
SUSTAINABILITY IN THE CALIFORNIA STATE UNIVERSITY

The First Assessment of the
2014 Sustainability Policy

2014 – 2017



OUR COMMITMENT TO THE FUTURE

At the California State University, sustainability requires using our resources in an environmentally, socially, and economically responsible way. It is a core value realized in a wide range of practices and programs across the 23 campuses, our various satellite and research centers and the Chancellor's Office.

Students, faculty, staff, trustees, administrators, alumni and friends from throughout the CSU have enthusiastically embraced our commitment to sustainability. The cumulative result is a tremendous saving of resources, a reduction of environmental impact and an expansion of educational opportunities as we incorporate new technology and innovative practices.

This report—the first assessment of our 2014 sustainability policy—highlights the progress and achievements we've made together to further our forward-thinking vision, including:

- Integrations of sustainability principles into strategic plans
- Collaborations of faculty and staff to improve student learning and promote workforce preparation
- Increased opportunities for directed research
- Vital best practices to facilitate broader adoption
- Partnerships with communities and nonprofits to take action on global climate change

In the years and decades to come, our challenge will be to encourage greater integration of sustainability into our university-wide strategic goals. Indeed, even as we reflect upon the successes of our many sustainability practices and programs at CSU campuses, we must always go further.

Our future depends on it.



CHANCELLOR TIMOTHY WHITE

A photograph of three people in bright rain gear (yellow, blue, and purple) standing on a rocky shore covered in seaweed. They are looking down at something on the ground. The background shows a body of water and a rocky coastline under a clear sky.

THE CSU DECLARES, “WE ARE STILL IN”

In June 2017, the CSU joined the *We Are Still In* Climate Declaration along with thousands of cities, states, businesses, and universities, pledging to uphold the climate goals of the Paris Agreement. Chancellor Timothy P. White stated, “Now is the time to be vigilant, and the CSU is redoubling our efforts. All 23 campuses of the CSU system, comprising more than 500,000 students and employees, will help in the fight against climate change. Our participation in *We Are Still In* will also create new opportunities for our students, faculty, and staff as they find solutions to sustainability challenges and lead in this global effort.”



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Introduction: The CSU's Commitment to Sustainability

2014 CSU SUSTAINABILITY POLICY

In May 2014, the CSU Board of Trustees adopted the first systemwide Sustainability Policy. This policy, reflecting years of discussion and development, applies sustainable principles across all areas of university operations, expanding beyond facilities operations and utility management. This expansion was both a reaction to and a catalyst for the changing sustainability landscape within the CSU and higher education in general. The 2014 Sustainability Policy seeks to integrate sustainability into all facets of the CSU, including academics, facilities operations, the built environment, and student life. This report represents the first systemwide assessment of progress towards those goals.

CSU Sustainability Statistics

OUT OF 23 CSU CAMPUSES...
22 have a Sustainability Officer
20 have incorporated sustainability principles into guiding documents
19 have an interdepartmental sustainability committee or task force
15 have committed to developing carbon neutrality plans
14 have current STARS ratings

A STRATEGIC FOCUS ON SUSTAINABILITY

The CSU Sustainability Policy acknowledges that sustainability is an integral value to the CSU's mission and operations and encourages action at all of our 23 campuses and their off-campus centers. Twenty campuses have incorporated sustainability principles into their guiding documents, including strategic plans, master plans, and student success plans. The integration of sustainability into strategic goals represents a strong commitment by campus leadership to making these principles a core part of the mission and impact of the CSU.

CAMPUS SUSTAINABILITY PLANNING AND SELF-ASSESSMENTS

While most CSU campuses have a strategic goal or other high-level commitment to sustainability, almost half have developed campus-level sustainability plans. Eight campuses produce regular sustainability reports. Developing plans and documenting progress are key to successful program implementation, and regular progress reporting from all campuses through a standardized reporting process will facilitate adoption of the programs necessary to support the CSU Sustainability Policy.





Sixteen CSU campuses have used the Sustainability Tracking, Assessment, and Rating System™ (STARS) developed by the Association for the Advancement of Sustainability in Higher Education (AASHE) as a framework for assessing sustainable practices on their campuses. STARS assesses the implementation of sustainable practices in academics, community engagement, campus operations, and leadership. In addition to providing an assessment of sustainability programs across all areas of university operations, using a third-party system such as STARS provides opportunities for public recognition of the CSU's sustainability efforts. Fourteen campuses currently hold STARS ratings, with several CSUs ranking among the highest-rated university campuses participating in STARS.

Additionally, the CSU campuses of Humboldt, Northridge, Sacramento, San Francisco, San José, San Marcos, and San Luis Obispo were recognized by AASHE in the 2017 Sustainable Campus Index for their exemplary performance and innovative programs in several of the sustainability impact areas assessed through STARS. Campuses that complete a STARS assessment can elect to share this data with The Princeton Review or The Sierra Club to be rated and included on the Green Colleges and Cool Schools lists, facilitating national recognition for their sustainability efforts.

CLIMATE LEADERSHIP

Fifteen CSU campus presidents have signed one of the Second Nature Climate Leadership Commitments, the largest initiative to address climate change in higher education. These campuses have committed to developing climate action plans to achieve carbon neutrality, integrating these efforts not only into facilities design and management but into the institution's research and curriculum.

Eight of these CSU campuses have additionally committed to assessing the institution's vulnerability and capacity to adapt to the impacts of climate change. These CSU campuses represent 8 of the 11 California higher education institutions that have signed this more comprehensive Climate Commitment, demonstrating the CSU's clear leadership in the field of climate adaptation and resilience.

Commitment to Resilience

California State University, Long Beach has begun the ambitious work of conducting a campus resilience assessment as part of its Climate Leadership Commitment. Led by a faculty resilience commitment coordinator, the CSULB Resilience Working Group represents a broad array of stakeholders, including the community and local government. The campus has supported the resilience assessment process through hosting community resilience workshops in partnership with the Aquarium of the Pacific and engaging service learning students in project-based learning to design a model for the resilience assessment framework.

Planning a Sustainable Campus

In 2017, **California State University, Monterey Bay** became the first CSU campus to integrate its carbon neutrality goals into its physical master plan update. Sustainability emerged as a foundational theme during the master plan process, and remains a core element throughout the draft document. The result is an ambitious vision for CSUMB based around three core tenets of placemaking, stewardship, and partnership that will ensure the health and happiness, environmental quality, and economic well-being of current and future generations.

Focus on Sustainability

The strategic plan for **Sonoma State University** lists sustainability as an overarching value for the campus, with the objective of building a campus environment “that focuses on the environmental, economic, and cultural implications of sustainability.” In pursuit of this value, key investments include the “Sustainability in the Classroom” initiative, which helped boost the number of sustainability-related course offerings. SSU’s Facilities Management actively pursues strategies dedicated to greenhouse gas (GHG) reduction and water conservation, while planning infrastructure projects that support the university’s sustainability values. Culinary Services boasts a robustly sustainable operation that sources food locally and reduces and composts food and paper waste. Residential Life expanded its wide sustainability initiatives to change student behavior in water and energy reduction, responsible consumer behavior, and resource stewardship. These and other initiatives serve to integrate sustainability into university life both in curriculum and campus operations and position SSU as a leader in regional sustainability.



A master plan workshop at CSU Monterey Bay



Sustainability in Higher Education: Beyond Facilities Management

The origins of the current CSU Sustainability Policy are in energy management guidelines developed in response to the 1978 energy crisis, and in many ways sustainability is still viewed as residing primarily in the realm of facilities management. However, the 2014 Sustainability Policy expanded the scope of the policy to cover all areas of university operations. This introduced new challenges as well as new opportunities to broaden the impact of the CSU's sustainability programs.

The CSU has made significant strides towards many of the system's sustainability goals. A wide range of departments participate in sustainability programs at most CSU campuses to institutionalize these values and practices throughout university operations. In order to successfully implement the CSU Sustainability Policy, all campus departments need to take ownership of the policy goals, including program implementation, monitoring, and reporting.





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We help bridge the gap between what's being taught in the classroom and its practical application.

Ryan Todd

SUSTAINABILITY MANAGER
SACRAMENTO STATE



SUSTAINABILITY STAFF

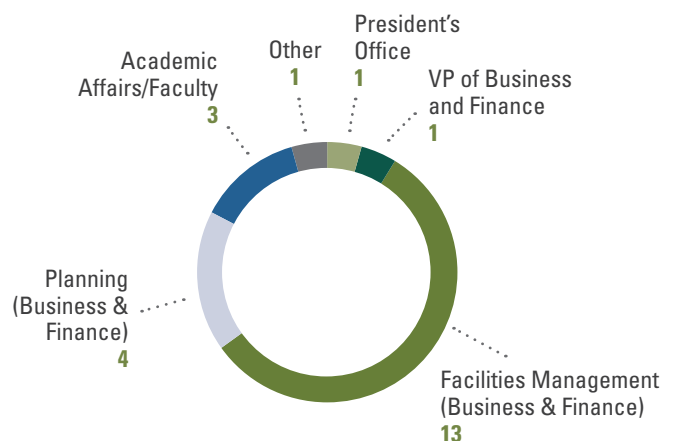
Sustainability staffing in the CSU has increased significantly since the passage of the 2014 Sustainability Policy, which encourages campuses to designate a sustainability officer responsible for coordinating campus sustainability initiatives. While there were only a handful of campus sustainability officers in the CSU in 2014, now 22 CSU campuses and the Chancellor's Office have a designated sustainability officer. Eleven of these are dedicated sustainability positions, and ten have split responsibilities between sustainability and energy management. The remaining two have taken on the duties of sustainability officer in addition to their existing job responsibilities. These positions vary significantly in terms of authority, scope, and operational area.

Most CSU campuses have at least one additional staff position supporting sustainability program implementation in addition to the designated sustainability officer. Given the scope and scale of campus sustainability programs, adequate staffing and program support is crucial. It is clear from the reporting process that campuses with more sustainability staff have been more successful in implementing higher-performing sustainability initiatives and making progress towards the CSU's sustainability goals.

While the majority of sustainability officers at CSU campuses are in Business and Finance departments in divisions like facilities management or planning, there are some in other operational areas such as Academic Affairs.

Systemwide, the CSU's sustainability initiatives are largely concentrated in the areas of facilities development and operations, reflective of the sustainability leadership in the Chancellor's Office, the distribution of campus sustainability officers within the organizational structure, and the origins of the CSU policy. Given the breadth of the CSU sustainability goals and interdisciplinary nature of these initiatives, there is no single department that can oversee all campus sustainability programs, so coordination and cooperation across organizational boundaries are essential.

Business Unit of CSU Sustainability Officers



INTERDEPARTMENTAL WORKING GROUPS

Making meaningful progress towards the CSU's sustainability goals requires a significant shift in institutional thinking and practice. All of the policy goals are interconnected, and a coordinated, systems-thinking approach to planning and implementing sustainability initiatives is required. Given the breadth and interconnectivity of campus sustainability programs, interdepartmental sustainability committees, working groups, or task forces are a critical tool for campuses in sustainability program development, implementation, and assessment. Nineteen campuses currently have an interdepartmental sustainability committee or task force. These types of groups can facilitate the interdisciplinary approach that is necessary to successfully operationalize the CSU's sustainability goals, and have been essential to completing campus sustainability assessments such as AASHE STARS.

INTEGRATION WITH AUXILIARY & SELF-SUPPORT OPERATIONS

Auxiliary organizations are critical partners in sustainability efforts at the CSU campuses. In addition to representing a significant percentage of campus buildings and facilities operations, auxiliary organizations often represent the most direct interface with students in student union, dining, and housing facilities, and therefore have significant power to influence student behavior and encourage sustainable choices. Several auxiliary organizations have taken the lead in adopting and implementing sustainability initiatives in their operations at the CSU campuses, including developing sustainability plans for their operations and hiring sustainability staff to oversee these programs. These organizations have been effective and enthusiastic partners in implementing sustainability initiatives on campuses, and may help other CSU auxiliary organizations adopt sustainability policy goals. It is recommended that all auxiliary organizations develop a plan to meet the CSU Sustainability Policy goals in coordination with campus departments in order to better operationalize the policy throughout all areas of university operations.

"Green Screens"

A group of students at **CSU Channel Islands** received funding to create an innovative communication strategy for campus sustainability programs: digital displays referred to as "Green Screens." Facilities Services strategically installed the Green Screens, which display a constant loop of information about campus sustainability, in high traffic buildings. Under faculty supervision, a group of students works collaboratively to regularly update the screen contents.



CSU Channel Islands

This Way to Sustainability

Each spring, the Institute for Sustainable Development at **CSU Chico** hosts "This Way to Sustainability," recognized as the largest student-run sustainability conference in the nation. Now in its thirteenth year, this annual event is jointly funded by the Division of Academic Affairs, the Rawlins Endowed Professorship of Environmental Literacy, the Associated Students, Inc. of CSU Chico and a variety of community partners and sponsors. Aimed at a diverse audience of attendees from the campus community and beyond, the conference seeks to develop common ground to help build a sustainable society that balances economic needs, social equity, and environmental realities.



This Way to Sustainability, CSU Chico

UNIVERSITY SUSTAINABLE PRACTICES

The following sustainability initiatives reported by campuses across both state-funded and self-support operations demonstrate the breadth of sustainability programs and benefits of integrating these practices across university operations. The programs highlighted represent opportunities to achieve more widespread adoption of sustainable practices throughout the CSU system.

INFORMATION TECHNOLOGY

- Purchasing of energy-efficient equipment and server consolidation and virtualization (cloud computing) to reduce energy use
- Implementation of paperless/electronic workflow to reduce paper usage and minimize waste
- Use of equipment take-back and comprehensive e-waste management programs to reduce environmental impacts of electronic equipment

FACILITIES MANAGEMENT (BOTH STATE-FUNDED AND AUXILIARY FACILITIES)

- Green cleaning programs intended to reduce exposure to toxic or harmful products and improve indoor environmental quality
- Green infrastructure and low-impact development projects including stormwater capture, bioswales, and permeable pavement
- Implementation of Integrated Pest Management programs intended to minimize the use of toxic pesticides while still effectively controlling pests

INVESTMENTS & FINANCE

- Incorporation of sustainable or socially responsible investment practices to align endowments with university values
- Creation of Green Funds to support ongoing investment in sustainability programs



STUDENT AFFAIRS & ASSOCIATED STUDENTS, INC.

- Incorporating information on sustainability programs into student orientation
- Supporting numerous student clubs and activities related to sustainability
- Coordinating food recovery programs that improve food security while reducing food waste
- Supporting sustainable transportation programs and infrastructure for students, including subsidized transit passes
- Installing water bottle refilling stations to reduce reliance on single-use beverage containers
- Hosting sustainability-related activities, including campus clean-ups, tree planting, and programming for Campus Sustainability Month and Earth Day

STUDENT HOUSING

- “Sustainable move-out” programs that collect used furnishings and other items at the end of each year and donate or sell these items to reduce waste sent to landfill
- Supporting programs and policies to raise awareness about the importance of energy conservation and reduce energy usage in housing facilities
- Support for composting and other waste reduction programs through waste sorting bins and educational outreach programs

STUDENT UNIONS & RECREATION/ WELLNESS CENTERS

- Providing training for employees on sustainable practices
- Support for facility sustainability improvements, including energy and water efficiency retrofits and incorporation of green building practices into new facility design

CHILDREN’S CENTERS

- Incorporating sustainability education into programs
- Partnering with university-operated learning gardens to engage children in hands-on educational opportunities about food systems, nutrition, and composting



Sustainable Housing and Dining

Auxiliary organizations at **San Diego State University** have demonstrated extraordinary commitment to the CSU’s sustainability goals, integrating these practices into their operations. Housing at SDSU has a sustainability committee that meets twice a month, supporting efforts such as near zero-waste move-in and move-out events focused on waste diversion, including food and durable goods drives. Aztec Shops, which manages dining services on campus, has dozens of venues certified through the Green Restaurant Association. Dining utilizes campus-grown food from more than twenty garden plots and twenty aeroponic towers on campus, partnering with a local organization to distribute excess harvests and ensure campus-grown food is not wasted.



