is being evaluated for application on other large turf areas.

With a generous gift from numerous donors led by the Doerr Family, Cal Poly's football and soccer practice facility was completely renovated — receiving a new scoreboard, goalposts, soccer goals, filming towers, and a 140-yard synthetic turf field — eliminating the need to irrigate nearly two acres of turf.

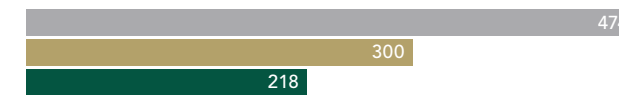
In partnership with the City of San Luis Obispo, Cal Poly reassessed the safe annual yield of the *Whale Rock* reservoir and its watershed — campus's main source of water supply — to incorporate the future impacts of climate change using models published by the EPA. The analysis quantified the amount of water Cal Poly can safely use to guide future planning and led to the creation of adaptive management strategies to ensure campus is prepared for the next cycle of drought.

To make the best use of limited regional water resources, Cal Poly is also collaborating with the City of San Luis Obispo to evaluate opportunities to procure or produce recycled water for use on landscape and agricultural land. Use of recycled water for these purposes will free up potable water supply to serve some of the new buildings and facilities envisioned by the new Master Plan.

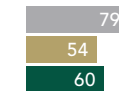


### WHALE ROCK WATER USAGE

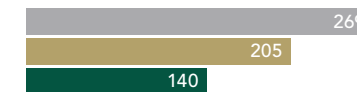
#### AGRICULTURE



#### SPORTS COMPLEX FIELDS



#### CAMPUS LANDSCAPE



#### BUILDINGS



#### PROCESS USE



### GROUND WATER

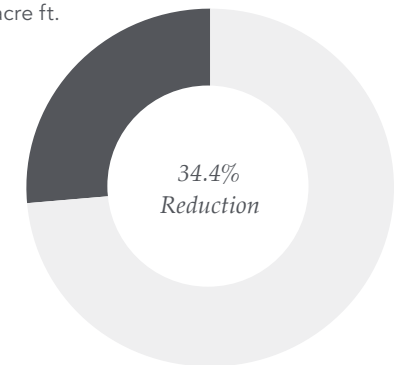
#### AGRICULTURE — WELL WATER



● 2013 use acre ft. ● 2016 use acre ft. ● 2017 use acre ft.

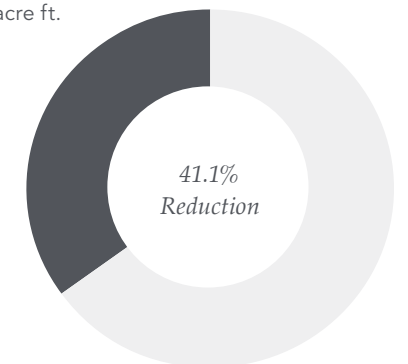
### WHALE ROCK WATER USAGE TOTALS

2013: 1,106 acre ft.  
2016: 816 acre ft.  
2017: 726 acre ft.



### CAMPUS WATER USAGE TOTALS

2013: 1,408 acre ft.  
2016: 918 acre ft.  
2017: 830 acre ft.



*Adoption of a wireless irrigation control system, capable of optimizing watering in response to daily changes in weather, has contributed to a 48 percent reduction in water use across the campus core.*



## WATER QUALITY

Cal Poly's Water Quality Management Program, created and overseen by the Environmental Health and Safety Department, is a collaborative approach to water quality and regulatory compliance. The program seeks to improve the quality of water passing through the campus by monitoring pollution in surface waters, groundwater, and wastewater leaving through the sanitary sewer for treatment by the City of San Luis Obispo's Water Resource Recovery Facility.

Water in Stenner Creek is tested semi-annually for E. coli, an indicator of bacterial contamination primarily from livestock and wildlife activity near riparian areas. Results continue to be consistent with historic trends and within water quality standards. Monitoring wells are used to test groundwater quality, measuring nitrate levels above and below campus. Results continue to exceed water quality standards and for the last two years nitrate levels entering and leaving campus were virtually identical.

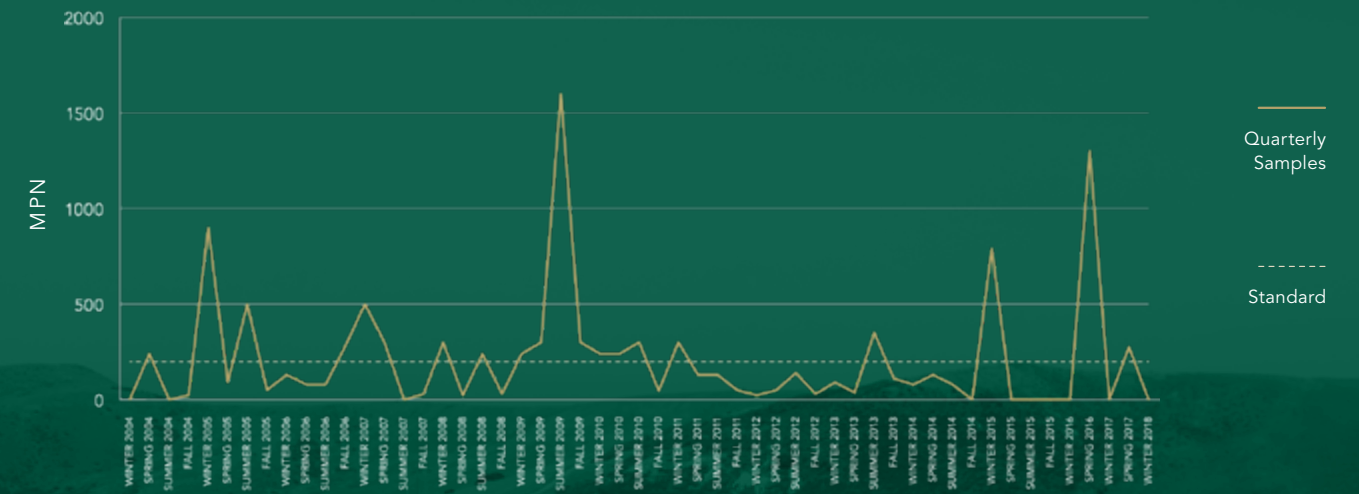
Pursuant to new standards adopted in 2012, Cal Poly tests for a number of pollutants in sanitary wastewater. Some contaminants that the campus had previously been monitoring are no longer considered significant enough to warrant testing, while others were added to the program. Increases in ammonia and biochemical oxygen demand (BOD) are attributed to the ongoing

