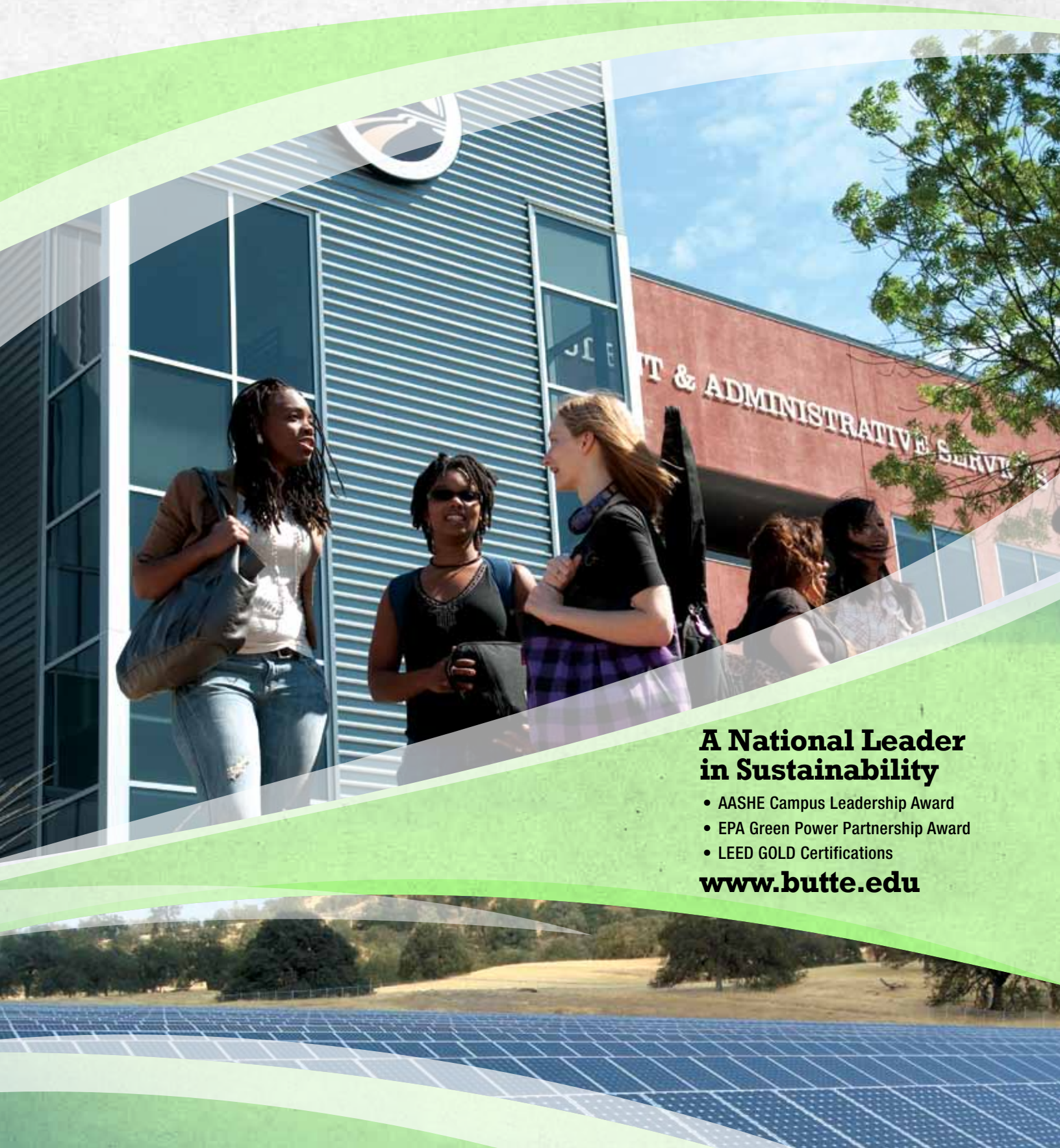




# BUTTE COLLEGE Sustainability

2010-2011



## **A National Leader in Sustainability**

- AASHE Campus Leadership Award
- EPA Green Power Partnership Award
- LEED GOLD Certifications

**[www.butte.edu](http://www.butte.edu)**



# BUTTE COLLEGE Sustainability

2010-2011



## Message from the President

Sustainability is a key focus for our college, and in fact is one of the key initiatives by which we conduct our business. We are committed to continuing to infuse sustainability into the curriculum and workforce development programs, leveraging sustainability in workforce and

economic development, and using sustainability as a lens for continuous process improvement. We have become a national leader in higher education sustainability, and have received many awards for our accomplishments.