San Diego State University campus-grown food



Academics

Academics are the core of the CSU's mission, and it is fitting that the first goal of the 2014 Sustainability Policy is "to further integrate sustainability into the academic curriculum working within the normal campus consultative process." The CSU campuses offer abundant opportunities for both informal and formal sustainability education. Higher education facilities afford the unique opportunity to directly engage with academic expertise and research across all areas of sustainability, while providing students valuable experiential learning opportunities. The directed research conducted in the CSU has the potential to transform not only our campuses but our communities, and will play a vital role in supporting the state's efforts to mitigate and adapt to climate change.

SUSTAINABILITY IN THE CURRICULUM

In addition to offering degrees and minors in topics related to sustainability at campuses throughout the CSU system, most campuses have integrated sustainability across the curriculum. Sustainability addresses key issues of environment, equity, and economy, topics relevant to a wide variety of courses across academic disciplines. CSU campuses report offering over 4,500 sustainability-related courses systemwide. Additionally, several campuses have integrated sustainability into General Education (GE) requirements through a sustainability "theme" or "pathway," allowing students to fulfill their GE requirements while simultaneously acquiring depth of knowledge in the field of sustainability.

RESEARCH AND INNOVATION

The CSU campuses are regional centers of innovation for topics related to sustainability and climate change, preparing students to be leaders in developing sustainable, resilient communities. The CSU currently hosts 65 sustainability-related academic institutes or research centers at 18 campuses, representing a broad array of academic disciplines. These institutes are involved in research and development, demonstration projects both on- and off-campus, and initiatives to facilitate technology transfer and community development, leading the state's efforts to catalyze the development and deployment of solutions to address the challenges of climate change.

Beyond dedicated centers and institutes, sustainability-related research opportunities can be found across the academic spectrum. Campuses report that 13 percent of faculty and staff engaged in research across all CSU campuses are conducting research related to sustainability. The interdisciplinary nature of sustainability programs affords relevant research opportunities in many academic departments. Currently, 36 percent of academic departments surveyed in the CSU reported having at least one faculty or staff member engaged in sustainability-related research. This provides students throughout the CSU with the opportunity to participate in and contribute to cutting-edge sustainability research in their chosen academic discipline.

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Our diverse student population, along with interdisciplinary coursework and research activities at our campuses, will allow the CSU to lead the way in developing practices that will improve sustainability on our campuses and across California.

Carmen Domingo

DEAN, COLLEGE OF SCIENCE
& ENGINEERING
SAN FRANCISCO STATE



CAMPUS AS A LIVING LAB

The Campus as a Living Lab (CALL) initiative set an ambitious goal to seek interested faculty and facilities operations staff who would work together to incorporate a university sustainability challenge into course curricula. Founded in 2013, this grant program is a partnership between the divisions of Business and Finance, Academic Affairs, and the systemwide Academic Senate. The CALL program sought to provide value to university operations by helping to address a facility sustainability goal while at the same time providing students an experiential learning opportunity on campus. The 2014 Sustainability Policy was later integrated into the program to align CALL projects with the CSU's overall sustainability goals.

Capital Planning, Design, and Construction (CPDC) continues to lead the CALL initiative, with 11 campus projects funded in the most recent round of applications. The latest round of applications includes learning communities, course redesigns, and campus infrastructure improvements that will create experiential learning opportunities for students. To date, 68 CALL projects have been developed as part of this program, including four learning communities. CALL has been a valued program for campus staff and academics to continue building multiple projects from the original seed funding.

GE Pathways in Sustainability

Several CSU campuses offer students the opportunity to complete their General Education (GE) requirements through a thematic sequence of courses or “pathway” in sustainability studies. **CSU Chico** pioneered the GE Pathways program, allowing students to fulfill their GE requirements and simultaneously earn a certificate or minor. CSU Chico’s Sustainability Studies Pathway is an examination of how social, economic, and environmental issues have interacted to result in current global conditions and challenges that will confront students in the future.

Other CSU campuses have adopted sustainability-themed GE pathways as well, including **CSU Northridge** and **CSU Bakersfield**. These pathways provide a cohesive framework for completing GE requirements and provide students with expertise in real-world environmental and social challenges. These campuses have also worked to align the GE pathways with those at local community colleges to support transfer students and offer an integrative general education experience.

Sustainability Learning Objectives

Cal Poly San Luis Obispo’s seven University Learning Objectives (ULOs) define the institution’s expectations for student learning, including ULO 6, which states that “when students graduate from Cal Poly, they should be able to make reasoned decisions based on an understanding of ethics, a respect for diversity, and awareness of issues related to sustainability.” Due to the complexity of this objective, the university’s Academic Senate adopted the Sustainability Learning Objectives in 2009 to further elaborate on these expectations that students should be able to:

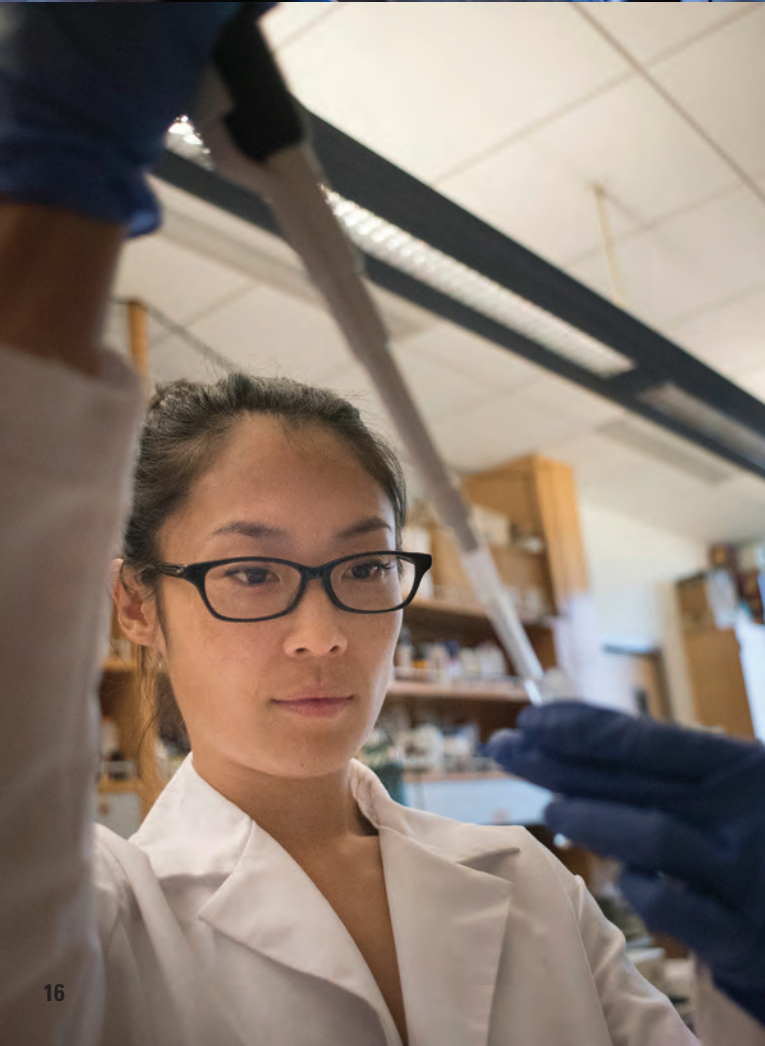
1. Define and apply sustainability principles within their academic programs
2. Explain how natural, economic, and social systems interact to foster or prevent sustainability
3. Analyze and explain local, national, and global sustainability using a multidisciplinary approach
4. Consider sustainability principles while developing personal and professional values





TRANSPORTATION RESEARCH AND INNOVATION

The Mineta Transportation Institute at San José State has been selected to lead the new California State Transportation Consortium (CSUTC) in partnership with the CSU campuses of Chico, Fresno, and Long Beach. Funded by up to \$2 million in annual appropriations through California's Senate Bill 1 (SB 1), signed into law on April 28, 2017, this new multi-campus transportation research consortium will support transportation research and transportation-related workforce education, training, and development in the CSU. Each CSUTC partner will engage in SB 1-related research and/or workforce development activities, focused on sustainable solutions to improve the mobility of people and goods within California and develop the transportation workforce of the future. The CSUTC will also manage a CSU-wide competitive request for proposals to identify research projects aligned with SB 1 priorities. As the transportation sector is responsible for the largest single share of California's GHG emissions, this research is critical to meet the state's GHG emission reduction goals and develop resilient transportation systems.



UC-CSU KNOWLEDGE ACTION NETWORK

The UC-CSU Knowledge Action Network (KAN) for Transformative Climate and Sustainability Education and Action is a collaborative partnership of University of California (UC) and the CSU educators to scale and intensify students' literacy in climate change, climate justice, greenhouse gas emissions reduction, and sustainability. This initiative recognizes the independent work both the UC and the CSU have accomplished in integrating sustainability into the curriculum through theory and practice, as well as the potential to catalyze this effort through cooperation to the advantage of California students at all education levels. The partnership comprises 30 members, 17 from the CSU and 13 from the UC. Through a series of workshops and the KAN's Nearly Carbon-Neutral Conference, the group explored ways to address structural barriers to greater student engagement and cross-institutional collaboration. While initial funding for this initiative ended in October 2017, the network has continued to collaborate informally and is exploring options to extend financial and institutional support.

Sustainability Learning Community

Originally funded by a CALL grant from the Chancellor's Office, the **Fresno State University** Sustainability Project created a Sustainability Learning Community and provided education and outreach opportunities about campus sustainability. The initial CALL-funded program has continued to grow, leading to campus projects including the Waterwise Garden construction, Campus Beautification Day, and Earth Week. The initiatives developed by the Sustainability Learning Community translate into student success through high-impact practices, supporting the CSU's efforts to improve graduation rates.

Regenerative Agriculture Initiative

The Regenerative Agriculture Initiative (RAI) at **CSU Chico** is an approach to food and farming systems that works with nature's rhythms and technology to feed our growing population, regenerate topsoil and enhance biodiversity now and long into the future. The RAI is comprised of a working group of multi-disciplinary faculty partnering with regional agriculturalists to develop collaborative research and teaching strategies with the primary purpose of reducing levels of greenhouse gas emissions through carbon sequestration and ecosystem service restoration. This science-based effort will have far reaching implications across disciplines in areas of climate and food policy, agricultural husbandry practices, food justice, business models, as well as local food sheds.



CSU Chico student at the organic vegetable garden at the University Farm

The Spartan Superway

San José State University's Spartan Superway project is an interdisciplinary transportation research initiative aimed at developing sustainable solutions to transform urban mobility. This ambitious effort proposes a solar-powered automated transportation network system that can address many of the transportation challenges in the Silicon Valley region. Engineering students at SJSU have designed and developed elements of this system under the supervision of faculty mentors, working towards the ultimate goal of a scalable, replicable system that can be located within existing rights of way in San José and other cities.



The Spartan Superway at San José State University



Workforce Skills, Green Jobs, & Innovation

With over 100,000 graduates each year, the CSU is the largest source of the state's skilled workforce. The 2014 Sustainability Policy directs the CSU to "develop employee and student workforce skills in the green jobs industry, promote the development of sustainable products and services, and foster economic development." In addition to a wealth of academic programs focused on climate change and sustainability, the CSU offers a range of opportunities for students to develop workforce skills related to clean energy, resource conservation and management, and community engagement around sustainability. By equipping students with the knowledge and skills they need to thrive as California transitions to a green economy, the CSU is well-positioned to lead California in supporting the needed global response to climate change.

STUDENT OPPORTUNITIES ON CAMPUS

In addition to academic and research opportunities that help prepare students for work in sustainability-related fields, the CSU campuses offer a variety of opportunities for students to gain experience and develop skills in relevant fields. Sustainability-related internships for students are available at 21 CSU campuses either as paid positions or for academic credit. Fifteen campuses also have peer-to-peer sustainability outreach programs, where student educators

take the initiative to plan and implement projects focused on engaging students, staff, and faculty in adopting more sustainable practices.

Currently, more than half of the CSU campuses coordinate "Green Career Panels" or career fairs to feature employment opportunities at "green" companies. These events introduce students to opportunities with "green" companies across a variety of sectors and provide valuable networking opportunities for students to connect with sustainability professionals.

PROFESSIONAL DEVELOPMENT

The CSU ensures that staff as well as other working professionals have access to the training they need to thrive in a professional climate that increasingly values expertise in sustainability. Sixteen campuses have continuing education classes related to sustainability, including several certificate programs. Seventeen campuses regularly offer sustainability-related training to staff. To complement these efforts, the Chancellor's Office provides systemwide access to SkillsCommons, an open online library of workforce training materials available to all employees and students. This platform offers sustainability and energy-related training and certificates applicable to a wide variety of industries and careers.

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We can simultaneously give our students access to a career and the chance to make a serious, life-transforming impact around the world while saving the planet from climate disruption.

Karina Garbesi, Ph.D.

PROFESSOR
CSU EAST BAY





COMMUNITY PARTNERSHIPS

Fifteen CSU campuses have a formal community partnership focused on projects to advance sustainability, such as the Educational Partnerships for Innovation in Communities (EPIC) program. This framework combines academic coursework with experiential learning to address critical community sustainability needs. Projects developed through these community partnerships have helped local agencies build capacity to address climate impacts and foster community innovation while providing valuable applied learning experiences for students. Through these partnerships, students gain firsthand experience in developing community-based solutions to the challenges of climate change.

SUPPORTING WATER RESOURCES

The CSU's Water Resources and Policy Initiatives (WRPI) center launched a new grant-funded initiative that will provide student internship opportunities to address challenges impacting Southern California's water resources. Supported by a \$1.3 million grant from California's Department of Water Resources, the Disadvantaged Communities Involvement Program will provide internships for up to 20 students per year from CSU Fullerton and CSU San Bernardino with local water agencies. Through this three-year program, students from a variety of disciplines including engineering, geography, and the social sciences will get hands-on experience in construction planning, community outreach, and Geographic Information System (GIS) planning. This partnership will assist water agencies in meeting the environmental, social, and economic challenges impacting water resources in the region, and provide students with an opportunity to develop valuable career skills.

CLEAN TECHNOLOGY INNOVATION

Twelve CSU campuses have partnerships with regional clean technology innovation hubs to support student entrepreneurship. The CSU campuses of Dominguez Hills, Long Beach, Los Angeles, Northridge, and Pomona received a total of \$250,000 in grant funds from the Los Angeles Cleantech Incubator to fund innovation workshops and events for students, faculty, staff, and community members. These workshops will provide opportunities to leverage campus research and entrepreneurial programs to promote technology transfer in support of clean energy goals. CSU Channel Islands also serves as the base for Ventura County's clean technology innovation hub, connecting students and faculty with business and industry partners. Six additional CSU campuses recently signed on to the BlueTechValley partnership, which will establish on-campus hubs at Bakersfield, Chico, Fresno, Humboldt, Monterey Bay, and Sacramento. This environmental entrepreneurship program is open to all students at the six partner campuses, and will leverage both faculty and industry expertise to provide mentorship and incubator services.