transition to low-flow plumbing fixtures for water conservation. While ammonia exceedances have remained steady, the campus has experienced decreases in BOD and copper. Zinc continues to be reduced largely due to Custodial Services' Green Cleaning program.

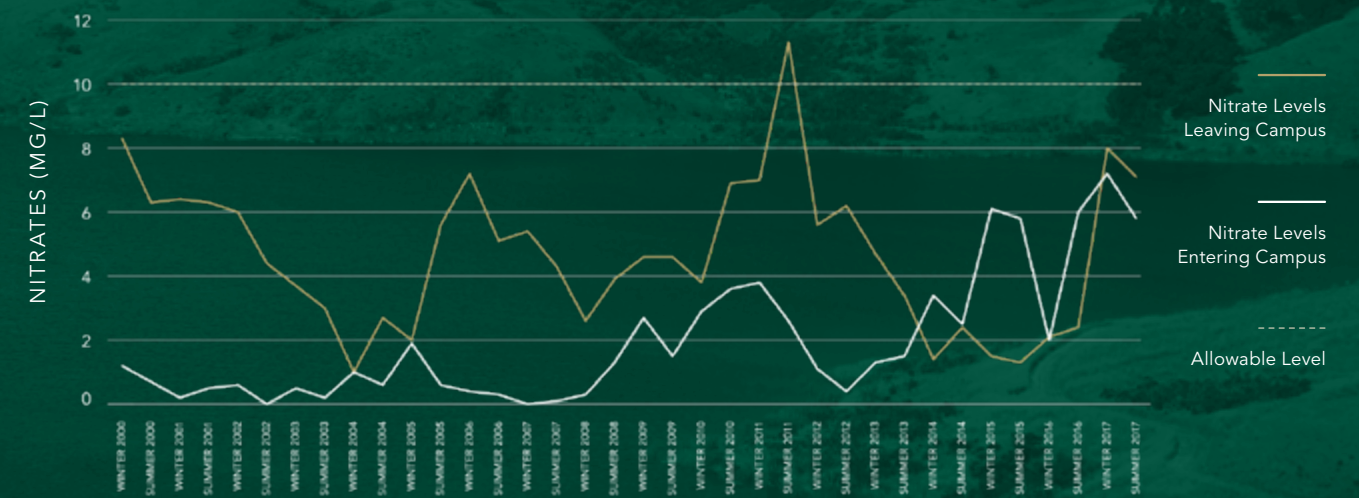
Underground utility systems continue to undergo major changes to enhance safety, efficiency, and reliability. Over nine miles of aging Utilidor hot water piping was replaced and new isolation valves installed to reduce the risk and frequency of leaks. The year-long Utility Master Plan will carefully inspect the condition of Cal Poly's sewer system to ensure adequate capacity for future flows while minimizing risk to health, safety, and the environment.

Cal Poly promotes and participates in annual county-wide Creek Day cleanup events. These events are held across San Luis Obispo County and include cleanup locations on the Cal Poly campus. Each September, prior to the rainy season, volunteers scour Cal Poly waterways to pick up litter — reducing the amount of plastic making its way into the Pacific Ocean. Debris collected is comprised largely of food wrappers, beverage containers, plastic bags, cigarette butts, and other smoking-related materials. With the CSU adopting a systemwide smoke- and tobacco-free policy, environmental pollution from smoking materials is expected to drop dramatically.