Butte College students, faculty, and staff have embraced the sustainability focus. From 2002 to 2006, our electricity and natural gas consumption was reduced by 33%; we have a robust campus-wide recycling program; we recycle 75% of our waste stream including composting of food waste; we grow organic vegetables, which are often sold on campus or used by our dining services; we use goats rather than pesticides for riparian restoration; our bus transportation system keeps 1,600 cars off the road daily; and we are using technology to increase energy efficiency. All of these efforts will lead us to our goal of being carbon neutral by 2015.

Our Solar Phase III project will be completed in April 2011. This last phase, which will bring our campus solar panel

count to over 20,000, will accomplish our goal of 100% alternative energy status. This phase will also serve as a living classroom, with students who attended our sustainability/alternative energy courses participating in the building process. We will also be "grid positive," enabling us to make money for the college from the extra energy produced.

Our overall success with sustainability and our rise as national leaders is due to us becoming intentional about sustainability the last six years; in our comprehensive approach by including faculty, staff, students, facilities staff, board members, and community members; in being aggressive in seeking funding to advance my vision; and by making it part of our culture through staffing, funding, and inclusion of sustainability in our mission and values.

Dr. Diana Van Der Ploeg, President



## Executive Summary

Butte College is a recognized national leader in sustainability. Sustainability is included in our college's mission statement, in our core values, and is one of five initiatives in the college's strategic plan. The college has taken a very inclusive, broad-based, and integrated approach in implementing our sustainability initiative. To date the college has:

- Developed sustainability related career and technical education programs;
- Infused sustainability into existing curriculum;
- Developed and implemented a sustainability studies certificate;
- Conducted numerous student-led events and activities;
- Gained leadership in energy and environmental design (leed) gold certification on two buildings;
- Developed and implemented a number of sustainability-related workforce development activities;
- Infused sustainability into numerous operations;
- Implemented two solar projects that result in 43% of the main campus electricity requirements being met with on-site solar; and
- Gained approval and is implementing a third solar project that will make the college grid positive by 2011.

## Our Awards

Over the past few years Butte College has received a number of awards and certifications that validate our national leadership in the sustainability movement.

- American Association for the Advancement of Sustainability in Higher Education (AASHE) Campus Leadership Award - 2009
- Environmental Protection Agency Green Power Partnership Award - 2009
- National Wildlife Federation Campus Chill Out Grand Prize Award - 2008
- Leadership in Energy and Environmental Design (LEED) Certifications
  - Arts Building (LEED - GOLD) - 2010
  - Student and Administrative Services (LEED - GOLD) - Pending
- UC-CSU-CCC Sustainability Conference Energy Efficiency Best Practices Award – HVAC Design and Retrofit for Arts building - 2009
- UC-CSU-CCC Sustainability Conference Best Water Efficiency and Site Water Quality Award for Arts building - Honorable Mention - 2009

During our March 2009 Accreditation Site Visit the college received the following commendation from the site visit team:

*"The team commends the college for its stewardship and leadership in environmental sustainability and integrating this important domain into student learning and campus planning."*

## Our Legacy

Butte College, a single campus district, is located on 928 acres near the geographical center of Butte County. We have centers in Chico, the largest city in the district, and in Orland in Glenn County. Most of the main campus acreage remains undeveloped and has been designated by the Board of Trustees as a wildlife refuge. Because of our rural location, the college is unique among California Community Colleges because it operates as a self-contained city. To this end, Butte College has its own water system, maintains its own sewage treatment facility, and operates the largest community college transportation system in California. The college implemented our first solar energy project in 2005 and we are on track to become grid positive (generating more electricity from clean solar energy than we use) in 2011.





# Our Commitment

The Butte College mission statement, core values, and strategic plan all reflect the college's commitment to sustainability. The Board of Trustees has also adopted a Board Policy on Energy and Sustainability.

## Mission Statement

Butte College provides quality education, services, and workforce training to students who aspire to become productive members of a diverse, sustainable, and global society. We prepare our students for life-long learning through the mastery of basic skills, the achievement of degrees and certificates, and the pursuit of career and transfer pathways.