These programs, funded in part by the California Energy Commission, are intended to catalyze investment and innovation in promising new clean technology to provide solutions for managing our finite natural resources. Through partnering with the CSU, these regional innovation clusters will support student entrepreneurship, provide valuable student engagement opportunities, and better position the CSU's student and faculty researchers to lead in the clean technology sector.

Energize Colleges

CSU Bakersfield is one of 12 California colleges and universities participating in Energize Colleges, a program of Strategic Energy Innovations. Energize Colleges provides paid student internships, academic research opportunities, curriculum support for faculty, and helps to create a high school to higher education pipeline. This program is funded by utility ratepayer funds to provide green sector education and work experience to the next generation of energy leaders.

Resilient Cities Initiative

The Resilient Cities Initiative (RCI) is an award-winning university/community partnership program established by the Institute for Sustainable Development at **CSU Chico** in 2016. The RCI connects real-world community sustainability projects identified and funded by partner agencies with faculty expertise and student innovation. The RCI directly engages hundreds of CSU Chico students each academic year, providing impactful opportunities to put theory to practice in their own community and region, connecting students with decision-makers and practitioners in their fields of study, and helping develop the next generation of workforce professionals and leaders.

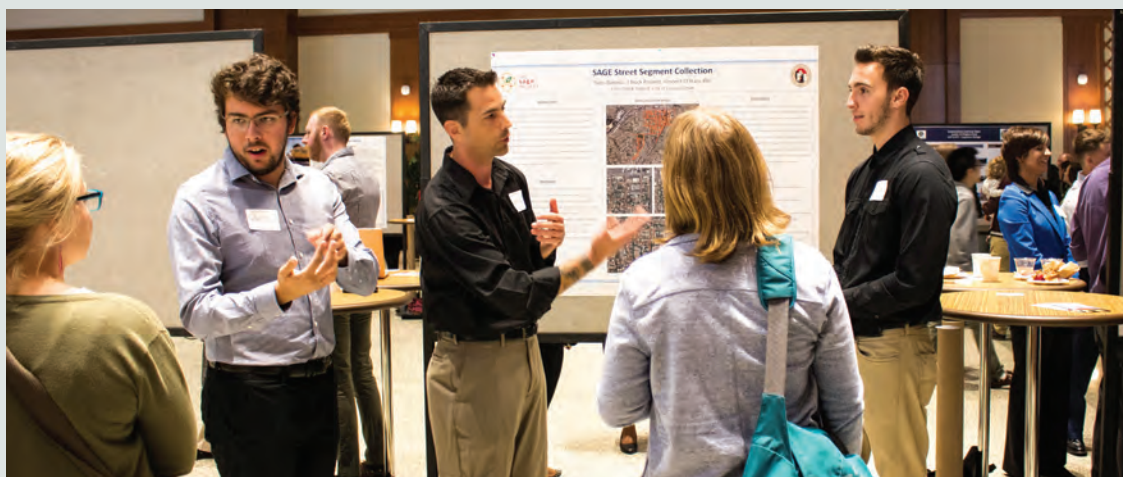
The pilot partnership with the City of Chico focused on the South Campus Neighborhood. The partnership developed neighborhood improvements intended to enhance public health and safety, quality of life, sense of place and environmental sustainability.

Social Impact Solar Program

The Social Impact Solar Program at **CSU East Bay** is a multi-generational education program that engages students with renewable energy and social justice. Supported by both Pacific Gas & Electric (PG&E) and the CSU Chancellor's Office (CO), this award-winning program trains CSU students to build portable solar energy systems and share these skills with local middle and high school students through hands-on workshops. The finished solar suitcases are distributed by local nonprofit partner We Care Solar to energy-deficient schools, orphanages, and refugee centers in the developing world. The CO recently supported the expansion of the Social Impact Solar Program, in partnership with PG&E, to five additional CSU campuses within the utility's service territory and is exploring options to extend the partnership to other utilities and CSU campuses.

Sage Project

The Sage Project is a program within the Center of Regional Sustainability at **San Diego State University** that advances sustainable learning through partnerships with local communities. The project is part of the Educational Partnerships for Innovation in Communities Network. This program gives SDSU students access to dozens of community-based projects each year that are integrated into the academic curriculum of the university, providing real-world experience for students and helping to build more sustainable and equitable communities.



Sage Project at San Diego State University



Energy

SYSTEMWIDE ENERGY MANAGEMENT

Energy Conservation and Utility Management is a long-standing component of the CSU's Sustainability Policy. As a result, the CSU has energy records stretching back 39 years. Measuring and monitoring energy use is an essential first step to using it efficiently. To improve the management of campus energy information, the CSU is currently implementing a systemwide Energy Information System (EIS) that will centralize and modernize the process of reporting campus monthly utility use and costs. The EIS will automate most energy bill collection and meter reading and include error detection to improve accuracy. Overall, the EIS will make energy reporting faster, more accurate, and easier and provide valuable information to inform energy procurement decisions.

Tracking of utility use is critical for both the campuses' and Chancellor's Office's understanding of how energy and other resources are used. The EIS will help inform centralized procurement decisions for electricity and natural gas.

The EIS will increase campus administrative effectiveness by automating utility data collection and simplifying reporting. Campuses are encouraged to install building level metering to improve operational data on facility performance.





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This is a huge step towards our goal of climate neutrality and we are very excited about using this new facility to support student hands-on Learn by Doing.

Dennis Elliot

DIRECTOR OF ENERGY, UTILITIES,
AND SUSTAINABILITY
CAL POLY SAN LUIS OBISPO



Rooftop solar array on a CSU Fullerton parking structure

CAMPUS ENERGY MANAGEMENT

Every campus has an energy management system installed in accordance with the sustainability policy. However, in most cases these systems are quite dated, lack the user friendliness and detail offered by modern analytical tools, and are part of the CSU's deferred maintenance backlog. To mitigate this challenge, the Chancellor's Office and campus staff created a systemwide Master Enabling Agreement that streamlined procurement to add capability to the legacy campus energy management systems in concert with the EIS. Sixteen campuses are implementing a campus-level EIS that will bring additional capabilities to analyze utility expenditures and develop cost-saving measures.

A designated campus energy manager is required by the 2014 Sustainability Policy. Currently, 20 of the 23 campuses have designated an energy manager. Vacancies in these roles and in the HVAC skilled trades permit buildings to gradually fall out of tune, allow energy bills to go unaudited, create risks to regulatory compliance obligations, and prevent new efficiency opportunities from being developed into projects. Several campuses have endured long-term vacancies in energy management roles and had deleterious effects on the campus energy programs. Factors outside of campus control can often contribute to these vacancies, including the high cost of living in California, or a highly competitive job market. Campuses are encouraged to review and update position descriptions and develop student assistants into energy analysts as one approach to help address these important positions.

HVAC Duct Sealing

Sometimes the most effective energy efficient projects are also the most basic. **CSU San Marcos** reduced their campus electricity consumption by more than five percent by sealing air conditioning ducts to improve the energy performance of campus buildings. This low-cost project will pay for itself through utility cost savings in less than two years and can be replicated on any campus.

Schatz Energy Research Center

CSU Humboldt's Schatz Energy Research Center designs and deploys clean energy technologies and supports research, planning and policy to improve energy access globally. Current priorities include smart grids, international energy access, bioenergy and clean transportation. The Center also designs and implements projects such as the Blue Lake Rancheria (BLR) microgrid, a renewable energy project that powers critical infrastructure for the BLR tribal community and the Humboldt County region. This project, developed through funding from the California Energy Commission's Electric Program Investment Charge program, incorporates stable microgrid operation with high penetration of renewable energy and provides a scalable toolkit for microgrid installations statewide.

Solar Power and Battery Energy Storage

CSU Long Beach recently installed 4.75 megawatt (MW) of solar photovoltaic canopies over surface parking lots and 1 MW capacity large-scale battery energy storage. The battery storage system was made possible through a public-private partnership with Advanced Microgrid Solutions, which owns and operates the system. These installations are the largest of their kind in the CSU. The systems will produce clean, renewable electricity for about 15 percent of the campus's annual energy use and decrease peak demand on the electricity system along with associated costs for the campus. The battery energy storage system will save the campus at least \$51,400 annually and provide needed electrical grid support as part of a virtual power plant for Southern California Edison.



Blue Lake Rancheria Microgrid project developed by the Schatz Energy Research Center at Humboldt State

ENERGY EFFICIENCY

The CSU has made significant progress toward meeting the Sustainability Policy goals of improving energy efficiency. Energy efficiency remains the lowest-cost way to reduce greenhouse gas emissions, and to facilitate these projects, the CSU has partnered with the UC and the investor-owned utilities (IOUs) in the UC-CSU-Utility Energy Efficiency Partnership.

Through the partnership, local electric and natural gas utilities provide incentive funding to complete campus energy efficiency projects. Since 2005, the CSU has leveraged more than \$30 million in incentive funding through the partnership to complete over \$128 million worth of energy efficiency projects. These projects have included LED lighting upgrades, building retro-commissioning, installation of high-efficiency heating and cooling systems, and building envelope improvements. As a result of these energy conservation efforts and more efficient new buildings, the CSU has reduced systemwide energy use intensity (EUI) by 11 percent from 88,873 BTU/GSF to 74,643 since 2005/06.

Systemwide Energy Use Intensity (BTU/GSF)



Energy projects often require large upfront capital costs, and ensuring that they achieve a campus's long term goals requires the creation of a Strategic Energy Plan (SEP). The 2014 Sustainability Policy encourages campuses to develop and maintain an SEP. Currently, 13 campuses have an active SEP; of those, 11 plans are less than 5 years old.

The Chancellor's Executive Order 785, a precursor to the current sustainability policy, required campuses to both maintain a SEP and update it at least every five years. Executive Order 785 was superseded by Executive Order 987, and this mandate became a recommendation, as following the 2008 recession, many campuses focused their reduced resources to support class offerings.

Since 2014, standard practice has grown to include strategic energy plans as a component of a climate action plan. Since energy use in buildings is a significant contributor to climate change, it is recommended that the SEP be integrated into a requirement for each campus to develop a Climate Action Plan document.

ENERGY PROCUREMENT

Energy is a significant cost to the CSU, and campuses make every effort to minimize that expense. Ten campuses currently purchase electricity through Direct Access (DA) Service, which allows the CSU to make purchases on the wholesale electric market. Collectively, these campuses save an estimated \$3 million a year by taking advantage of lower electricity prices and lower-cost service from the contracted electric service provider. In addition, the CSU has received more renewable power over the past three years than they would have on bundled utility service.

The CSU is limited to the 10 campuses currently on DA by statute; however, a study of the feasibility of establishing a Community Choice Aggregation (CCA) is currently underway. If established, the CCA would enable an additional nine campuses and an off-campus center to directly purchase electricity, resulting in potential cost savings of up to \$1 million annually.



Lighting Upgrades

CSU Dominguez Hills engaged students to create an innovative, widely applicable solution across many campus buildings. This lighting upgrade involved creation of custom mounting plates that fit inside the campus's iconic waffle slab ceiling structure, reducing the number of lighting fixtures by 60 percent. LED lighting and advanced occupancy sensors resulted in \$12,600 in annual energy savings while enhancing the feeling of safety in the spaces.



CSU Dominguez Hills LED lighting





Rooftop solar panels at Stanislaus State

RENEWABLES & SELF-GENERATION CAPACITY

RENEWABLE ENERGY

The 2014 CSU Sustainability Policy directs the CSU to endeavor to exceed the State of California and California Public Utilities Commission Renewable Portfolio Standard (RPS) sooner than the established goal of procuring 33 percent of its electricity needs from renewable sources by 2020. In the past, this has been interpreted as only applying to direct purchases of electricity, namely campuses served by Direct Access, rather than campuses purchasing electricity from local utilities or generating energy on-site. Campuses with Direct Access electric service purchased 25 percent renewable power in 2016. To achieve the 33 percent renewable goal before 2020, CSU must work with our energy supplier to determine where additional dedicated renewable energy purchases can be made.

However, only 10 campuses are eligible to purchase electricity from the Direct Access program, and these purchases represent 33 percent of the CSU's total

electricity usage. The balance of electricity purchases consists of bundled utility service, on-site solar, and cogeneration. The CSU does not have direct control over the power mix provided by the utilities, but all utilities are required to meet the state's 33 percent RPS goal by 2020. Four campuses have large-scale natural gas cogeneration systems that are under the CSU's control. While contributing towards the self-generation goal in the sustainability policy, cogeneration reduces the share of renewable electricity across the system when all sources of campus energy are considered due to its reliance on natural gas.

In the future, campuses that continue to use cogeneration systems may need to purchase renewable energy credits or renewable natural gas (biogas) to meet the renewable energy and GHG emission reduction goals in accordance with campus climate action plans.

SELF-GENERATION

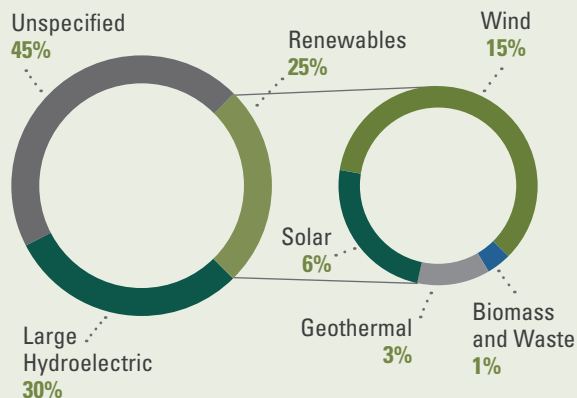
The CSU is on track to meet the goal of 80 megawatts (MW) of self-generation capacity by 2020. The CSU has installed 55.4 MW of self-generation, of which 26.3 MW is solar photovoltaic, 0.9 MW is fuel cell, and 28.2 MW is cogeneration. Of the installed capacity, 4.6 MW has been decommissioned for a current self-generation capacity of 50.8 MW. Most of the decommissioned systems are small cogeneration systems that were idled because they were outdated and expensive to maintain.

The Chancellor's Office developed the Solar Energy Phase 4 Master Enabling Agreement (MEA), which will streamline campus procurement of solar systems and support the achievement of the self-generation goal. It is anticipated that through this program, the CSU will install an additional 38.2 MW of solar photovoltaic capacity by 2019. By 2020, the CSU is projected to have 89 MW of on-site generation installed.

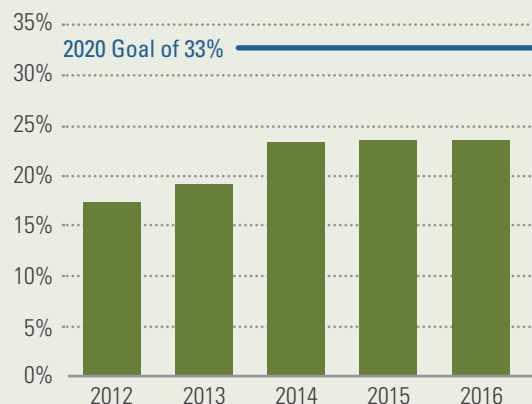
Beyond 2020, the CSU will have to consider what methods to use to continue to expand its clean energy portfolio. It is expected that at the expiration of the Solar 4 MEA in 2024, there will be few on-site solar opportunities remaining. Under a potential CSU CCA, campuses would have options to increase their total renewable electricity by incorporating off-site solar generation, whether owned by the power provider, a single campus, a group of campuses, or the CSU system.