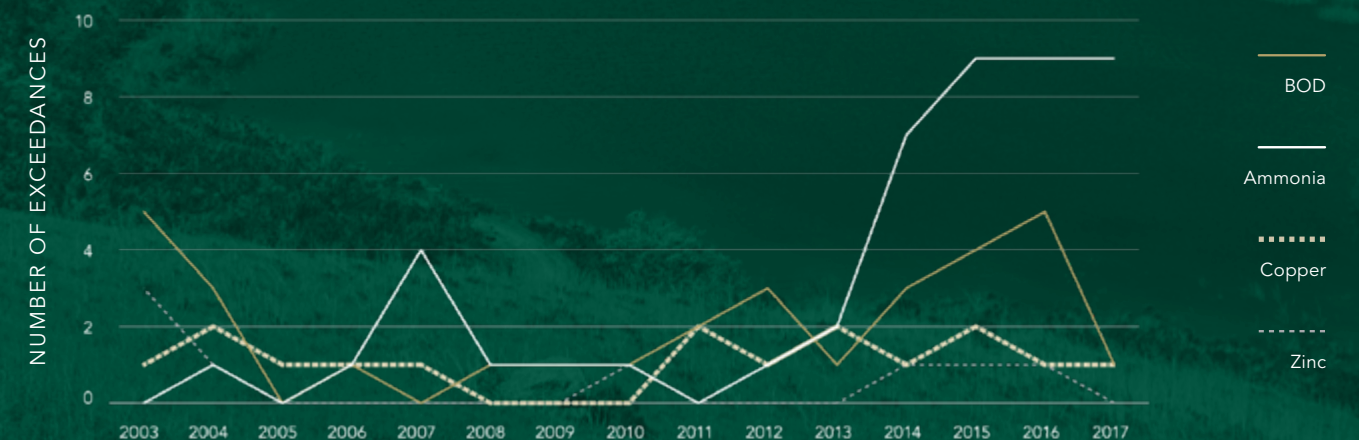
### STENNER CREEK FECAL COLIFORM



### NITRATES IN GROUNDWATER



### WASTEWATER POLLUTANTS



# 07

## WASTE MANAGEMENT



As per CSU sustainability policy, Cal Poly must reduce per-capita landfill disposal by 80 percent by 2020 as compared to a 2013 baseline and then continue toward zero waste. In 2016 and 2017, Cal Poly achieved 90 percent and 86 percent diversion from landfill for all waste produced on campus, including traditional recycling of cardboard, paper, bottles and cans, construction and demolition debris, scrap metal, surplus equipment, and collection of food scraps, yard waste, and animal manure for composting.

Waste audits performed by Cal Poly student groups have demonstrated that Cal Poly cannot reach zero waste by recycling and composting alone. Through outreach and education, improved signage, standardization of bins, and strategic procurement, Cal Poly aims to eliminate 1,000 tons of material from landfill annually. Waste reduction initiatives in 2017 included installing high-efficiency hand driers to reduce paper towel use in restrooms, switching to coreless toilet paper rolls, installing filtered water bottle filling stations throughout the campus core to reduce single-use plastic bottles, and educational efforts and promotions to encourage the use of reusable over single-use items.

### BETTER WASTE DATA

In 2017, Cal Poly partnered with San Luis Garbage to purchase the LoadMan data collection system and install it on the garbage and recycling trucks that serve campus. By recording the weight and GPS coordinates of each dumpster tipped on campus in real time, LoadMan data has helped Cal Poly achieve over \$100,000 in annual savings by right-sizing dumpsters, optimizing collection frequencies, and shifting more materials from landfill into recycling.

### SUSTAINABLE PURCHASING

In November 2017, the CSU System and Staples Business Advantage announced the Sustainable Auto-Sub program. Conventional office supplies commonly purchased across the CSU will be automatically substituted with more sustainable items that meet the same need, such as high recycled content paper and refillable pens and markers. Over the 2017-18 academic year, this resulted in 91 percent of the 34,000 reams of printer paper purchased by Cal Poly meeting or exceeding 30 percent recycled content.

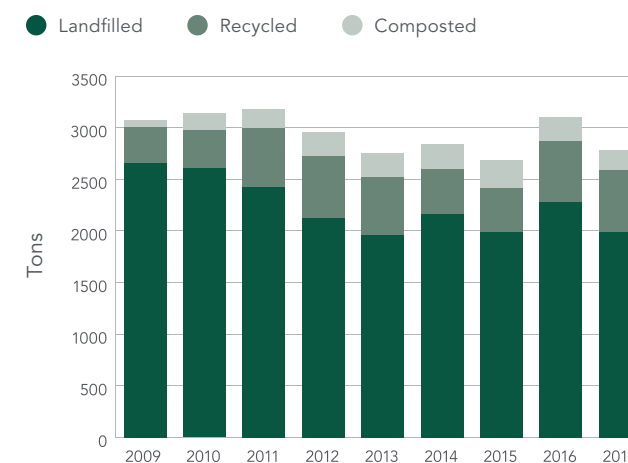
### ZERO WASTE AMBASSADORS

The volunteer Zero Waste Ambassadors Program successfully manages the consumer waste stream at select Cal Poly events by diverting 90 percent of waste from landfill through collaboration, education, outreach, and community service. The role of student Zero Waste Ambassadors is to separate waste produced at an event into appropriate compost, recycling, and landfill bins, while educating attendees on proper sorting to support Cal Poly's recycling and composting initiatives. The program utilizes volunteers from student clubs and students who have been assigned community service hours through Cal Poly's Office of Students Rights and Responsibilities (OSRR).

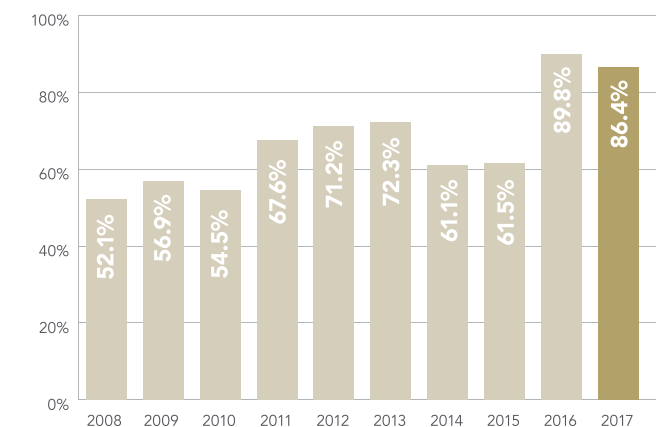
With 148 cumulative volunteers to date, the Ambassadors have reached over 14,220 attendees to divert an estimated 3,834 lbs from the landfill at 25 events in 7 months.