## Butte College Core Values

### Students First:

Student success is our purpose and focal point of decision-making and resource allocation.

### Excellence:

We strive to offer the highest quality in education and service through continual self-assessment, evaluation, professional development, and ethical commitment.

### Respect:

We value each other and engage openly and considerately with one another's ideas, philosophies, and perspectives.

### Diversity in Community:

We value individual attributes, capabilities, and differences; and we foster the collaboration and social responsibility that create a vital institution with a global perspective.

### Communication:

We value professionalism in our interactions and cultivate an open, friendly environment of fairness and integrity.

### Accountability:

We are accountable to one another and for our responsibilities. As responsible stewards of the public trust, we use our resources effectively to fulfill the mission and obligations of the college.

### Sustainability:

We promote and model practices that result in positive outcomes for our human and natural environments.

## Strategic Plan

In 2007 the college used the appreciative inquiry process to develop our strategic plan. Through this process, which focuses on aligning institutional effort around strengths, we established five initiatives to provide a long-term strategic direction for the college. Modeling sustainability is one of these initiatives. This initiative, along with its supporting objectives, is below:

### Modeling Sustainability

Butte College promotes the best possible outcomes for our human and natural environments. The college curriculum, student and civic engagement, and college practices are approached in ways that meet current needs while

ensuring similar resources will be available in the future. The sustainable model includes the following:

- Maintain a main campus land use plan designed to support sustainable development, maintain biological resources, and provide a blueprint for addressing future needs;
- Integrate sustainability into the curriculum by developing new courses, increasing the number of courses with a sustainable component, and using multi-disciplinary approaches to link these courses;
- Foster a culture of sustainability through films, speakers, workshops, forums, lectures, and conferences;
- Continue our work to achieve carbon neutrality by 2015;
- Certify new buildings, and selected existing buildings, to the Leadership in Energy and Environmental Design (LEED) standard;
- Demonstrate leadership in sustainable economic development by developing and implementing strategies to attract sustainable industries and provide students the skills needed to succeed in the emerging green economy;
- Continue to use solar, and other alternate sources, to produce energy for the college; and
- Strive for leadership in sustainability.

## Board Policy

The Board of Trustees has established the following Board Policy to maintain a multi-faceted college focus on sustainability:

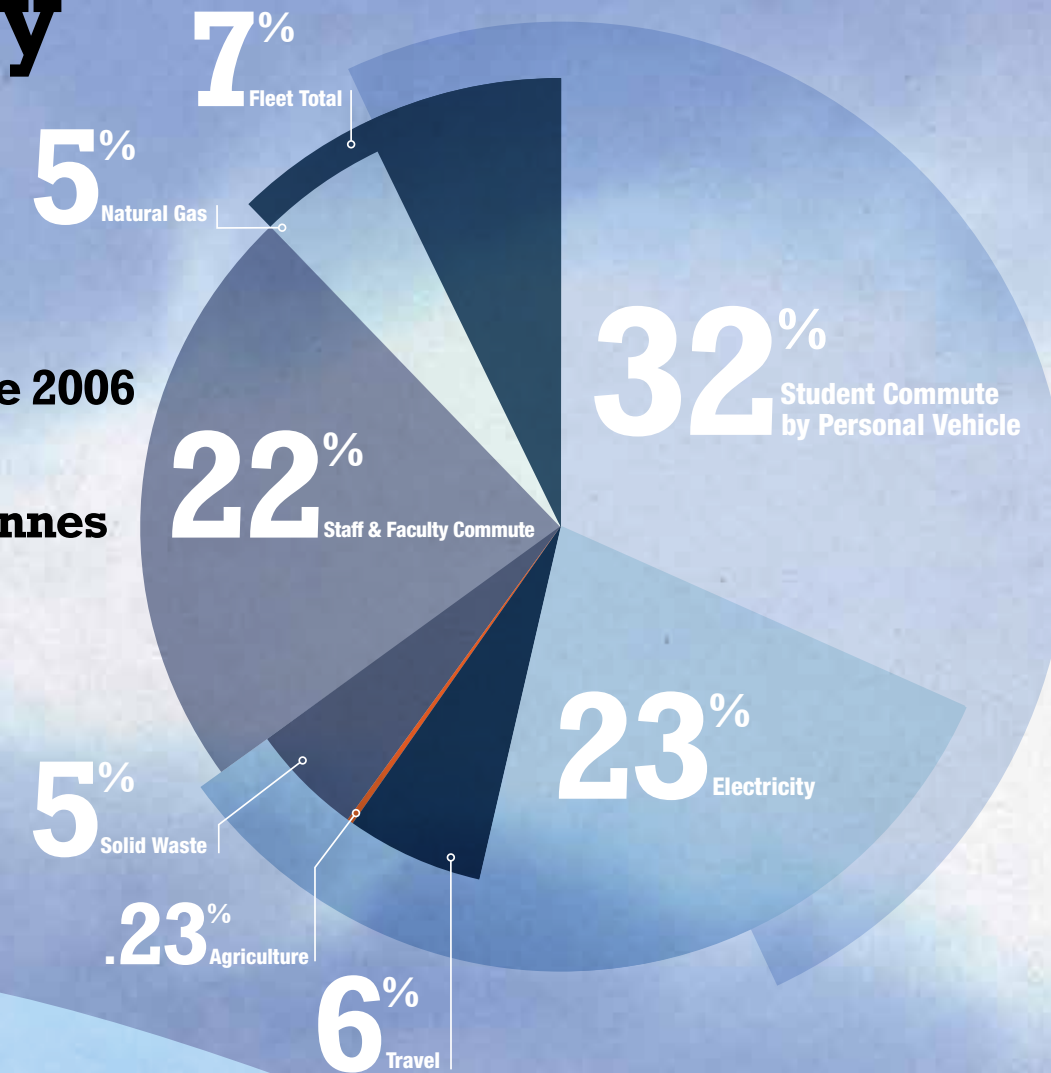
### Board Policy 6666 – Energy and Sustainability