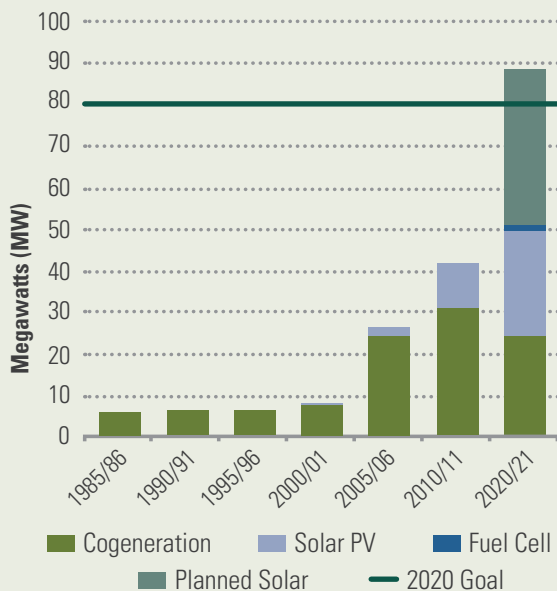
CSU 2016 Direct Access Electricity Sources



Systemwide Renewable Electricity Content



Total Installed Self-Generation Capacity (MW)





Climate Action & Adaptation Planning

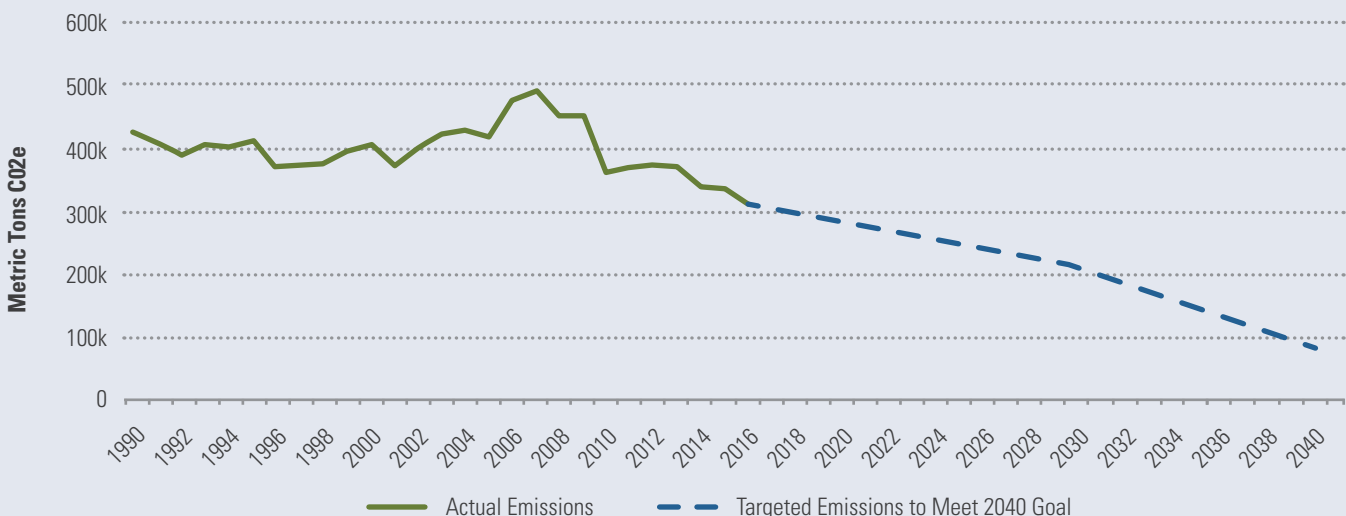
GREENHOUSE GAS EMISSIONS

The CSU has already met and exceeded its 2020 goal for reducing greenhouse gas (GHG) emissions. The 2014 Sustainability Policy sets a goal of reducing GHG emissions to 1990 levels or below by 2020, consistent with the statewide target set by AB 32.

The CSU's GHG reduction goals are based on what are commonly referred to as Scope 1 and 2 GHG emissions, including direct emissions such as on-campus production of electricity and indirect emissions from purchased energy generated off-site. The Sustainability Policy uses 1990 GHG

emissions as a baseline in alignment with state policy. The systemwide and campus level GHG emissions are calculated using The Climate Registry's General Reporting Protocol, based on energy usage data obtained from campus Monthly Energy Reports along with utility-reported information on energy sources. Since three of our campuses were founded after 1990, emissions targets have been adjusted to provide each campus with an achievable goal while ensuring that systemwide GHG emissions can be reduced to 1990 levels and beyond.

Systemwide Greenhouse Gas Emissions 1990-2016





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I believe students in this field of study (sustainability) should really look within themselves and uncover what it is they are passionate for, and pursue it to no end...

Theresa Murphy

STUDENT

SAN DIEGO STATE UNIVERSITY



CAMPUS CLIMATE ACTION PLANNING

Climate action plans are essential tools for assessing GHG emissions and developing a plan to achieve emission reduction targets. Eleven campuses have published a campus-level climate action plan, with most setting a goal to achieve carbon neutrality by effectively reducing their net GHG emissions to zero. Campus carbon neutrality target dates range from 2020-2050. Four additional campuses expect to complete their climate action plans by April 2019. Unlike the CSU’s systemwide GHG emission reduction goals, these commitments include other indirect emissions generally categorized as Scope 3. Campuses with carbon neutrality goals have committed to reduce emissions from these Scope 3 indirect sources, such as emissions from employee and student commutes, in addition to reducing their Scope 1 and 2 emissions in accordance with systemwide policy.

Campus Carbon Neutrality Goals

Achieving carbon neutrality is a monumental challenge, and by setting these goals, CSU campuses are leaders in pioneering the transition to a sustainable economy.

TARGET CARBON NEUTRALITY DATE	CAMPUS
2030	Chico
2030	Long Beach
2030	Monterey Bay
2030	San Luis Obispo
2040	Northridge
2050	Fullerton
2050	Humboldt
2050	San Diego

SYSTEMWIDE CLIMATE ACTION PLANNING

The Chancellor's Office has taken steps to integrate the CSU's GHG reduction goals into the capital planning process. Beginning with the Five-Year Facilities Renewal and Capital Improvement Plan 2017/18-2021/22, the format has been updated to disclose estimated GHG emissions for each proposed project and the net cumulative GHG impacts for the campus compared to the 2020 emissions target. As this requirement could have been burdensome on campuses, Chancellor's Office staff created a GHG emission estimation tool that requires just five input variables (campus, project type, gross square feet, year constructed, and building type) to quickly estimate GHG emissions from the Five-Year Plan using a consistent methodology across the system.

In 2018, the CSU will initiate the development of a Systemwide Climate Action and Adaptation Plan that will synchronize existing campus and state level climate action and adaptation plans and standards. This plan will establish minimum standards for climate action and adaptation across the system using the best practices from existing campus plans and identify specific actions necessary to meet the CSU's emission reduction goals. The adaptation plan will evaluate the sensitivity and severity of anticipated climate impacts to help campuses prioritize adaptation strategies to cope with anticipated climate impacts.

Central Coast Climate Collaborative

Cal Poly San Luis Obispo was instrumental in the creation of the Central Coast Climate Collaborative (4C), bringing together local governments and NGOs from six counties. Cal Poly staff and faculty support this campus-hosted collaborative in its mission to share resources and knowledge and catalyze climate adaptation initiatives in the central coast region.

Campus Resilience Planning

Resilient **CSU San Bernardino** is a comprehensive planning effort launched in fall 2017 to advance sustainability on campus and within the community. This interdisciplinary effort involving staff, faculty, students, and alumni is designed to better inform the campus decision-making processes to consider the environment, equity, and economy throughout campus operations and identify comprehensive strategies to improve campus resiliency.





Green Building

GREEN BUILDING AT THE CSU

Current CSU policy requires all new construction and major renovations to be capable of achieving a silver level of certification under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. The LEED rating system assesses buildings for sustainability criteria across many areas, including location and transportation, energy and water efficiency, materials, and indoor environmental quality. While the current systemwide policy does not require projects to pursue LEED certification, several campuses do have such a requirement. Currently, seven CSU campuses require LEED certification for projects, five at the silver level and two at the higher gold level.

The CSU currently has a total of 48 LEED-certified projects across 16 campuses. These projects are concentrated at campuses that require LEED certification in their green building standards.

For campuses without a LEED certification requirement, it is difficult to determine if projects are built to the LEED Silver standard required by the CSU policy. Assessing compliance with the LEED Silver standard would require a full review of project documentation for each claimed LEED credit, similar to the third-party certification process performed by Green Business Certification, Inc. for LEED projects. The CSU does not currently have the staff capacity at either the Chancellor's Office or campus level to review all projects for compliance with third-party green building standards within our current project review process. Due to the significant staff time and specialized expertise required for such an assessment, it is generally more cost effective for this type of review to be performed by third-party consultants. CSU staff are consulting with green building experts to analyze and improve current green building standards and review process to address these issues.



SUSTAINABILITY CENT

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The center in itself is showing that CSUN cares about the environment. It's about learning and making a difference, starting with you.

Michelle De Dios
STUDENT
CSU NORTHRIDGE





San Diego State University's double LEED Platinum-certified student union building

STATE GREEN BUILDING GOALS

The CSU's green building policy can be compared to the green building standards of other state agencies. The Governor's Executive Order B-18-12 requires LEED silver certification for all state buildings larger than 10,000 square feet. This Executive Order also requires Zero Net Energy (ZNE) status for all new buildings and renovations in design after 2025 with an interim target of half of new buildings and renovations achieving ZNE by 2020. However, this timeline was accelerated dramatically in October 2017, when California's Department of General Services began requiring all new construction and renovations of state facilities to be ZNE (Management Memo 17-04). ZNE buildings are generally defined as buildings that produce as much energy as they consume, usually through on-site renewable energy.

While the CSU is not currently subject to these more aggressive green building standards, these policies present a roadmap of future building code or other legislative mandates that the CSU could be expected to meet in the future. California has already set goals that all new residential buildings will be ZNE by 2020 and new commercial buildings by 2030. Meeting these targets will require improved verification of green building achievement and clear guidance on the application of these green building

standards to the increasingly diverse types of buildings and funding mechanisms being used for campus development. CPDC is working to prepare for these new standards and ensure that the CSU's capital program is in alignment with both the CSU's and state's long-term GHG reduction goals. Updates to the CSU's administrative manual and procedures guides to incorporate ZNE-ready requirements and any measures identified as part of the systemwide Climate Action Plan are in process.

For example, Chancellor's Office staff are updating procedure guides and RFP templates to encourage benchmark based whole building energy targets in new construction and major renovations. This process would better link design and construction choices to long-term maintenance and operations through use of a static baseline that facilitates comparisons of energy use over time and captures energy use by loads not regulated by the energy code. This project approach was developed by the National Renewable Energy Lab to better ensure that design teams fully incorporate energy savings measures into new construction and major renovations in the whole building rather than just the components regulated by code. These changes are the first step for the CSU to formally require ZNE-ready buildings.

Student and Faculty Support Building

The Student and Faculty Support Building at **CSU East Bay** achieved Leadership in Energy and Environmental Design (LEED) Platinum certification. The building's energy use is about 35 percent better than California's strict energy code and provides operable windows for occupant control and comfort. This project is an outstanding example of a state-funded facility with a limited budget achieving a high-performance green building.



CSU East Bay Student and Faculty Support Building

Associated Students Sustainability Center

The new Associated Students (AS) Sustainability Center at **CSU Northridge** is a multi-functional space that hosts an expanded central recycling collections operation for the campus. This LEED Platinum-certified facility incorporates many sustainable features, including rooftop solar panels, solar hot water, composting toilets, and greywater collection for landscape irrigation. As the new home of the university's Institute for Sustainability and AS Recycling, the building offers a variety of formal and informal educational opportunities for the university community to engage with sustainability topics on campus.



CSU Northridge Associated Students Sustainability Center

A Sustainable Development Framework

San Francisco State University created a Sustainable Development Framework to support the achievement of its campuswide sustainability goals. The Framework describes specific performance requirements to be achieved by architects, engineers, and developers engaged in constructing new and renovated buildings, landscapes, and infrastructure. The plan sets ambitious targets for building performance: energy and water efficiency; on-site water capture, treatment, and reuse; renewable energy production; and more. In addition, the Framework sets forth an integrative planning and design process, including community engagement, which leads the campus toward a resilient and regenerative future.



The Mashouf Wellness Center at San Francisco State is on track for LEED Platinum certification.

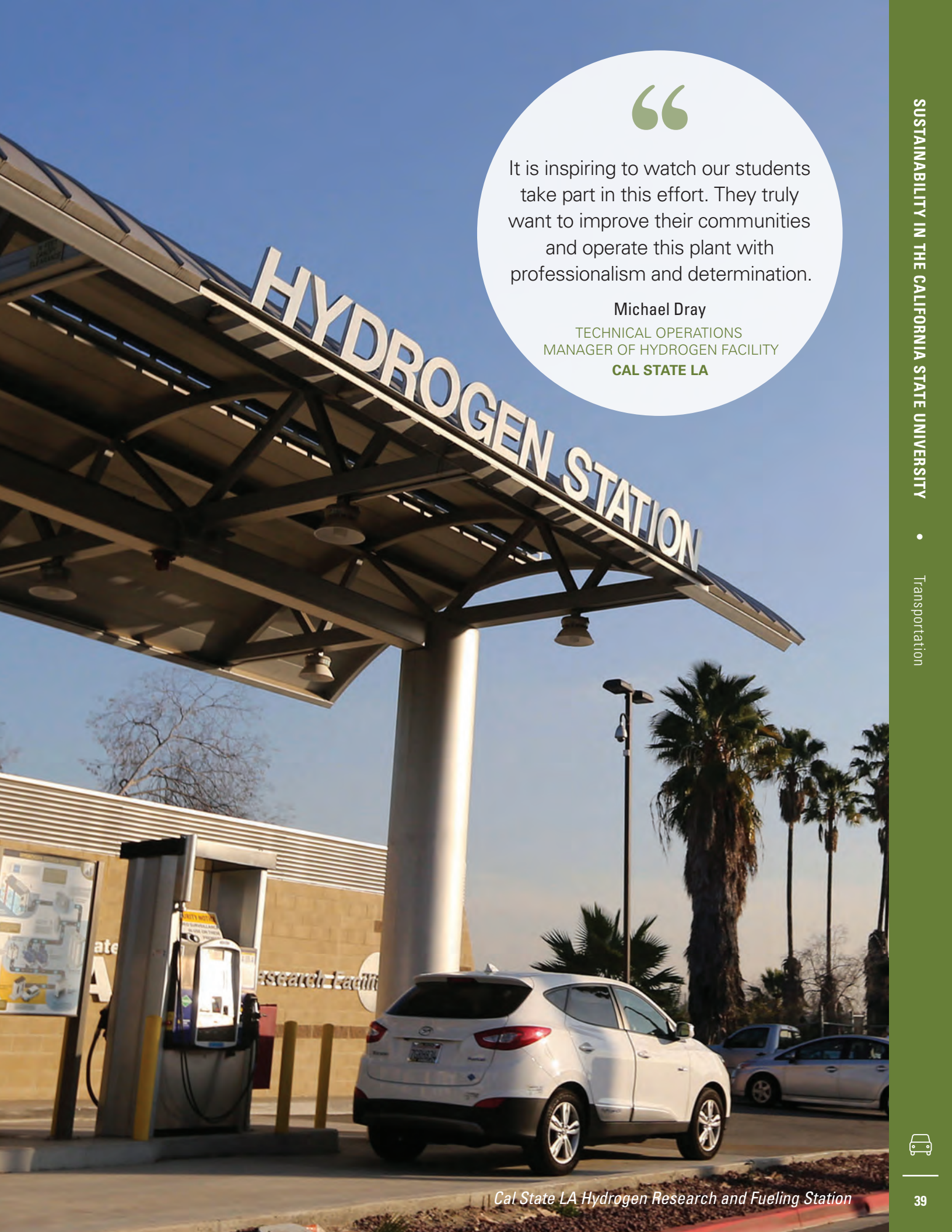


Transportation

Transportation issues in the CSU are a critical intersection of sustainability, equity, and affordability. Transportation choices can have significant environmental impacts, including GHG emissions and air pollution, and both directly and indirectly affect the health of campus commuters and the broader community. Transportation costs can be a significant factor in affordability for students, with campus policies, programs, and infrastructure a great influence on the availability and convenience of cheaper and more sustainable transportation options for students and employees. Commuting choices also affect the planning and design of campuses, and accommodating vehicle-based commutes represents a significant ongoing cost to the CSU.