### CONSUMER WASTE BY DESTINATION



### SOLID WASTE DIVERTED FROM LANDFILL





# 08 CLIMATE ACTION PLANNING

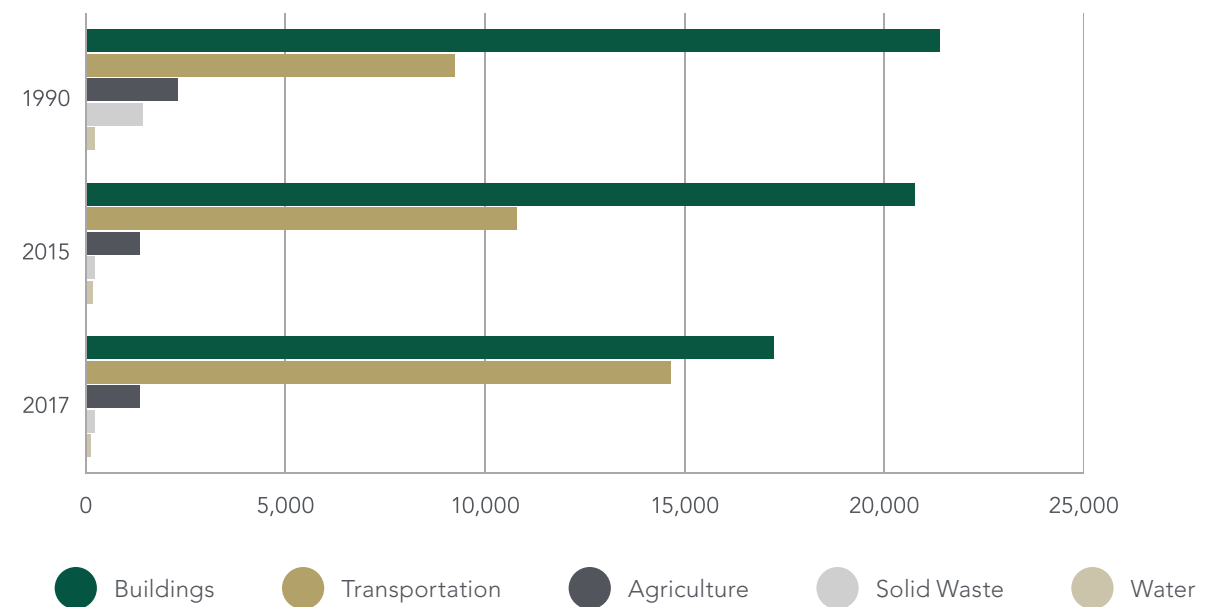
Cal Poly continues to make progress on its goal of *carbon neutrality by 2050*, reducing total greenhouse gas emissions by 17 percent over the last two years. The goal to reduce emissions to pre-1990 levels by 2020 was met five years ahead of the state mandate, despite 100 percent growth in building square footage and on-campus housing since that time. Energy conservation efforts reduced 2016–17 building energy intensity by 3 percent over the prior year, while water conservation, zero waste efforts, and improved agricultural practices further reduced carbon emissions. Along with greater renewable energy generation across the state from solar and wind, increased rainfall in the northwest improved hydroelectric generation for *PG&E in 2017*, resulting in 79 percent of Cal Poly’s electricity purchase coming from carbon-free sources — up from 59 percent two years ago. With completion of the 4.5 MW *Gold Tree Solar Farm* in May of 2018, 25 percent of Cal Poly’s total electricity needs are now being met by on-site solar generation, with more solar projects in development.

The greatest challenge Cal Poly faces on its path to carbon neutrality is transforming the way commuters get to campus, as commuting accounts for nearly half of total campus carbon emissions. Transportation and Parking Services implemented numerous initiatives to reduce emissions from commuting, including prohibition of cars for freshmen living on campus, addition of bike racks, and expansion of ZipCar and vanpool programs. To reduce circling and traffic congestion, all commuter parking permits are now assigned specific parking locations.

The 2018 campus Transportation Survey found that emissions from commuting were up 36 percent since the 2015 survey, partly due to improvements in survey language and methodology that influenced responses and captured more data, such as trips into town by on-campus residents that were previously unaccounted for. Increased emissions were attributed to increased student enrollment, a reduction in bus service offered by SLO Transit in fall of 2017, which reduced ridership by 5 percent, and increasing housing costs in SLO which continue to push faculty and staff into surrounding communities, and students into neighborhoods further from campus. The increase in on-campus housing envisioned in the Master Plan will reduce these emissions substantially.

Transportation and Parking Services continues to promote and expand *alternative transportation* options for commuters including restoration of some of the bus route frequency previously reduced, enhancement of vanpool and carpool programs, development of more electric vehicle charging stations, and increased educational outreach to the campus community through their award winning “My Other Car Is” campaign.

ANNUAL GHG EMISSIONS BY SECTOR, MTCO2E



## CENTRAL COAST CLIMATE COLLABORATIVE

With support from the Office of the Provost and funding from *REC Solar*, Cal Poly’s College of Architecture and Environmental Design has designated a faculty member to help lead the *Central Coast Climate Collaborative* beginning in the 2018–2019 academic year. Cal Poly will work to expand its hallmark hands-on, Learn by Doing approach to the collaborative to share resources and information, pursue grant funding, and connect faculty and students with real-world climate adaptation and resilience challenges in their own communities across all six counties of the Central Coast — Ventura, Santa Barbara, San Luis Obispo, Monterey, Santa Cruz, and San Benito. In July 2018, the collaborative was officially recognized as a member of *ARCCA* — California’s Alliance of Regional Collaboratives for Climate Adaptation.

## POLYCAP

Created over the 2015–2016 academic year in collaboration between Facilities Management and Development and Cal Poly’s *City and Regional Planning Department*, Cal Poly’s Climate Action Plan (*PolyCAP*) was written by a team of 27 senior and graduate students in the CRP 410/411 studio. Many of the proposed strategies are already underway or have been completed ahead of schedule, such as Cal Poly’s 4.5 MW solar farm.