The Board delegates to the Superintendent/President or designee the authority to develop practices and procedures that continue the legacy of leadership in sustainability in all areas of the college, including instruction, operations, construction, facilities, land use, energy conservation, and environmental integrity. The Energy and Sustainability procedures will include goals and guidance for all facets of the college that ensure the evolution of best practices in sustainability.

# Our Greenhouse Gas Inventory

## Emissions by Source 2006

Total Emissions - 12,812.27 Metric Tonnes



## Our Planning Tools

In seeking to establish a firm foundation upon which to build a sustainable campus, Butte College relies on three components on which to base decisions, projects, and process.

### The Triple Bottom Line

#### A Balanced Consideration of Social, Environmental, and Economic Factors

At Butte College we've adopted the Triple Bottom Line model to lead us in making sound sustainable decisions. For many people, sustainability translates into being "environmentally friendly," but this concept is broader than that. The Triple Bottom Line reminds us that finance, environment, and the best interests of society must be in balance and that being truly sustainable means that we are operating at the intersection of these three factors.

### American College and University President's Climate Commitment (ACUPCC)

#### Long-Range Planning Toward Climate Neutrality

ACUPCC is a high-visibility effort to promote campus sustainability and address global warming. Butte College joined ACUPCC as a charter signatory in September 2007 with the pledge to:

- Establish an institutional structure to oversee the development and implementation of the college's program in compliance with ACUPCC requirements;
- Complete an emissions inventory within one year of signing.
- Establish a Climate Action Plan;
- Take immediate steps to reduce greenhouse gas emissions with tangible actions;

- Integrate sustainability into the curriculum and make it part of the educational experience; and
- Make our Climate Action Plan, greenhouse gas inventory, and progress reports publicly available.

Butte College began meeting the obligations under ACUPCC even before becoming a signatory. The college established a Sustainability Steering Committee to track progress on meeting ACUPCC commitments as well as to oversee the infusion of sustainability into curriculum and operations. The emissions control inventory was completed in 2006. The college is on track to be grid positive in 2011. The curriculum infusion process has been underway for several years, and we make our progress available to the public on the college's sustainability web page.