Addressing these issues and encouraging mode shift to more sustainable and affordable transportation options is a challenge for the CSU, as many factors related to mode choice are outside of the direct control of campuses. Achieving mode shift requires influencing behavior to encourage more sustainable transportation choices and developing positive, long-term relationships with outside entities such as transit agencies, cities, counties, air districts and metropolitan planning organizations to address infrastructure and policy barriers.





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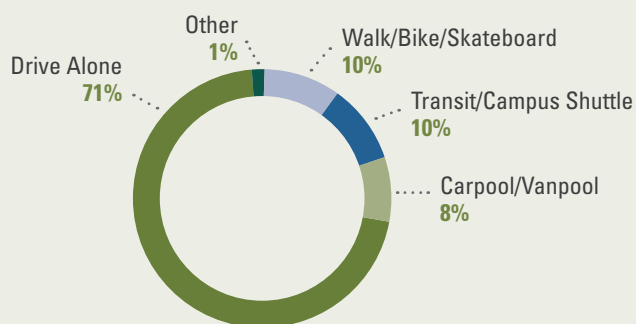
It is inspiring to watch our students take part in this effort. They truly want to improve their communities and operate this plant with professionalism and determination.

Michael Dray

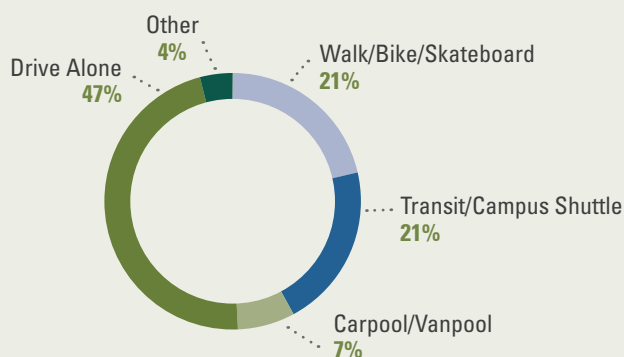
TECHNICAL OPERATIONS
MANAGER OF HYDROGEN FACILITY
CAL STATE LA

Systemwide Commuter Transportation Mode (Weighted by FTE)

EMPLOYEE MODE SHARE



STUDENT MODE SHARE



Systemwide commute data was compiled from the 15 campuses that collect data on both employee and student commutes.

CSU TRANSPORTATION STATISTICS

20 transit pass programs offering free or discounted transit rides to students and/or employees

21% of students surveyed systemwide use **active transportation** such as walking, biking, or skateboarding to get to campus

7 bikeshare programs, including 2 citywide bikeshare programs

70 carshare vehicles at 17 campuses, offering hourly or daily rentals at discounted rates

381 electric vehicle charging stations across 21 campuses and the Chancellor's Office

155,929 Parking spaces systemwide, or 1 space for every 3.9 students



TRANSPORTATION CHOICES IN THE CSU

Data collection on commuting mode choice varies across the CSU. Currently, 15 campuses conduct commuter surveys of students, while 18 conduct commuter surveys of employees. Results from these surveys demonstrated that commute mode likely depends on a variety of local factors including availability of public transit and active transportation infrastructure, percentage of students living on or very near campus, and average commute distance. However, at nearly all campuses surveyed, there is a significant difference in mode share between employees and students, with students less likely to use automobile-based transportation modes and more likely to use active transportation or public transit.

Frequency, reporting rates, and methodologies for obtaining commuting data vary between campuses, so it is difficult to compare results systemwide. Obtaining accurate data on current commute modes and related information is essential for transportation planning, determining parking demand, and improving sustainable transportation programs. Standardizing the methodology and frequency of administered surveys across all campuses would greatly improve the CSU's ability to ensure that all students and employees have access to transportation modes that meet their needs. Many campuses' collection methodologies and requirements for employee commute surveys are set in compliance with their local air districts, so this would need to be taken into consideration. However, it is critical for all campuses to have accurate data on student commutes in addition to employees, since they account for the vast majority of daily trips to campuses.

SUSTAINABLE TRANSPORTATION PROGRAMS

While commuter behavior is not directly under the CSU's control, campuses have a variety of tools available to influence mode choice and encourage students and staff to use more sustainable transportation options. Campus survey results indicate that currently, vehicle-focused programs (such as carshare or electric vehicle charging) are more widely available systemwide than transit or active transportation initiatives. Some campus policies may also create unintended barriers for active transportation users or otherwise discourage more sustainable transportation choices. The following list describes sustainable transportation programs and policies that have been implemented in the CSU system.

BICYCLE PROGRAMS

Most CSU campuses reported investments in bicycle infrastructure and storage, including lanes, racks, and lockers. Seven campuses have bikeshare or rental programs for students and/or staff. Making active transportation a priority in campus planning and design can help encourage a shift to more sustainable and affordable transportation modes such as bicycling and walking.

PUBLIC TRANSIT PROGRAMS

Student transit programs have been demonstrated to increase public transit use and achieve mode shift away from vehicles. Twenty CSU campuses offer free or discounted transit passes for students in partnership with local transit agencies. Several campuses have dedicated public transit stops on campus to make transit more convenient for students and employees, and 14 campuses operate shuttles to better connect the campus with major destinations, including student housing and regional transit hubs.

VANPOOL AND CARPOOL PROGRAMS

Vanpool and carpool incentives can decrease single-occupancy vehicle commuting by encouraging shared trips and reduce parking demand at campuses. Currently, 11 campuses offer vanpool programs for employees and 14 have online carpool matching services available. Campuses also report that students often use informal methods such as social media for ride-matching. Fourteen campuses offer preferred parking spaces for carpool or vanpool users.

CARSHARE

Carshare programs can offer alternatives to private vehicle ownership, especially for students living on or near campuses. Currently, 17 campuses have carshare programs in partnership with Zipcar or Enterprise, offering discounted membership rates for students.

ELECTRIC VEHICLE CHARGING

There are currently 381 electric vehicle (EV) charging stations across 21 CSU campuses and the Chancellor's Office. Charging infrastructure is critical to making EVs a viable commuting option for staff, faculty, and students. EVs reduce per-mile GHG emissions substantially compared to gasoline vehicles. EV adoption continues to increase dramatically in California, and the state has set a goal of deploying enough infrastructure to support one million EVs by 2025 and 5 million by 2030 (Governor's Executive Orders B-16-12 and B-48-18). The CSU will need to continue to develop EV charging infrastructure to meet market demand as well as support the state's goals.



TRANSPORTATION-RELATED GHG EMISSIONS

The 2014 Sustainability Policy directs the CSU to encourage and promote alternative transportation and alternative fuels to reduce the GHG emissions from university associated transportation, including both commuting and business travel. GHG emissions from vehicles depend on both fuel type and vehicle efficiency. Some transportation-related GHG emissions are more directly under the CSU's control and can be affected by policy or purchasing decisions, while others are a result of behavioral choices that can only be indirectly influenced.

FLEET VEHICLES AND FUELS

The CSU has approximately 4,949 vehicles in the systemwide fleet, including work trucks, campus shuttles, farm vehicles, trailers, and electric carts. The GHG emissions from fleet vehicles are considered Scope 1 emissions and are included in the CSU's GHG reduction goals. Transitioning to "low-carbon" vehicles and fuels that have lower GHG emissions can help meet the CSU's GHG targets.

Between 2011 and 2016, the CSU increased the proportion of electric vehicles (EVs) in the systemwide fleet by nine percent while decreasing gasoline and diesel powered vehicles. However, an appropriate EV replacement is not currently on the market for all vehicle types, such as trucks.

Replacing diesel and gasoline-powered vehicles with electric vehicles will help the CSU reduce both GHG emissions and air pollution. Fully electric vehicles emit no tailpipe emissions because they are charged from the utility grid rather than using internal combustion engines to burn fuel,

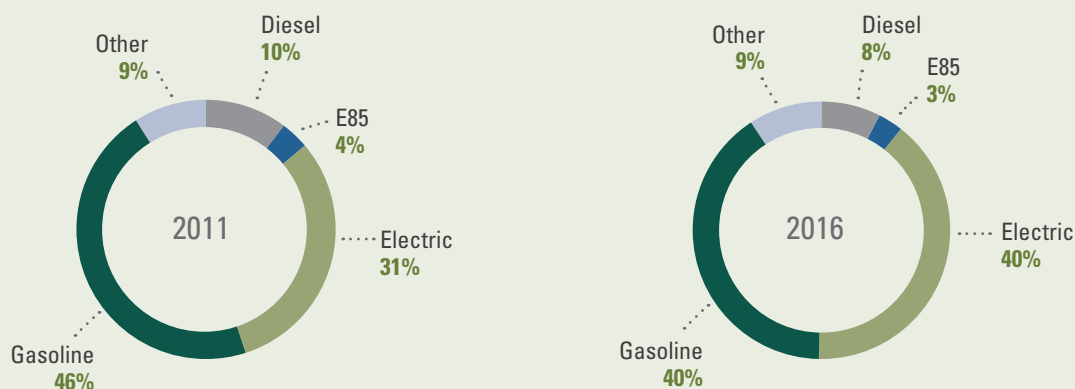


though unless they are powered with 100 percent renewable energy there are still some associated pollution impacts. Additionally, EVs are more efficient than conventional vehicles, requiring less energy to power the vehicle. When combined with California's high percentage of clean energy, this results in a significant reduction in GHG emissions and air pollution compared to traditional fleet vehicles.

The CSU's fleet vehicle purchasing and low-carbon fueling infrastructure requirements were recently updated in the State University Administrative Manual (SUAM). This section of SUAM now defaults to low-carbon fleet operations in sizing, purchasing, operating and replacing fleet vehicles while still meeting the transportation needs of the University.

The policy update aims to improve campus reporting to the California Department of General Services.

CSU Systemwide Fleet Vehicle Main Fuel Type





COMMUTING AND BUSINESS TRAVEL

While the systemwide sustainability policy does not include indirect GHG emissions such as those from commuter or business travel in the GHG reduction goals, these emissions are included in the carbon neutrality plans of the Climate Leadership Commitments signed by 15 CSU campuses. Thirteen campuses have completed a Scope 3 GHG inventory that includes these indirect emissions. On average, student and employee commutes account for 41 percent of total GHG emissions for these campuses. Reducing these emissions is essential to meeting the carbon neutrality goals set by campuses and will require a shift to carbon free modes of travel.

EQUITY, AFFORDABILITY, AND ACCESS

Transportation costs can be a huge affordability barrier to students, and lower-carbon transportation options such as walking, biking, and public transit can offer significant cost savings over vehicle-based commutes. Ensuring students have access to a range of safe, affordable, and convenient transportation options can address sustainability goals, support student success, and maintain the CSU's affordability. Automobile-focused design standards for campuses can unintentionally disadvantage students and employees who commute by other transportation modes, and are not reflective of current transportation mode share at many campuses.

In addition to the cost to commuters, vehicle-based commutes represent a significant cost to campuses. Construction of parking lots and structures on the CSU campuses ranges in cost from thousands to tens of thousands of dollars per space. With a systemwide parking capacity of over 150,000 spaces, this translates into significant costs in long-term debt service for the CSU in addition to ongoing costs for operation and maintenance of parking facilities. The relatively low, below-cost rates currently charged for parking at most CSU campuses amount to a de-facto parking subsidy, making it very difficult to incentivize employee mode change and fully recover costs for building and maintaining parking capacity. Space dedicated to the storage of private vehicles takes up a significant percentage of campus land. Parking structures alone account for a total of 19 percent of building square footage systemwide, with some campuses dedicating as much as 40 percent of total building square footage to parking structures. Additionally, surface parking lots account for 18 percent of net usable campus land across the CSU.

LA Metro U-Pass

In an effort to increase college student transit ridership, **CSU Northridge** partnered with LA Metro to streamline student access to discount transit passes. These U-Passes, which use a digital sticker to allow student ID cards to function as transit passes, are subsidized by CSUN on top of Metro's already discounted student rates. This low-cost program demonstrates the efficacy of addressing barriers to behavior change through forging effective community partnerships, with three times as many student transit passes purchased compared to previous semesters.

Several other CSU campuses in Los Angeles County have taken advantage of the LA Metro U-Pass program as well, offering additional subsidies to the already-discounted student pass to encourage transit ridership. The program is modeled in part on a long-standing partnership between **CSU Long Beach** and Long Beach Transit that is funded in large part by CSULB's Parking program.



LA Metro at CSU Northridge



TRANSPORTATION PLANNING

Transportation planning in the CSU remains automobile-focused at all but a few campuses, often despite the large numbers of students using other methods of transportation. This may reflect the fact that at nearly all the CSU campuses, employee commutes are substantially more likely to be automobile-based than student commutes. In the long term, campuses will need to further consider accommodating the increasing percentage of students using other methods of transportation and to meet the GHG reduction goals of both the CSU and the state.

Additionally, innovations in transportation such as Transportation Network Companies that provide ride-hailing services or autonomous vehicles have the potential to fundamentally alter commuting behavior and parking demand at campuses. Campuses will need to ensure that estimates and modeling of long-term demand for parking facilities adequately supports the term of the debt obligations and that new parking facilities are built to allow for adaptive reuse as commuter preferences change.

Active Transportation Plan

In 2015, **Fresno State** developed a comprehensive Active Transportation Plan to complement the 2008 campus master plan, providing a vision for sustainable campus growth through 2030 and beyond. The Plan provides recommendations to better accommodate active and healthy transportation modes and provides choices for access to campus in addition to the automobile, recognizing that investment in active transportation is a sustainable and cost-effective strategy to manage demand for parking and other automobile infrastructure.