To identify the ideal path to carbon neutrality, Cal Poly is building upon the Climate and Energy Scenario Analysis Tool created by UC Santa Cruz. The tool will enable life cycle analysis of investments in energy efficiency retrofits, renewable energy generation, high performance building standards, alternative transportation, staffing, and deferred maintenance.

## CLIMATE ACTION PLANNING CONFERENCE

On August 24 and 25, 2017, Cal Poly and the California Governor’s Office of Planning and Research, with support from the public and private sectors, hosted the third *California Climate Action Planning Conference*. The conference hosted nearly 300 guests and held panels on topics ranging from deep decarbonization of the building stock to sequestering carbon on natural working lands.

# 09

## LAND USE AND DEVELOPMENT



### LAND USE AND DEVELOPMENT

Percentage of square footage LEED Certified

Cal Poly uses the Green Building Certification Institute's LEED (Leadership in Energy and Environmental Design) certification program as a proven framework to guide integrated and sustainable design, with the goal of constructing high performance buildings that are user friendly and minimize life cycle cost and carbon emissions. As of spring 2018, seven buildings representing 22 percent of Cal Poly's total square footage are LEED Certified.

### MAJOR CAPITAL PROJECTS

#### YAK?IT?UT?U STUDENT HOUSING

Opening in fall 2018, Cal Poly's new \$204 million housing complex has been named *Yak?it?ut?u* in honor of the first people of San Luis Obispo — the Chumash. Housing 1,475 freshmen, the project includes seven 3-to-5-story residential buildings, a parking structure, a café, a community room, offices, and other support spaces. With its own high-efficiency heating plant and 800 kW of rooftop solar PV, the building will approach net zero electricity and be LEED Gold Certified.

#### VISTA GRANDE REPLACEMENT

Opening in fall 2019, the new \$36.6 million *Vista Grande* dining facility will include six micro restaurants with indoor and outdoor seating for students, faculty, and staff. Focusing on nutrition and sustainably sourced food, the new building prioritizes energy and water efficiency in both building and kitchen equipment to help achieve LEED Gold Certification.

#### WORKFORCE HOUSING

Sited at the main campus entrance at Grand Avenue and Slack Street, a new LEED Gold Certified workforce housing project is being planned via public private partnership. Unit options range from studio to three-bedroom apartments to serve individuals and families. Moving faculty and staff to on-campus housing reduces regional traffic congestion and will reduce Cal Poly's overall greenhouse gas emissions, 44 percent of which come from commuting.

#### FERMENTATION SCIENCES COMPLEX

With the ongoing boom in California vineyards, wineries, and microbreweries, Cal Poly is creating a new \$16 million *Fermentation Sciences Complex* to educate the growers, wine makers, and brew masters of the future. The facility is slated to open in winter 2020 and will incorporate state-of-the-art production equipment to demonstrate industry best practices for energy, water, and waste management.

#### SCIENCE AND AGRICULTURE TEACHING AND RESEARCH COMPLEX

Partially funded by a record-setting gift from Cal Poly alum William L. Frost, the *Science and Ag Teaching and Research Complex* will create a world-class undergraduate research facility in the campus core to support hands-on Learn by Doing in multiple programs. Opening in fall 2021, the \$124 million LEED Gold Certified facility will incorporate the latest sustainable technologies for lab buildings including a highly efficient envelope, LED lighting, active chilled beams, demand ventilation, and variable flow fume hoods.

#### OPPENHEIMER FAMILY EQUINE CENTER

Funded by a generous gift from Cal Poly alum Peter Oppenheimer, the \$12.5 million *Oppenheimer Family Equine Center* includes a new 60,000-square-foot covered riding arena, hay barn expansion, restrooms, and replacement of the stallion and foaling barns. Completed in spring of 2018, these new facilities were constructed with long-life materials, water efficient fixtures, and LED lighting.

# 10

## A MORE SUSTAINABLE CAL POLY

### AASHE SUSTAINABLE CAMPUS HIGHLIGHTS

In an annual report honoring top-performing colleges and universities, Cal Poly was recognized for its sustainability efforts by the Association for the Advancement of Sustainability in Higher Education. The 2017 Sustainable Campus Index singled out best practices overall and in 17 high impact areas as measured by STARS — the Sustainability Tracking, Assessment, and Rating System. Two Cal Poly programs received kudos in the areas of curriculum, and food and dining.



#### CURRICULUM

*Cal Poly Solar Project*

As part of a new BioResource and Agricultural Engineering (BRAE) course, students designed and constructed a 5 kW solar array on the roof of the BRAE building using solar panels donated by SunPower Corporation.



#### FOOD AND DINING

*Cal Poly's Real Food Cooperative*

The student run co-op sells affordable and environmentally sustainable gourmet grab-n-go meals, sourced from local farms and prepared by students in Cal Poly's industrial food processing kitchen.

### GREEN CAMPUS

**Green Campus** is a team of six students committed to energy, water, and waste reduction. In 2017, the two-week-long Annual Conservation and Diversion Challenge (ACDC) saved University Housing over \$2,000 in energy and water expenditures. The team also competed in RecycleMania, a national competition to divert waste from landfill. Waste reduction events included Smash-Yo-Trash (a Super Smash Brothers recycling event), Zero Waste trainings, a clothing swap event, and a waste audit. The Green Campus team also runs the Eco Reps program in University Housing, introducing freshman to sustainable living through peer-to-peer education.