## Context

In 2006, the college completed a greenhouse gas inventory to provide a start point for our climate neutrality effort. At the time we conducted this inventory we had just completed Phase I of our ongoing solar project and were in the midst of a major building program on the campus. The Phase I Solar Project generated the electricity required for two of our largest meters - Allied Health and the Campus Center - and met approximately 25% of the main campus electricity needs at that time. Since then a number of projects including the Library Renovation/Expansion, Arts building, Student and Administrative Services building, and the Campus Center Renovation have been completed. Additionally, the college bought the building that will house the Skyway Center in Chico. The Solar Phase II project was completed in May 2008 and Solar Phase III, which will complete the solarization of the main campus and our Chico campus will be completed in Spring 2011.

The college's ACUPCC commitment will include a follow-up Greenhouse Gas Inventory in 2012.

## Analysis

- The 2006 Greenhouse Gas Inventory reflected the impact of the completion of the first phase of the three phase project to completely "solarize" the campus. This project generated approximately 25% of the college's total energy requirement at that time.
- The largest components of the Greenhouse Gas Inventory are the student commute by personal vehicle and the staff and faculty commute. Together these are responsible for over half of the college's greenhouse gases.

## Way Ahead

Possible strategies for the total elimination of Greenhouse Gas Emissions

- Produce all electricity from on-site solar. This will be complete by Spring 2011.
- Reduce energy use from facilities and information technology.
- Increase carpooling - ZimRide was recently purchased to encourage more ridesharing.
- Encourage the use of the college's transportation system.
- Promote the use of hybrids and alternative use vehicles.
- Work with the county to push a bicycle path to Butte College.
- Partner with the Butte County Association of Governments to establish a Butte County transportation stop at Butte College.
- Overproduce solar to offset emissions from other areas. This begins, to a limited extent, with the Solar Phase III project. The feasibility of this strategy will depend, on a large extent, on the adoption of regulatory changes that will enable the college to be a net energy generator.



Butte College Clean Energy Workforce students train on ground-mount solar arrays.

# Our Progress To Date

## Getting Started

There were five catalysts that started Butte College on the road to becoming a national leader in sustainability. These were:

1. The college's tradition of self-reliance. Because the college operates as a small city and is designated as a wildlife refuge we have always focused on effective stewardship of the land and the resources entrusted to our care.
2. Visionary leadership by the Board of Trustees. The idea to use solar power, on a widespread basis, originated with the Board of Trustees. Just as importantly, the Board has remained unwavering in its support of these projects.
3. The American Democracy Project. This project, which was funded by the Carnegie Foundation and the New York Times, fosters partnerships between community colleges and universities that focus on specific issues to increase student participation in democratic processes. Butte College President Diana Van Der Ploeg and the President of California State University, Chico formed one of these partnerships and selected sustainability as their theme. This partnership, and the activities associated with it, caused us to become more intentional in our approach to sustainability.
4. Hard work by sustainability champions. A group of faculty, managers, classified staff, and

students began collaborating in 2005-2006 to more effectively implement sustainability on the campus. This group established the initial sustainability steering committee.

5. Leadership, advocacy, and support by the President. Presidential leadership was a significant factor in the success Butte College has achieved in sustainability. The President brought the "intentionality" of sustainability and continued as the most active advocate for making the college grid positive, consistently supporting the sustainability champions, and providing the resources necessary to implement the sustainability initiative.

## College Sustainability Structure

At the institutional level the Vice President for Planning and Information is responsible for coordinating the overall sustainability effort. This office coordinates the Sustainability Steering Committee meetings, drafts the Sustainability Unit Plan, manages the sustainability budget, and provides oversight for the Sustainability Coordinator.

## Sustainability Steering Committee

The Sustainability Steering Committee's objective is to coordinate the overall college sustainability effort, to

develop the sustainability unit plan, and to update the college's sustainability strategy. It meets monthly and is made up of the individuals in the following positions.

- Vice President for Planning and Information
- Vice President for Student Learning and Economic Development
- Sustainability Coordinator
- Director, Facilities Planning and Management
- Advisor, Butte College Associated Students
- Coordinator, Sustainability Resource Center (student)
- Dean, Career and Technical Education
- Director, Workforce Training and Development
- Faculty Member(s) Selected by the Academic Senate
- Director, Public Relations and Marketing
- Grants Manager

## Sustainability Coordinator

Beginning in 2008-2009 the college established a temporary Sustainability Coordinator position. Unlike many institutions Butte College has chosen to focus the Sustainability Coordinator on accomplishing critical, sustainability-related tasks rather than providing coordination and oversight to the overall sustainability effort. Currently, this focus is on delivering the workforce development

grants the college has received through the Northern Rural Training Employment Consortium (NoRTEC) and the Workforce Investment Board (WIB). There are several reasons for focusing the Sustainability Coordinator on projects rather than coordination and oversight. These are 1) the amount of work needed to meet the grant deliverables, 2) the ability of the Sustainability Steering Committee to provide the required coordination and oversight, and 3) the need for maximum efficiency in the face of the state's budget challenges.