Hydrogen Research and Fueling Station

Cal State LA's on-campus renewable hydrogen generation and fueling station was the first hydrogen fueling station in the world licensed to be certified to sell by the kilogram to the public. The facility is located adjacent to the I-10 corridor, providing clean, renewable fuel on a major transportation route. Initially funded by a grant from South Coast Air Quality Management District's Mobile Sources Air Pollution Reduction program, the project received further support from the California Air Resources Board, the Department of Energy, the Ahmanson Foundation and the Automobile Club of Southern California. Ongoing research from this award-winning program is presented annually at the Department of Energy's Merit Review, and key data is shared with California's Energy Commission and Air Resources Board.



Cal Maritime's Training Ship Golden Bear

Marine Fleet Vessel Upgrades

Not all of the CSU's transportation emissions are on land, and **Cal Maritime** has invested in upgrading its marine fleet vessel-vehicles to reduce GHG emissions and other air pollutants. Utilizing funding from the State's Carl Moyer Memorial Air Quality Standards Attainment Program, the campus re-powered the diesel main propulsion systems of three training craft using more advanced and efficient engine technology from Tier 0 to Tier 2 emissions standards. The campus is currently exploring additional grant opportunities to further reduce emissions through more efficient engines and alternative energy propulsion.

Solar Powered Golf Carts

Facilities staff at **CSU Dominguez Hills** retrofitted electric carts with solar panels to create self-recharging vehicles for the facilities' fleet using readily available materials. These upgraded carts are now powered with 100 percent renewable energy, and can recharge anywhere (sunny) instead of needing to plug in. Several other CSU campuses have adopted this idea to create their own solar-powered facilities carts.



Solar-powered carts at CSU Dominguez Hills





Water

The CSU exceeded the goal to reduce water use 10 percent by 2016, with a total reduction of 16 percent in 2016 compared to the 2013 baseline. Due to the unprecedented drought and statewide water use restrictions, the CSU achieved a 19 percent reduction in water use in 2015. This performance was very close to achieving the 2020 reduction goal of 20 percent. Many CSU campuses are leading the way towards this goal with innovative water conservation programs.

WATER CONSERVATION

CSU campuses use water for a variety of potable and non-potable uses, including landscape irrigation, cooling towers, and domestic uses such as in kitchens and restrooms. On-campus water use is influenced by three major factors: environmental conditions, infrastructure, and behavior.

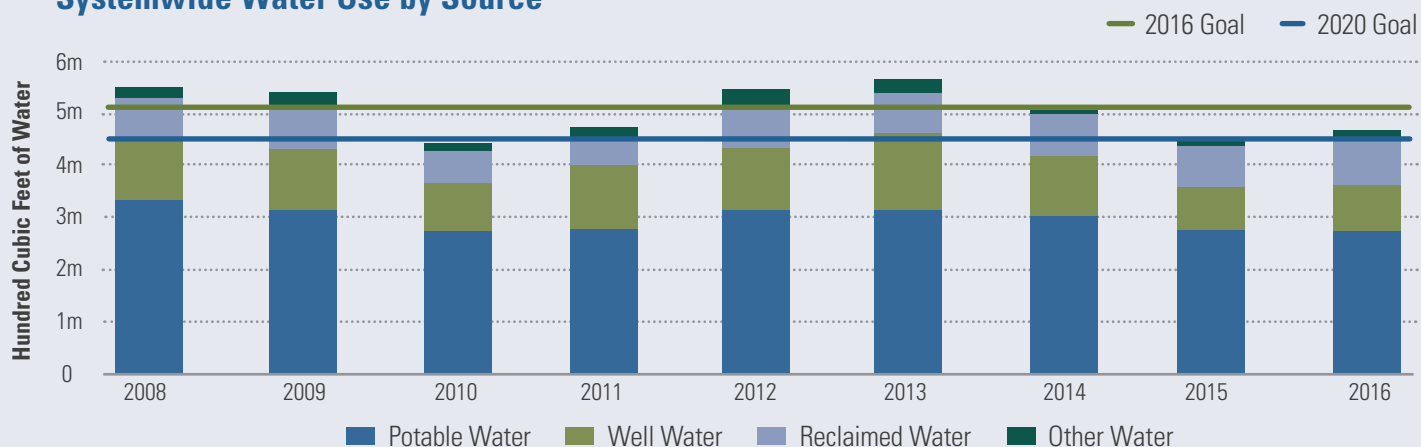
Environmental factors beyond the CSU's control such as increased temperatures and humidity can affect campus water use, particularly the need for irrigation and cooling.

Climate impacts are anticipated to make the weather more severe and less predictable, making water conservation measures an important resilience strategy for the CSU.

Campus infrastructure determines the range of potential water uses as well as the efficiency of water systems. The CSU can influence this factor by installing more efficient plumbing fixtures, irrigation controls, drought tolerant landscaping, and upgrading cooling towers. These changes can be costly but reduce water use over the long term. Facilities management and campus grounds should continue to upgrade to water efficient equipment and landscaping to meet the 2020 water use reduction goal.

During the severe drought, campuses took emergency measures such as halting of landscape irrigation and intense outreach to the campus population to conserve water. Many of these efforts ended once the drought was over, which may explain the increase in water use in from 2015 to 2016. While some irrigation reductions are not sustainable in the long term without negative impacts, outreach campaigns can still influence behavioral water conservation in between periods of drought.

Systemwide Water Use by Source



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Our lakes have been here for so long and we're just starting to do modern things with them. By converting the cooling towers to lake water, it reduced the potable water use by five million gallons a year.

Louie Oliveira

FACILITIES SERVICE DEPARTMENT
CHIEF OPERATING ENGINEER
STANISLAUS STATE



ALTERNATIVE WATER SOURCES

Currently, the CSU water conservation goal does not distinguish between potable and non-potable sources of water. Pursuing alternative sources of water such as recycled/reclaimed water or captured rainwater for uses that do not require a potable source can be an important conservation strategy for campuses. These alternative sources reduce the demand for limited potable water supplies and can help campuses avoid the aesthetic impacts of drastic irrigation reductions in response to extreme drought conditions. It is recommended that the CSU Sustainability Policy be updated to distinguish between potable and non-potable water supplies and encourage campuses to prioritize potable water sources for potable uses only, while pursuing alternative water sources for all other applications.

DROUGHT PLANNING

Droughts are typically accompanied by lower humidity and higher temperatures, increasing demand for irrigation and air conditioning when water supplies are limited. The recent extreme drought led to severe water use restrictions across the state, impacting many CSU campuses. With climate change expected to make droughts more common and more severe, it is important for the CSU campuses to continue to prepare for these conditions.

Many campuses are among the largest water users in their water districts, and are often looked to as a source for drastic water use reductions regardless of campus overall water efficiency. Updating and maintaining drought management plans in consultation with local water districts is an important strategy to plan ahead for the next drought, as more severe droughts are projected as a result of climate change. Campuses with implementable drought management plans are better prepared for potential mandatory service reductions and emergency service interruptions, ensuring continuity of operations.

As campuses continue to grow, robust conservation programs and drought management plans are even more critical for campuses, as overall water use will increase. An expansion in on-campus housing facilities in particular increases vulnerability to water shortages, as residential supplies cannot be severely restricted without impacts to basic safety and hygiene. Campuses mitigate these impacts through efficiency measures, using alternative water sources to reduce reliance on potable supplies, and comprehensive drought response plans.

Recycled Water

San José State has led the way with the use of recycled water for both indoor and outdoor uses. Currently, the campus uses its three recycled water connections for irrigation on the main campus and athletic fields, campus cooling towers, and its boilers. King Library and the Student Union use recycled water for toilet flushing, and all new campus buildings have been constructed with dual plumbing to be ready to utilize recycled water for all non-potable systems.

Water Conservation

It can be a major challenge for a rapidly growing campus to reduce its environmental footprint, but that's what **CSU Channel Islands** has been able to do. The campus installed high efficiency sprinkler heads as well as low-flow toilets and bathroom faucets. They've also focused on using reclaimed water for irrigation. Thanks to these measures, CSUCI was able to reduce water use by 12 percent between 2013 and 2016 despite increasing their enrollment by 1,400 students.

Cooling Tower Reclaimed Water

This innovative project at **Stanislaus State** uses reclaimed rainwater that would otherwise be lost to the regional stormwater system to help cool campus facilities before being reused for irrigation. In addition to reducing water use and saving an average of over 1,000,000 gallons of water a year, this project is also helping to educate the campus and surrounding communities on saving water during California's statewide drought.

Water Treatment Plant

With drought conditions affecting the supply of imported water, the **Cal Poly Pomona** campus recognized the climate was impacting their ability to provide drinking water to students and residents. Working with local agencies, the campus leveraged Proposition 84 grant funds and other funding sources to help construct a \$3.3 million water treatment plant that uses a reverse osmosis system to filter groundwater pumped from campus wells. By taking advantage of this underutilized local water source and implementing water conservation measures throughout campus, Cal Poly Pomona reduced its demand on imported water and improved campus resilience in the face of future droughts.



Cal Poly Pomona water treatment plant



Drought-tolerant landscape at CSU Channel Islands



Procurement

SUSTAINABLE PROCUREMENT POLICIES AND PROGRAMS

The CSU Sustainability Policy directs campuses to promote use of suppliers or vendors that reduce waste, repurpose recycled material, or support other environmentally friendly practices in the provision of goods or services to the CSU under contract. Sustainable procurement policies are a critical tool in meeting the energy efficiency, green building, and waste reduction goals of the CSU Sustainability Policy. There are several initiatives and efforts underway at both the campus and Chancellor’s Office level to address sustainable procurement.

Currently, most CSU campuses rely on the systemwide standards for sustainable procurement, which are limited to the recycled content guidelines set by the State Agency Buy Recycled Campaign (SABRC). Few campuses have adopted more comprehensive sustainable procurement policies or practices that exceed these state standards. Currently, an effort is underway to develop and implement appropriate systemwide sustainable procurement standards and practices that will be integrated into the CSU procedures and documents.

Several CSU campuses have implemented sustainable procurement practices that serve as a good model for potential systemwide application. Seven campuses currently have environmentally preferable purchasing policies that address criteria aside from the systemwide recycled

content guidelines. These criteria include energy and water efficiency standards, environmental health impacts, consideration of product disposal or extended producer’s responsibility, and responsible material sourcing. Only six campuses currently have sustainable procurement policies that specifically address minimizing landfill or hazardous waste, which is a critical part of achieving the CSU’s waste reduction goals. Broader adoption of these sustainable procurement criteria will assist in meeting systemwide energy efficiency and waste reduction goals while also improving environmental health for students and employees.

Campus Sustainable Procurement Efforts

SUSTAINABLE PROCUREMENT MEASURE	NUMBER OF PARTICIPATING CAMPUSES
Sustainable procurement policy (in addition to State Agency Buy Recycled Campaign)	7
Additional evaluation points for sustainable vendors	7
Published sustainability criteria for products or services	7
Procurement policy to minimize waste	6



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I think higher education communities provide a great opportunity for change.

Nikhil Schneider
ENERGY AND SUSTAINABILITY
COORDINATOR
CSU NORTHRIDGE



Environmentally Preferable Purchasing

San José State University Contracts & Purchasing Services developed an Environmentally Preferable Purchasing Policy (EPP) to promote the purchase of products and services that reduce negative environmental impacts. The EPP contains both mandatory and recommended guidelines for product purchases, supporting campus efforts to minimize waste, improve energy and water efficiency, and reduce the use of toxics.



Recycled paper purchases

Sustainable procurement policies can also support sustainable practices by prioritizing green vendors. Seven campuses include additional evaluation points in the solicitation process for vendors using sustainable practices, often using criteria specific to the services being provided. The Chancellor's Office is exploring ways to incorporate assessment of vendor sustainability into the registration and qualification process for all new vendors, which would allow these criteria to be consistently scored as part of the solicitation process.

The Chancellor's Office recently launched a "Sustainable Auto-Sub" program with Staples Business Advantage, one of the CSU's major vendors. This program will automatically substitute commonly purchased products with more sustainable alternatives that have been identified, eliminating the need for each purchaser to individually evaluate products against sustainability criteria. This program is expected to substantially improve the CSU's performance in sustainable procurement while also yielding annual cost savings of more than \$400,000.

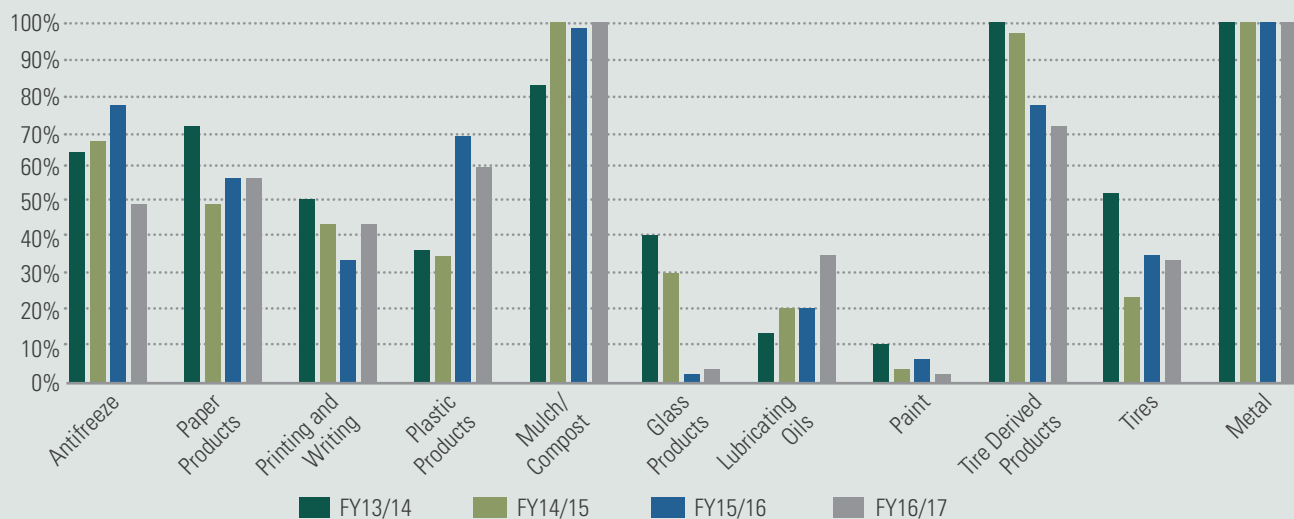
STATE AGENCY BUY RECYCLED CAMPAIGN

The State Agency Buy Recycled Campaign (SABRC) is a joint effort between the Department of General Services and California Department of Resources Recycling and Recovery (CalRecycle), requiring state agencies and the legislature to purchase recycled-content products instead of non-recycled-content products. The SABRC sets standards for the minimum recycled content for a variety of basic materials or product categories (metal, glass, plastics, paper products, etc.) that comprise an agency's purchases of goods. Additionally, the SABRC sets a minimum percentage of expenditures in these material categories that must be on products meeting the recycled content standards.

Campuses are encouraged to comply with the SABRC requirements by developing procedures that ensure the purchase of goods that contain recycled content. Purchasing products made of recycled materials helps reduce resource waste and leverages the buying power of the CSU to boost the market for recycled materials. Current policy requires campuses to report on all SABRC recycled content product categories and to implement improved tracking and reporting procedures for their recycled content purchases.