### STUDENT SUSTAINABILITY LEADERSHIP SUMMIT AND RETREAT

To build alliances with and empower student club leaders, the Green Campus team hosts an event each fall to unite the student sustainability community and springboard efforts for the year ahead. Over 30 student leaders participated in the 2017 summit, covering topics of organizational leadership, team retention, time management, effective communication, campaign planning, and creating inclusive spaces. Participants set goals for their clubs and presented their plans to a group of over 15 staff and faculty stakeholders. This event won a Best Practice award at the California Higher Education Sustainability Conference and led to creation of a Succession Planning Retreat each spring.

### CAMPUS WELLBEING INITIATIVES

Established in 2016, **Campus Wellbeing** aims to educate, advise, and lead key initiatives surrounding the elements of human wellbeing - physical, emotional, social, community, professional, and financial. In May 2016, Campus Wellbeing hosted 31 Days of Wellness, a challenge for students, staff, and faculty to learn about and connect with campus resources while engaging in fun, healthy activities. In fall of 2017, the pilot CP Mindfulness Project was launched to introduce students to mindfulness through the use of the Headspace app. In fall 2017, Campus Wellbeing collaborated with the Kinesiology Department to bring the first free outdoor exercise fitness class to campus, taught by Kinesiology students.

### BASIC NEEDS EFFORT

Cal Poly strives to ensure all students' **basic needs** are met through multiple programs and collaborative efforts, allowing students to stay focused on their academic success. The **Hunger program** provides access to nutritious meals each day through a meal voucher program and **Food Pantry**. Cal Poly provides Cal Fresh outreach and education to assist students with eligibility requirements and the application process. Students struggling with critical needs such as housing, meals, personal care items, academic supplies, professional clothing for work or interviews, or unplanned emergencies are able to apply to the Cal Poly Cares Grant program for assistance with their urgent needs.

### RESPONSIBLE VOTERS GUIDE AND ASSOCIATED STUDENTS

Students looking to elect an Associated Students, Inc. (ASI) president supportive of sustainability were given an easy way to do so in 2017. **Empower Poly Coalition** club members assessed candidates with a questionnaire and interview to create a Responsible Voter Guide, endorsing candidates committed to environmental and social justice.

### CP THRIFT

Housing move-out at the end of the academic year typically results in thousands of pounds of reusable or recyclable items ending up in the landfill. In 2018, the CP Thrift program was created by Green Campus students and University Housing to transform this waste stream. Over move-out weekend, over 1,500 reusable items — including clothing, school supplies, furniture, and household appliances — were collected from students in Poly Canyon Village. Those items were stored over summer and then offered at low prices to incoming freshmen in the fall. Over 2,800 pounds were sold, resulting in \$2,700 in revenue for the **Cal Poly Eco Fund**. The few items that went unsold and an additional 10 tons of goods collected for donation went to local charities. Additionally, Poly Canyon staff were able to recycle an additional nine tons of waste that would have gone to landfill in previous years, making 2018 move-out and move-in the greenest to date.



### CAL POLY FOOD PANTRY

Cal Poly's **Food Pantry** was the first such program created in the CSU to address hunger. In 2017, the Cal Poly Food Pantry partnered with the Food Bank Coalition of San Luis Obispo County to stock the shelves with nutritious food for at-need students. The program has experienced an 89 percent increase in students utilizing services over the past academic year. The Cal Poly Food Pantry is located in the lower level of Campus Health & Wellbeing (Building 27) and is an extension of the Cal Poly Hunger Program.



### DIVERSITY, INCLUSION, AND SOCIAL JUSTICE

Cal Poly recognizes that diversity, inclusion, and social justice are foundational to sustainability. To enhance wage equity, a multi-year “local compensation” program has allocated campus funds to supplement CSU cost-of-living increases, prioritizing the lowest-paid workers on campus and faculty and staff whose wages fell behind during the state’s economic downturn.

In June 2016, President Armstrong hired the CSU’s first Vice President of Diversity and Inclusion to elevate the visibility and impact of efforts campus wide. Since then, the **Office of University Diversity and Inclusion** has hosted trainings and events to educate the campus community about a wide array of social justice topics. Unconscious Bias, Ally, and Undocu **trainings** encourage staff, faculty, and students to support peers facing adversity because of their sexual identity or legal status. “Inclusion Starts with Me” Teach-In events raise awareness on topics such as religious, racial, and immigrant stereotyping and discrimination; gender, sexual identity, and sexual violence; free speech and community building.

Spearheaded by the Vice President of Student Affairs, the Cal Poly **DREAM** Center was created in 2017 to support Deferred Action for Childhood Arrival (DACA) students.

After learning that early admission — in which incoming freshman committed to attend Cal Poly prior to announcement of state and federal financial aid — disadvantaged low-income students, campus administrators eliminated it, resulting in a more diverse freshman class.

### WELCOMING NEW STUDENTS

**New Student Transition Programs** continues to infuse sustainability into annual Open House, SLO Days summer orientation, and Week of Welcome (WOW) events. Open House Club Showcase promotes zero waste with food vendors and uses student volunteers to educate attendees on proper waste sorting at zero waste stations. Catered SLO Days lunches educate incoming freshman and their families about zero waste dining. EU&S and Green Campus trained over 900 WOW leaders to ensure WOWies learn the sustainable habits that are part of Cal Poly culture. The EU&S team hosts booths at all these events to educate incoming freshman about CSU Sustainability Policy and Cal Poly’s

commitment to carbon neutrality, resulting in increased student participation in Green Campus and Eco Reps programs.