## Faculty Sustainability Committee

This group is currently focused on infusing sustainability into the curriculum. It is leading the effort to analyze the extent to which sustainability is infused into the curriculum and to develop the action plan to assist faculty to continue the sustainability infusion process.

# Academics and Workforce Development

## Clear Creek Project

In 2006-2007 the college established the Clear Creek Project, named after the creek that flows through the main campus, to provide a venue for faculty to get together to discuss sustainability and infuse sustainability into the curriculum.

## New Sustainability Focused Courses

Based on the Clear Creek Project and the desire to establish a certificate program and, ultimately, a sustainability degree, the college established a number of new courses over the past three years. These include:

- SOC 5 - Our Sustainable Future
- PHY 11 - Peace Psychology
- IDST 94 - Service Learning: Sustainability Projects
- BIOL 7 - Sustaining Life on Earth
- ECON 35 - Environmental Economics
- PHIL 5- Environmental Ethics
- POS 92- Exploring Leadership
- IDST 96- Civic Engagement Practicum
- HIST 22 - American Environmental History

## Sustainability Studies Certificate

This 17-unit certificate was developed and implemented in 2008-2009. Each of these courses satisfies an existing Butte College general education requirement and most are transferable to the University of California (UC) and California State University (CSU). It includes the courses listed below.

- SOC 5 - Our Sustainable Future (3 units)
- BIOL 7 - Sustaining Life on Earth (3 units)
- ECON 35 - Environmental Economics (3 units)
- PHIL 5 - Environmental Ethics (3 units)
- PHY 11 - Peace Psychology (3 units)  
or AGR 10 – World Food and Hunger Issues (3 units)
- SOC 55 - Integrated Perspectives in Sustainability Studies (2 units)

## Career and Technical Education

### Green Building Certificate Program

In 2008-2009 Butte College developed and began implementing a credit Green Building Certificate Program using funding provided by the National Science Foundation. In 2009-2010 the courses that comprised this program were

reformatted into a hybrid format. This program, which was the college's first step in developing comprehensive green technology career pathways, included the following courses:

- Green Building Technologies and Practices
- Energy Efficiency and Renewable Energy
- Certification Test Preparation - geared toward LEED Advisor and Build It Green - Green Building Professional

## Infusing Sustainability into Existing Career and Technical Education Programs

For example, the Auto Technology Department recently partnered with Contract Education to finalize a new PG&E partnership to deliver a statewide Electric Hybrid Vehicle Technology training program for PG&E fleet vehicle mechanics to service electric and hybrid vehicles.

## Training Place Workshops

In 2008-2009 Contract Education's Training Place conducted a number of community education workshops to provide members of the community and business leaders with information about sustainability. These not-for-credit workshops covered the following topics:

- Green Home and Business Facility Improvements
- Energy and Utility Bill Savings
- Healthy Environments: Awareness for Home and Workplace
- Landscape Design for Water Reduction and Waste Water Reuse
- 21 Ways to Green Your Business
- How to Successfully Launch Your Public Agency Energy Project
- Master Recycling: Broaden Your Perspective from Production to Waste
- Introduction to Wind Energy Systems

For more information visit [www.butte.edu/thetrainingplace](http://www.butte.edu/thetrainingplace)

## Training for Displaced Workers

In 2009-2010 the college used two grants obtained through the local Workforce Investment Board to develop and implement training programs for displaced workers in the areas listed below. This training was delivered in Spring 2010.

- Environmental Training (16 hr)
- Energy Fundamentals (32 hr)
- Energy Efficiency and Renewable Energy Systems (51 hr)
- Water Efficient Buildings and Retrofits (16 hr)
- Solar Hot Water Installation and Design Principles (16 hr)
- Solar Photovoltaic Design and Installation Principles (51 hr)
- Green Building (16 hr)

An additional round of training for displaced workers will occur in Fall 2010.