Systemwide, expenditures on recycled content fall short of the recommended SABRC threshold of 50 percent in several material or product categories. While reported recycled content purchasing performance has been increasing in

SABRC Recycled Content Purchases as a Percentage of Total Reportable Expenditures Systemwide



some material categories, it is actually decreasing in some material categories and is very inconsistent in others. It is unclear whether this is due to purchasing trends or difficulties in tracking and reporting these purchases. Ten campuses reported implementing measures to increase recycled content purchases in at least one of the SABRC product categories, including product-specific purchasing criteria, guidance, or training for ProCard users and other purchasers. Programs such as the Sustainable Auto-Sub and other efforts with major systemwide vendors are expected to improve SABRC performance as well.

Reported SABRC performance across campuses and on each campus from year to year varies widely, indicating barriers to accurate tracking and reporting of these procurement standards. Tracking and reporting of SABRC purchases can be difficult due to the way the program is generally structured around basic materials rather than product categories. The decentralized nature of purchasing at the CSU campuses presents additional challenges to both meeting recycled content purchasing thresholds and ensuring accurate reporting.





Recycling & Zero Waste

WASTE GENERATION

The Sustainability Policy directs campuses to reduce their solid waste disposal rate by 50 percent by 2016 and 80 percent by 2020. To measure progress toward this goal, the CSU relies on the Waste Management Annual Report from CalRecycle, which all state agencies and large facilities are required to submit. Using this metric and a baseline calculated by CalRecycle, 8 of the 23 campuses had achieved the 2016 goal.

The CalRecycle report was utilized to measure progress in order to avoid confusion and additional reporting burdens on campuses. Additionally, CalRecycle works with all state agencies to review their reports and suggest actions to reduce waste generation. However, calculating how much waste is generated on each campus remains a challenge. Some waste haulers bill their customers based on weight. Many do not, so the weight must be estimated. Auxiliary organizations may also use different companies, with different reporting capabilities, for their contracted waste hauling.

When waste hauling contracts expire and must be re-bid, campuses should require that vendors provide a customer-specific actual weight report to help facilitate more accurate tracking progress toward this goal.

Campus Waste Reduction Efforts

CalRecycle tracks campus participation in a number of waste reduction measures across five program areas. This table lists the average count of how many measures CSU campuses participate in.

CALRECYCLE CATEGORY	ON AVERAGE, CAMPUSES PERFORM:
Recycling Collected	16 out of 21 possible measures
Material Exchange	5 out of 8 possible measures
Waste Prevention/Re-use	13 out of 24 possible measures
Green Procurement	3 out of 6 possible measures
Training and Education	10 out of 16 possible measures

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The more Sac State can act to eliminate waste in-house, the less we have to ship elsewhere—reducing our environmental impact and saving money in the process.

Joey Martinez

RECYCLING COORDINATOR
SACRAMENTO STATE



TOWARDS ZERO WASTE

The sustainability policy calls for CSU campuses to move toward zero waste. Zero waste requires full life cycle considerations of products, from purchase to end-of-life. Campuses will need an environmentally preferable purchasing policy that reduces packaging, ensures product compatibility with materials collection options both on- and off-campus, and promotes end-of-life recycling of products.

HAZARDOUS WASTE

To address the Sustainability Policy goal of reducing the generation of hazardous waste, many CSU campuses have developed programs to minimize the use and volume of hazardous materials on campus to the extent possible without affecting the academic program. Eight campuses have encouraged classes to microscale experiments to use less chemicals. Four campuses have gone further and promoted the use of non-hazardous alternative chemicals. Some campuses have utilized chemical inventories that allow professors to find and use chemicals that have already been purchased. Others require approval of purchase to ensure that only the required amount is purchased and the chemicals are stored properly. These programs are managed by campus Environmental Health and Safety departments.



ORGANICS WASTE

Campuses are now required by law to arrange for composting or anaerobic digestion of organic waste, including food waste, landscaping waste, and compostable paper products. Some campuses have gone further and begun processing some organic waste on-site through composting and mulching programs. This compost or mulch can be used on campus grounds, in campus or local community gardens, or picked up by members of the local community. On-site composting programs also offer valuable opportunities for student engagement and experiential learning in partnership with academic programs.

The Closed Loop

Sacramento State's Closed Loop program is a comprehensive and cost-saving organic waste diversion program that turns food waste, leaves, lawn clippings, and landscaping waste into mulch, compost, and renewable fuel. Post-consumer food waste from campus is collected and sent to a local anaerobic digester, where it is made into a clean fuel – a bio compressed natural gas that powers the fleet of campus shuttles. Pre-consumer food waste, along with most landscaping waste, is processed in the campus's Bio-conversion and Agricultural Collaborative Yard into finished compost that is used on campus grounds and the ASI-supported campus garden. This project has allowed Sacramento State to decrease its dependence on fossil fuels, reduce the amount of waste sent to the landfill, and close the loop on campus consumption.



Sacramento State mixing compost

Online Waste Tracking

CSU Northridge worked with its campus waste hauler to develop an online waste and materials tracking website to assist the campus in reaching its zero waste goal. This publicly accessible website displays the most current diversion rate as well as waste stream material by both percentage and weight. This tool has helped the campus increase its diversion rate with better tracking and reporting of waste management data.



Sustainable Food Systems

Food service operations at the CSU are connected to student wellness, basic needs, and sustainability goals. While the 2014 Sustainability Policy sets goals related to food procurement and dining operations, food service operations affect sustainability initiatives in a variety of categories, including GHG emissions reduction, energy and water conservation, waste reduction, and even academics. Additionally, food service operations represent one of the most fundamental intersections of campus sustainability programs with the CSU's Basic Needs Initiative, highlighting the inherent importance of equity in sustainability initiatives and the need for cooperation and collaboration across all operational areas of the CSU.

SUSTAINABLE FOOD PROCUREMENT

Current CSU policy encourages campuses to track their sustainable food purchases, with an aspirational goal of increasing sustainable food purchases to 20 percent of total purchases by 2020. Sustainable food is broadly defined as food that is local or community-based, fair, ecologically sound, and humane. Fourteen CSU campuses currently track their sustainable food purchases using a framework grounded in the Real Food Challenge guidelines or

equivalent, as encouraged by the CSU policy, and three use a different framework for tracking these purchases. Six do not currently track sustainable food purchases.

Nearly all campuses report having implemented measures to increase their sustainable food purchases and strive for the 20 percent by 2020 goal. Of the 14 campuses using a framework grounded in the Real Food Challenge guidelines, two have already met and exceeded the 20 percent goal, and nine currently purchase at least 10 percent sustainable food by cost according to the campus-defined criteria. If campus initiatives to increase sustainable food purchasing are successful, several more campuses may meet this challenge by 2020.

It is difficult to compare results from campus food procurement reports or assess systemwide progress due to inconsistent tracking of purchases and the use of different reporting frameworks and product criteria. Additionally, while the CSU sustainability policy states that "all campus food service organizations should track their sustainable food purchases," there is inconsistency as to which types of campus food service organizations participate in the tracking and assessment of food purchases. Clarifying the intent and guidelines for this policy goal and establishing consistent criteria for evaluation of sustainable food purchases could address these issues.

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Over the cohort's first year, I've definitely seen them develop an appreciation for the amount of work that goes into gardening. You learn a lot out there.

Jonathan Davis
BIOLOGIST AND FARMER
U-ACRE PROGRAM
CAL STATE FULLERTON



SUSTAINABLE DINING SERVICES

Outreach and education is an essential component of sustainable food service operations and procurement. Currently, 19 campuses report providing training on sustainable food service operations to staff and/or patrons, most commonly on topics such as food waste reduction, composting of pre-consumer food waste, and sustainable food sourcing. In addition to formal training for employees, these programs include campaigns to discourage food waste such as “weigh the waste” events or trayless dining as well as education regarding waste sorting in dining facilities. Food service operations play a key role in waste reduction programs at the CSU and have been active partners in the implementation of required organics waste diversion infrastructure.

Initiatives to promote more sustainable food choices among dining patrons and the broader campus community can be an important part of creating awareness and encouraging demand for these products in the CSU. These include events like Meatless Mondays, inclusion of vegetarian or vegan options at all meals, and signage highlighting sustainable or locally-sourced food options. Other common campus events to promote and educate the campus community on sustainable food systems include farmers markets and campus learning gardens, many of which include on-campus composting operations.

SUSTAINABLE FOOD AND DINING OPERATIONS STATISTICS

14 campuses track their sustainable food purchases using a framework grounded in the Real Food Challenge guidelines or equivalent

CSU campuses that track their food purchases average **16 percent sustainable food** by cost, with 2 campuses already exceeding the goal of 20 percent sustainable food purchases by 2020.

19 campuses offer training on sustainable food operations to staff, including food waste reduction, composting of pre-consumer food waste, and sustainable food sourcing

17 campuses provide information to patrons on sustainable dining operations such as composting and food waste prevention programs

18 CSUs **promote sustainable food choices** through events and outreach on campus

The Urban Agriculture Community-Based Research Experience (U-ACRE)

The U-ACRE project at **CSU Fullerton** provides selected students with valuable experiential learning opportunities that address sustainability in the context of food security while working with community partners. Supported by a USDA National Institute of Food and Agriculture grant, this program allows students to complete internships, mentor other students, and work with faculty on interdisciplinary teams to generate innovative approaches to regional food security challenges. Since its inception, U-ACRE has supported over 50 students, 100 non-profit clients, and 3,000 K-8 students. This award-winning project demonstrates best practices in integrating sustainability into the curriculum by emphasizing high-impact practices through experiential learning and community engagement.

Addressing the Food Insecurity and Climate Disruption Nexus

Humboldt State's innovative food recovery program was developed in response to a study that found a fifth of California State University students reported concern about hunger and food access. Through the Oh Snap program, university staff built campus and community partnerships to increase nutritious, affordable, and culturally appropriate food for students. Related food recovery program efforts included reduction of food over-preparation with Dining Services, donation of leftover food to the campus food pantry, edible gardening classes, food waste diversion to a local worm farm, and deployment of a phone app for students that directed them towards free leftover food from campus events.



CSU Fullerton student tending to garden



Humboldt State gardening class



FOOD SECURITY, FOOD WASTE, AND CAMPUS FOOD SYSTEMS

Social equity is a fundamental component of sustainability, standing on equal footing with ecological and economic concerns in most sustainability frameworks. It is critical that sustainable food service initiatives in the CSU work in close partnership with programs such as the CSU's Basic Needs Initiative, which seeks to address barriers to student success resulting from food and housing insecurity. Sustainable food procurement can be an important tool to ensure that all members of the campus have access to healthy food options while benefitting the local economies that support many CSU students and their families. However, it is important to ensure that sustainable food procurement goals are met without adversely affecting student food security through increased costs. There are a variety of tools for campuses to control food costs while supporting sustainability goals, including strategic sourcing and leveraging the CSU's collective buying power. Successful initiatives at several CSU campuses demonstrate that it is possible to implement sustainable food service programs that address the CSU's sustainability goals while improving students' access to enough food for an active, healthy life.



Food rescue programs are an example of programs that address the goals of both the CSU's sustainability and basic needs programs. These initiatives prevent excess prepared or packaged food from being discarded, reducing food waste while providing meals to members of the campus community who may otherwise lack reliable access to fresh, healthy food. Many CSU campuses have some type of food rescue program and several are exploring ways to expand these initiatives with support from the systemwide Basic Needs Initiative.

At many CSU campuses, sustainable food systems initiatives include campus learning gardens that incorporate on-site composting of organic waste. These gardens provide valuable opportunities for students and community members to learn about sustainable agriculture, nutrition and health, and composting. Working in partnership with both academic programs and facilities operations, these programs support the CSU's sustainability goals in waste reduction and integrating sustainability into the academic curriculum while providing experiential learning and community-based research opportunities, high-impact academic practices that can contribute to student success.

StanFresh CSA

StanFresh Community Supported Agriculture (CSA) operates on a seasonal basis at **Stanislaus State**. Students manage the CSA project and StanFresh Produce Stand, a campus-based marketing project. The CSA and Produce Stand are curriculum-based and tied to specific classes in the Agriculture program. Members of the campus community can purchase a share of the garden's harvest for a low seasonal price and pick up their produce on campus at the StanFresh markets. This project provides students with real market experience connected to their studies while increasing community access to locally and sustainably grown food.



Stanislaus State students harvest in garden



Stanislaus State students working in garden





The Future of Sustainability in the CSU: 2020 and Beyond

Thanks to the extraordinary leadership of students, staff, and faculty, the CSU has made substantial progress towards many of its sustainability goals and established itself as a leader in climate change mitigation and adaptation efforts. The CSU's sustainability programs have provided the opportunity to pursue operational efficiencies and improve the health of campus environments while expanding both formal and informal educational opportunities, utilizing high-impact practices linked to student success. The CSU campuses continue to implement energy efficiency initiatives, renewable energy projects, and other innovations that reduce utility costs, supporting systemwide as well as state goals for GHG emissions. Sustainable transportation programs continue to expand student and employee access to more affordable and less carbon-intensive transportation

options across the CSU system. These programs and others have helped institutionalize the CSU's values in an environmentally, socially, and economically responsible way.

Significant challenges remain to meeting a number of the Sustainability Policy goals for 2020 and beyond. This report represents the first systemwide assessment of progress towards the Sustainability Policy goals, and the reporting process has identified several areas where programs could be developed to better support the CSU's sustainability efforts. The CSU staff plan to use information collected while preparing this report to identify and share best practices as well as develop resources for campuses to catalyze sustainability initiatives in areas where progress can be accelerated.



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We are on the cusp of becoming a campus with solid sustainability practices, with sustainability infused into our culture. We have been building the foundations for this effort and I'm excited to see what happens next.

Tom Abram

ASSISTANT DIRECTOR
CAMPUS SUSTAINABILITY
SAN DIEGO STATE UNIVERSITY



The years since the adoption of the current CSU Sustainability Policy represent a time of rapid change for the CSU's sustainability programs. With sustainability staff now in place at nearly every CSU campus and the Chancellor's Office, the system is better equipped to develop and implement comprehensive sustainability initiatives. Successful projects have, in some cases, dramatically changed the systemwide baseline for sustainability performance in many operational areas. Additionally, state policy regarding sustainability and climate change has continued to evolve in ways that will affect the CSU's programs and policies. Due to these factors, it is critical to continue to evaluate and update the Sustainability Policy to reflect changing conditions. In addition to the changes recommended in this report, staff anticipates returning to the Board of Trustees in 2021 with a progress report on the 2020 Sustainability Policy targets as well as recommendations for the Board's consideration to update and extend the policy beyond 2020.

In addition to these policy and institutional changes, climate change has altered environmental conditions in ways that will continue to affect the CSU. The recent impacts to the CSU campuses from unprecedented drought, wildfires, floods, and extreme heat demonstrate the urgency of developing comprehensive resilience initiatives for the CSU system. These efforts will minimize disruption to the campus community and academic programs and ensure that the CSU's facilities and infrastructure, academic programs, and campus communities continue to thrive in a changing climate. The CSU campuses have the opportunity to leverage educational programs, research, and expertise to serve as hubs in their communities and build capacity for resilience in the face of anticipated impacts of climate change, expanding these efforts beyond campus borders. It is clear the CSU can continue to lead through innovation and inspiration of the next generation of California's professionals.







Definitions

AUXILIARY ORGANIZATIONS

Auxiliary organizations at the CSU are non-profit organizations that are separate legal entities with separate governing boards operating under agreements with the CSU Board of Trustees. California law restricts the use of state higher education funding for certain uses considered to be a part of the core academic mission of these institutions. Auxiliary organizations were created to perform essential functions associated with university operations such as student governance, student unions and recreation centers, student housing, and commercial services such as books stores and food service operations that cannot be supported by state funding.