### SUSTAINABLE DINING

As one of the largest commercial services at Cal Poly, **Campus Dining** strives to reduce its environmental impact on campus, or ecological “foodprint.” Launched in fall 2015 to align with national Campus Sustainability Month, program strategies were threefold: increase food sustainability across procurement, production, and waste practices; build partnerships across campus with stakeholders sharing common goals; and promote food sustainability through community outreach and education. Other initiatives included replacing food packaging with more sustainable materials or eliminating packaging entirely, eliminating dining trays to reduce water used for washing, switching to compostable paper straws, and replacing older vehicles with more environmentally friendly ones.

### CURRICULUM AND RESEARCH

#### SUSCAT

To make sustainability curriculum more visible to students, the Cal Poly Sustainability Catalog (**SUSCAT**) lists sustainability-related course offerings and degree programs. To qualify for listing, courses must pass a rigorous evaluation against Cal Poly’s **Sustainability Learning Objectives** and AASHE STARS criteria. Upon receipt of our first **STARS Silver** rating in 2017, Cal Poly sustainability curriculum included 200 course offerings, 23 undergraduate degree programs, three graduate programs, and 13 minors.

#### SUSTAINABILITY EDUCATION RESEARCH

As part of the Center for Teaching, Learning and Technology’s **Sustainability Infusion** program, an interdisciplinary team of researchers surveyed students and faculty to assess sustainability knowledge and attitudes, identify barriers to implementing sustainability-focused instruction at Cal Poly, and outline strategies to overcome those barriers. This sustainability research is ongoing and the survey is being updated for a second release.

### CLIMATE CHANGE ACTION RESEARCH GROUP (CCARG)

Founded in fall 2016 by students and overseen by Cal Poly's Honors program, the Climate Change Action Research Group (CCARG) creates sustainability-related research opportunities for diverse teams of interdisciplinary faculty and student researchers. Ongoing projects focus on mitigation of climate change at Cal Poly, including the Climate Change Aptitude Survey that sought to measure sustainability-related understanding and behavior of the student body. These projects brought together students from engineering, agriculture, math and science, architecture, and business, finding that 92 percent of Cal Poly students recognize climate change is a serious problem, and that 87 percent are willing to make a difference on campus. CCARG was recognized with a Sustainability Best Practice Award at the 2018 California Higher Education Sustainability Conference.

### CAFES CENTER FOR SUSTAINABILITY

The CAFES Center for Sustainability has been busy working on initiatives around soil health. In 2017, the Center for Sustainability received two private grants to develop educational activities around soil health including a multi-species grazing project and activities at the organic farm. The center also received a USDA SARE grant to develop an online educational series on soil health and field days for farmers and ag professionals. As part of the center's membership in the Inter-institutional Network for Agriculture Food and Sustainability, it is also working on the issue of structural racism

in agriculture. The center continues to host the highly successful Sustainable Agriculture Lecture Series, publishes monthly community announcements, and funds scholarships for students to attend the annual EcoFarm Conference.

### FOOD WASTE RESEARCH

Over the last two years, faculty from Cal Poly's College of Agriculture, Food, and Environmental Sciences and Orfalea College of Business have received funding to research solutions to waste in global agricultural and food systems. Research will investigate the viability of peer-to-peer distribution models to share, sell, or exchange food to reduce the amount of food disposed in landfills as waste, currently over 40 percent in the U.S.

### QUANTITATIVE SUSTAINABILITY

In 2017, the Quantitative Sustainability group received a grant for an educational project titled "Writing the Science of Sustainable Agriculture — A Transdisciplinary Teaching Model." This project aims to create transdisciplinary curriculum between environmental science and writing and rhetoric, and investigate how this new teaching approach can benefit students' learning experience and performance. The project is a partnership involving the Natural Resources Management & Environmental Sciences (NRES) department, English (ENGL) department, and the Writing and Rhetoric Center.



*Cal Poly's sustainability mascot, Polly the Polar Bear, helps incoming freshman understand how their everyday actions impact the environment, and inspires them to take the sustainability values learned on campus into their personal and professional lives.*



# OPERATIONS SUSTAINABILITY PLAN

## STATUS AS OF FALL 2018

### CLEAN TECH PRIZE

Made possible by Cal Poly's successful Gold Tree Solar Farm, the Energy, Utilities, & Sustainability (EU&S) Department is providing funding support over five years to clean-tech-focused student start-ups. The primary goal is to support Learn by Doing through student-led innovation that will fight climate change and help solve other environmental challenges. EU&S has partnered with Cal Poly's Center for Innovation and Entrepreneurship (CIE) and Poly Canyon Ventures (PCV), a nonprofit founded and managed by Cal Poly students with the mission to help students learn about entrepreneurship and early-stage investing. PCV, with EU&S' support, helps identify and vet promising start-ups which will then be cultivated into successful companies through CIE's Hatchery, Hothouse, and other programs.

### NEW EDUCATIONAL PROGRAMS

#### SUSTAINABLE ENERGY DEGREE PROGRAM

With support from PG&E and in response to their plan to close Diablo Canyon Nuclear Power Plant in 2024–2025, Cal Poly is creating a new concentration within the Mechanical Engineering Department to focus on renewable and other carbon neutral energy

generation technologies, including nuclear. The program will adapt and enhance online curriculum developed by Texas A&M, and PG&E has funded a tenure-track faculty position to lead it. A renewable energy concentration is also being developed within the General Engineering program.

#### UNIVERSITY HONORS PROGRAM

The University Honors program was restructured for the 2017–18 academic year and is now a full year-long commitment for freshmen. A primary focus is awareness and achievement of Cal Poly's University Learning Objectives, which stipulate that every Cal Poly graduate should be able to "make reasoned decisions based on an understanding of ethics, a respect for diversity, and an awareness of issues related to sustainability."