BIOGAS/RENEWABLE NATURAL GAS

Biogas, also referred to as Renewable Natural Gas, is methane produced by the breakdown of organic waste found in sources such as agricultural waste, municipal solid waste, or sewage. It is considered to be a renewable fuel because its combustion does not generate any net carbon dioxide emissions, as the base organic waste material absorbed its carbon from the atmosphere as part of its growing cycle.

BIOSWALE

Bioswales are vegetated landscape features designed to intercept stormwater, remove silt and pollution, and retain and/or infiltrate water into the ground.

BUNDLED UTILITY SERVICE

Bundled utility service means that the utility service provider supplies all of the components of electric service. This includes energy generation, transmission, distribution services, ancillary and retail services.

CARBON DIOXIDE EQUIVALENT (CO₂e)

This is a unit used to compare emissions of various greenhouse gases, as different gases have different capacities to absorb energy and contribute to warming of the atmosphere.

CARBON OFFSETS

Carbon offsets are quantified greenhouse gas emission reductions that are made to offset emissions made elsewhere. These can be purchased by entities to comply with mandatory emissions reduction targets set by government entities or voluntary emissions reduction targets such as the carbon neutrality goals set by many CSU campuses.

CARBON NEUTRALITY

Carbon neutrality is the goal of achieving net zero greenhouse gas emissions through a combination of emission reduction measures and carbon offsets to compensate for unavoidable greenhouse gas emissions.

CHARGEBACK

Chargeback is a cost recovery mechanism within the CSU where self-support, auxiliary, and external organizations are charged for the services and campus resources that these entities consume, such as utilities from campus-operated central plants.

CLIMATE ACTION PLAN

A climate action plan is a document that assesses an entity's greenhouse gas emissions inventory and provides a comprehensive roadmap of specific actions that can be taken to reduce greenhouse gas emissions to specified levels.

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Being an active member of Green Love my sophomore year and chairing the commission this year has taught me so much about myself, others and ways to stay hopeful amidst a chaotic world.

Shelah Ott

STUDENT

SAN DIEGO STATE UNIVERSITY

CLIMATE ADAPTATION

Climate adaptation, or climate change adaptation, is a term that generally refers to plans or measures taken to prepare for the expected impacts of climate change. Climate adaptation focuses on identifying expected impacts and measures to reduce the vulnerability of critical systems, infrastructure, and communities to these impacts.

CLIMATE RESILIENCE

Climate resilience is the capacity of a socio-ecological system to absorb stresses and maintain function in the face of climate impacts and adapt and evolve in order to thrive in new climatic conditions.

COMMUNITY CHOICE AGGREGATION (CCA)

A CCA is a system that allows cities, counties, and other government entities to aggregate the buying power of individual customers within a defined jurisdiction in order to secure alternative energy supply contracts on a community-wide basis. CCAs provide customers within the defined jurisdiction an alternative to energy supplied by Investor-Owned Utilities.

COGENERATION

Cogeneration is the use of energy generation infrastructure to simultaneously generate electricity and useful heat and/or cooling from a single fuel source. Four CSU campuses have large on-campus cogeneration facilities that produce the majority of their consumed electricity.

COMPOSTING

Composting is a process used to break down and “recycle” organic matter into a natural fertilizer and soil amendment using microbes and worms.

DIRECT ACCESS (DA) SERVICE

Direct Access is a retail electric service where customers purchase electricity from a competitive Electric Service Provider (ESP) instead of from a regulated electric utility. The utility delivers the electricity that the customer purchases from the ESP to the customer over its distribution system.

ENERGY USE INTENSITY (EUI)

EUI is the measure of annual energy use in a building per square foot. This allows comparison of energy use between buildings of different size. A lower EUI signifies better building energy performance.

ELECTRIC SERVICE PROVIDER (ESP)

A non-utility entity that offers electric generation service to customers within the service territory of an electric utility.

GHG INVENTORY

A greenhouse gas inventory is an accounting of all GHG emissions associated with an entity such as a CSU campus. Quantifying GHG emissions is a necessary step to assess progress towards GHG reduction goals and develop a climate action plan.

GREENHOUSE GAS (GHG)

A greenhouse gas is any gas that absorbs and emits infrared radiation (heat) in the atmosphere, contributing to the warming of the Earth’s surface known as the greenhouse effect. These include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Emissions of these GHGs are regulated by California’s climate change legislation such as AB 32.

INVESTOR-OWNED UTILITY (IOU)

An IOU is a shareholder-owned utility service company, regulated by the California Public Utilities Commission. Unlike municipal utilities, these are not publicly owned.

LOW-CARBON FUEL

Low-carbon fuels are transportation fuels with lower greenhouse gas emissions compared to conventional petroleum-based fuels such as gasoline and diesel. These include both alternative fuels such as biodiesel, ethanol, or hydrogen, as well as “cleaner” fossil fuels such as natural gas. California enacted the first low-carbon fuel standard in 2007, which is aimed at reducing greenhouse gas emissions from the transportation sector.

MODE CHOICE

Mode choice is the mode of transport chosen by commuters in a transportation analysis. These modes include single-occupancy vehicle (SOV), carpool, public transit, bicycle, and walking.

MODE SHIFT

Mode shift is a change in transportation modes among commuters.

PERMEABLE PAVEMENT

Permeable pavement is any type of paving that allows for infiltration of stormwater into the ground, reducing surface runoff and pollutants entering waterways.

RENEWABLE ENERGY CREDITS (RECS)

Renewable Energy Credits or Certificates (RECs) are tradeable commodities representing proof of generation of a certain amount of renewable energy. The owner of these credits is the entity that can claim credit for the renewable energy produced. RECs can be used to obtain renewable energy in situations where on-site renewable power generation is difficult or impossible.

RETRO-COMMISSIONING

Retro-commissioning is a process to reduce an existing building's energy use by identifying inefficient building systems and making improvements to increase efficiency.

REQUEST FOR PROPOSAL (RFP)

A request for proposal (RFP) is a document that solicits proposals for the procurement of a commodity, service, or asset through a competitive bidding process.

SCOPE 1 GHG EMISSIONS

Scope 1 GHG emissions are those produced on-site through the generation of energy or other combustion of fuel. This includes on-campus cogeneration facilities and vehicle emissions from campus fleets. These emissions are included in the CSU's systemwide GHG inventories and emissions reduction goals.

SCOPE 2 GHG EMISSIONS

Scope 2 GHG emissions are indirect emissions associated with the generation of energy that is purchased and imported by the campus. These emissions are included in the CSU's systemwide GHG inventories and emissions reduction goals.

SCOPE 3 GHG EMISSIONS

Scope 3 GHG emissions are other indirect sources of GHG emissions that are not captured in Scope 2. While the CSU's systemwide GHG reduction goals do not include Scope 3 emissions, the Second Nature Climate Commitments signed by the majority of CSU campuses include the following indirect sources of GHG emissions in their Scope 3 inventories: commuter and business travel, waste generated in operations, and purchased goods and services.

SELF-GENERATION

Self-generation is the on-site energy generation capacity of the CSU campuses from cogeneration, on-site renewable energy, and other sources.

TRANSPORTATION NETWORK COMPANY

A Transportation Network Company is a company that uses an online-enabled platform to connect passengers with drivers using their personal, non-commercial vehicles.

UNSPECIFIED POWER

Unspecified power is electricity not specifically claimed by a utility in their annual Power Content Label. This category includes spot market purchases, wholesale power purchases, and purchases from pools of electricity where the original source of fuel cannot be determined.

ZERO NET ENERGY (ZNE)

Generally speaking, a ZNE building is one that produces as much energy as it consumes over the course of a year. ZNE-ready buildings are designed to be highly efficient and capable of achieving ZNE status with the addition of renewable energy.



The 2014 CSU Sustainability Policy Goals

UNIVERSITY SUSTAINABILITY

1. The CSU will seek to further integrate sustainability into the academic curriculum working within the normal campus consultative process.
2. The CSU will develop employee and student workforce skills in the green jobs industry, promote the development of sustainable products and services, and foster economic development.
3. The CSU will pursue sustainable practices in all areas of the university, including:
 - a. business operations such as procurement; information technology; student services; food services; facilities operations; design and construction; and
 - b. self-funded entities such as student housing, student unions, parking, children's centers, and auxiliary operations.
4. Each CSU is encouraged to designate a sustainability officer responsible for carrying out and/or coordinating campus sustainability program efforts.

CLIMATE ACTION PLAN

1. The CSU will strive to reduce systemwide facility greenhouse gas (GHG) emissions to 1990 levels, or below, by 2020 consistent with AB 32, California's Global Warming Solutions Act of 2006 (HSC §38550). Emissions will include both state and auxiliary organization purchases of electricity and natural gas; fleet, marine vessel usage; and other emissions the university or self-support entity has direct control over. The Chancellor's Office staff will provide the baseline 1990 facility emission levels (for purchased electricity and natural gas) for the campuses that existed at that time and assist campuses added to the CSU after 1990 to determine their appropriate baseline.
2. The CSU will strive to reduce facility GHG emissions to 80 percent below 1990 levels by 2040. Campus tracking and reporting of their GHG inventory will be grounded in the American College and University President's Climate Commitment guidelines or equivalent, with consideration to campus requested improvements. Metrics will include GHG emissions per FTE.
3. The CSU will encourage and promote the use of alternative transportation and/or alternative fuels to reduce GHG emissions related to university associated transportation, including commuter and business travel.



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SDSU is committed to providing...
a sustainable place to work and
study. The energy-efficient upgrades
and improvements...preserve natural
resources and lower the running
costs of the facility.

Tom McCarron

VP, BUSINESS AND FINANCIAL AFFAIRS
SAN DIEGO STATE UNIVERSITY

ENERGY INDEPENDENCE AND PROCUREMENT

1. The CSU shall pursue energy procurement and production to reduce energy capacity requirements from fossil fuels, and promote energy independence using available economically feasible technology for on-site and/or renewable generation. The CSU shall endeavor to increase its self-generated energy capacity from 44 to 80 megawatts (MW) by 2020.
2. The CSU will endeavor to exceed the State of California and California Public Utilities Commission Renewable Portfolio Standard (RPS) sooner than the established goal of procuring 33 percent of its electricity needs from renewable sources by 2020.



ENERGY CONSERVATION AND UTILITY MANAGEMENT

1. All CSU buildings and facilities, regardless of the source of funding for their operation, will be operated in the most energy efficient manner without endangering public health and safety and without diminishing the quality of education and the academic program.
2. All CSU campuses will continue to identify energy efficiency improvement measures to the greatest extent possible, undertake steps to seek funding for their implementation and, upon securing available funds, expeditiously implement the measures.
3. The CSU will cooperate with federal, state, and local governments and other appropriate organizations in accomplishing energy conservation and utilities management objectives throughout the state; and inform students, faculty, staff and the general public of the need for and methods of energy conservation and utilities management.
4. Each CSU campus will designate an energy/utilities manager with the responsibility and the authority for carrying out energy conservation and utilities management programs. The Chancellor's Office will have the responsibility to coordinate the individual campus programs into a systemwide program.
5. The CSU will monitor monthly energy and utility usage on all campuses and the Chancellor's Office, and will prepare a systemwide annual report on energy utilization and greenhouse gas emissions. The Chancellor's Office will maintain a systemwide energy database in which monthly campus data will be compiled to produce systemwide energy reporting. Campuses will provide the Chancellor's Office the necessary energy and utility data, such as electricity and natural gas consumption; water and sewer usage; fuel consumed by fleet vehicles, boats, and ships; waste disposal for the systemwide database in a timely manner.
6. Each CSU campus is encouraged to develop and maintain a campuswide integrated strategic energy resource plan, which will include tactical recommendations in the areas of new construction, deferred maintenance, facility renewal, energy projects, water conservation, solid waste management, and an energy management plan. This plan will guide the overall energy program at each campus.

WATER CONSERVATION

1. All CSU campuses will pursue water resource conservation to reduce water consumption by 10 percent by 2016, and 20 percent by 2020 including such steps to develop sustainable landscaping, install controls to optimize irrigation water use, reduce water usage in restrooms and showers, and promote the use of reclaimed/recycled water. In the event of a declaration of drought, the CSU will cooperate with the state, city, and county governments to the greatest extent possible to reduce water use.

WASTE MANAGEMENT

1. Campuses shall seek to reduce the solid waste disposal rate by 50 percent (PRC § 42921) by 2016, by 80 percent by 2020, and move to zero waste.
2. The CSU will encourage the reduction of hazardous waste to the extent possible while supporting the academic program.

SUSTAINABLE PROCUREMENT

1. Campuses will promote use of suppliers and/or vendors who reduce waste, re-purpose recycled material, or support other environmentally friendly practices in the provision of goods or services to the CSU under contract. This may include additional evaluation points in solicitation evaluations for suppliers integrating sustainable practices.
2. To move to zero waste, campus practices should: (1) encourage use of products that minimize the volume of trash sent to landfill or incinerators; (2) participate in the CalRecycle Buy-Recycled program or equivalent; and (3) increase recycled content purchases in all Buy-Recycled program product categories.
3. Campuses shall continue to report on all recycled content product categories, consistent with PCC § 12153-12217 and shall implement improved tracking and reporting procedures for their recycled content purchases.



SUSTAINABLE FOOD SERVICE

1. All campus food service organizations should track their sustainable food purchases. Such tracking and reporting will be grounded in the Real Food Challenge guidelines, or equivalent, with consideration to campus requested improvements. Campuses shall strive to increase their sustainable food purchases to 20 percent of total food budget by 2020.
2. Campuses and food service organizations shall collaborate to provide information and/or training on sustainable food service operations to staff and patrons.

SUSTAINABLE BUILDING PRACTICES

1. All future CSU new construction, remodeling, renovation, and repair projects will be designed with consideration of optimum energy utilization, low life cycle operating costs, compliance with all applicable energy codes (enhanced Title 24 energy codes) and regulations. In the areas of specialized construction that are not regulated through the current energy codes, such as historical buildings, museums, and auditoriums, the CSU will ensure that these facilities are designed to consider energy efficiency. Energy efficient and sustainable design features in the project plans and specifications will be considered in balance with the academic program needs of the project within the available project budget.
2. Capital Planning, Design and Construction in the Chancellor's Office shall monitor building sustainability/energy performance and maintain information on design best practices to support the energy efficiency goals and guidelines of this policy. The sustainability performance shall be based on Leadership in Energy and Environmental Design (LEED) principles with consideration to the physical diversity and microclimates within the CSU.
3. The CSU shall design and build all new buildings and major renovations to meet or exceed the minimum requirements equivalent to LEED "Silver." Each campus shall strive to achieve a higher standard equivalent to LEED "Gold" or "Platinum" within project budget constraints. Each campus may pursue external certification through the LEED process.

PHYSICAL PLANT MANAGEMENT

1. Each campus shall operate and maintain a comprehensive energy management system that will provide centralized reporting and control of the campus energy related activities.
2. To the extent possible, academic and non-academic programs will be consolidated in a manner to achieve the highest building utilization.
3. All CSU campuses will implement a utilities chargeback system to recover direct and indirect costs of utilities provided to self-supporting and external organizations pursuant to procedures in the Integrated California State University Administrative Manual (ICSUAM).







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