#### ENVIRONMENTAL MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN TAIWAN

This brand-new Study Abroad program was developed with sustainability as a core theme, facilitating interest in sustainability and environmental protection. The six-week program will take place at two distinctive locations: Taipei, one of the most populous cities in the world, and Nantou, which is famous for its rural characteristics and tribal culture.

#### LEADERSHIP



- Include sustainability in university, division, and department strategic plans
  - Increase sustainability staffing in Facilities and campus auxiliaries
- Complete AASHE STARS certification

#### GHG



- Establish baseline, monitor and report per CSU guidelines
- Submit annual progress report to Second Nature
  - Make progress on Climate Action Plan for neutrality

#### BUILDING OPERATIONS



- Improve preventive maintenance program
- Complete LEED O+M for existing buildings
  - Continue with retro-commissioning of existing buildings
- Improve utility metering and data collection
  - Implement Energy Information System

#### WATER



- Continue installing water-efficient fixtures
  - Continue to monitor water quality
  - Identify secondary source of supply
- Evaluate potential sources of recycled water
  - Investigate and ameliorate pollution standard exceedances

#### FLEET



- Continue transition to alternative fuels
- Right size fleet including vehicle sharing
- Identify next generation of electric fleet vehicles

#### CAMPUS DINING



- Continue to convert waste vegetable oil to biodiesel
- Improve collection and composting of food waste
  - Reduce purchase of single-use disposable materials
- Improve zero waste options for events
  - Perform energy/water audit of all food service facilities

#### HOUSING



- Provide additional on-campus housing
  - Design housing with support facilities
- Integrate sustainability into orientation and Res Life



#### ENERGY

- Complete energy and water audit
- Continue implementing conservation projects
- Complete solar farm project



#### NEW CONSTRUCTION

- LEED certify new buildings
- Develop high performance building standards



#### LANDSCAPING

- Continue expanding wireless irrigation control system
- Create water-wise landscape plans for turf reduction areas



#### RECYCLING

- Justify, fund, and fill Zero Waste Coordinator position
- Implement LoadMan data collection system
- Implement Zero Waste for Open House, SLO Days, and WOW
- Optimize waste collection infrastructure and pickup frequencies
- Develop and deploy standardized signage



#### OUTREACH

- Continue development of Green Campus and Eco Reps Programs
- Employ student assistants
- Provide class presentations and access to plans/data
- Support class and senior projects
- Deliver sustainability orientation to freshmen
- Develop new energy and water dashboards



#### PURCHASING

- Require Energy Star for all appliances and office equipment
- Implement Environmentally Preferred Products catalog for office supplies
- Identify and reduce purchased items requiring landfill disposal



#### COMMUTING

- Continue to subsidize transit for all students/faculty/staff
- Continue to provide discount fares to students on Amtrak
- Continue OPTIONS program
- Continue to convert campus core to bicycle/pedestrian-friendly environment
- Explore options to expand EV charging

• White Bullets = In Progress • Gold Bullets = Implemented and Ongoing



# SUSTAINABILITY

## 2018 SEVENTH BIENNIAL PROGRESS REPORT

### THANK YOU TO THE FOLLOWING CONTRIBUTORS

#### JEFFREY D. ARMSTRONG

President

#### KATHLEEN ENZ-FINKEN

Provost

#### CYNTHIA VIZCAÍNO VILLA

Senior Vice President,  
Administration and Finance

#### KEITH HUMPHREY

Vice President for Student Affairs

#### JOZI DE LEON

Vice President for Diversity  
and Inclusion

#### JUANITA HOLLER

Associate Vice President, Facilities  
Management and Development

#### DENNIS ELLIOT

Director, Energy, Utilities,  
and Sustainability

#### DENNIS ELLIOT, ANASTASIA NICOLE, KYLEE SINGH, AND ERIC VEIUM

Content Development

#### OTHER CONTRIBUTORS

Julie Hawkins, Kim Porter, Kevin Piper,  
Marlene Cramer, Cheryl Andrus,  
Ben Christensen, Gregg Fiegel,  
Adrienne Greve, Kimme Huntington,  
Genie Kim, Kari Mansager,  
Christine Nelson, Brian Pompeii

#### AMF MEDIA GROUP

Design

### SUSTAINABILITY ADVISORY COMMITTEE

**2016/2017:** Dennis Elliot (chair), Scott Bloom, Megan Coats, Hunter Francis, Julie Hawkins, Patrick Lemieux, Jocelyn Lu, Michael Lucas, Jill Nelson, Kevin Piper, Steve Polvi, Ron Skamfer, Shelby Thomas

**2017/2018:** Dennis Elliot (chair), Ethan Alexander, Scott Bloom, Megan Coats, Hunter Francis, Adrienne Greve, Julie Hawkins, Patrick Lemieux, Jill Nelson, Kevin Piper, Steve Polvi, Ron Skamfer, Timothy Wetzel

### ACADEMIC SENATE SUSTAINABILITY COMMITTEE

**2016/2017:** David Braun (chair), Penny Bennett, Norm Borin, Yiwen Chiu, Kenneth Day, Dennis Elliot, Jonathan Fernsler, Julie Hawkins, Yarrow Nelson, Brian Pompeii, Jonathan Reich, Shelby Thomas, Katie Tool, Jesse Vestermark

**2017/2018:** Jonathan Reich (chair), Penny Bennett, Norm Borin, Yiwen Chiu, Dennis Elliot, Jonathan Fernsler, Bruno Giberti, Julie Hawkins, Adriana Le, Yarrow Nelson, Rebekah Oulton, Brian Pompeii, Donna Seo

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