## Scenario Village

In 2009-2010, as part of the training program for displaced workers, the college began work to develop a Scenario Village for use by Law Enforcement, Fire, Building Inspection Technology, Green Building, and Heavy Equipment programs. When completed this project will consist of 12 training props – each of which is designed to replicate a building with amenities and construction types that students will encounter in the field. Currently the Scenario Village is being constructed as student labor and materials become available as the college implements workforce development grants. This project is also a focus for institutional fundraising efforts.



## Student Leadership

### Biofiltration Wetland Education Learning Laboratory (BeWELL) Project

Over the past two years students in the Mathematics, Engineering, Science Achievement (MESA) program have been provided opportunities to work as interns on a real world project on the Butte College campus. As part of this project the students are able to monitor stormwater runoff from a parking lot, identify chemicals in the runoff, calculate the amount of bioswale needed to biofilter these chemicals, construct the project, and monitor the results.

### National Teach-In on Global Warming Solutions

Butte College joined this major educational initiative that coordinates faculty and students at over 1,000 colleges, universities, and high schools in the U.S. to engage in a nation-wide, interdisciplinary discussion on "Stabilizing the Climate in the 21st Century." The Teach-In is a one-day, national symposia held simultaneously on campuses across the country.

### Graduation Pledge for Environmental and Social Responsibility

Graduates are invited to take this voluntary pledge, "I pledge to explore and take into account the social and environmental consequences of any job I consider and will try to improve these aspects of any organization for which I work." This pledge can be adopted by anyone who wants to be intentional about the responsibility of his or her employment after graduation.

### Associated Students Sustainability Resource Center

The Sustainability Resource Center features a wide variety of books, journals, magazines, and videos. The goal of the center is to be a hub of information for students, faculty, and staff to learn about various topics related to sustainability as well as practical guides on how to live and work more sustainably. It is funded and operated by the Associated Students.

### IDST 94: Service Learning - Sustainability Projects

Students may earn up to one unit in this special course section by participating in a sustainability-based service project in the community. A few examples of past projects include starting a recycling project in a local elementary school, creating a resource guide of the green material suppliers for local builders, and coordinating the Earth Flag project to fly over 300 flags city-wide in Chico.

### Clubs and Student Groups

Currently the clubs and student activities that are fully or partially focused on sustainability include:

- Student Alliance for Sustainability (SAS)
- Butte College Associated Students (BCAS)

- Friends of the Refuge (FOR)
- Students in Free Enterprise (SIFE)
- Phi Theta Kappa (PTK)
- Environmental Horticulture

### Student Organized Sustainability Events and Projects

Over the past several years students have organized and conducted a number of sustainability events and projects. These include:

- Campus Sustainability Day
- Earth Day Festival
- Energy Awareness Fair
- Greendance Film Festival
- Focus the Nation ([www.focusthenation.org](http://www.focusthenation.org))
- Earth Flag Project
- Campus Clean-Up
- Organic Lettuce Project
- This Way to Sustainability Conference (conducted in partnership with CSU, Chico)

## Facilities

In 2008 California Community College Board of Governors established a number of energy and sustainability policy goals to be achieved over a number of years. Butte College has already achieved nearly every one of these goals.

The California Community College Board of Governors Energy and Sustainability Policy 3.1 Goals (with Butte College Status):

- Reduce energy use by 15% by 2011-2012 using 2001-2002 as a baseline (Achieved in 2007)
- Exceed Title 24 Energy Standards by 15% for new construction (Achieved in 2002)
- Exceed Title 24 Energy Standards by 10% for renovations (Achieved in 2002)
- Increase self-generation by 50% by 2014 (Achieved in 2009)
- Procure 20% of electricity from renewable sources by 2010 (Achieved in 2005)
- Procure 40% of electricity from renewable sources by 2014 (Achieved in 2009)
- Designate an energy manager for each campus (Enlisting faculty, staff, and student support)
- Develop energy plans (Completed in 2006 with ongoing upgrades)
- LEED certify or equivalent for all new construction (Achieved in 2002)
- Capital Outlay support increases in funding of 2% for new construction and 3% for renovations (Applications submitted beginning in 2009)

## New Construction

Butte College is currently in the final stages of a construction program that is transforming the campus. At the beginning of this program the college developed design standards that incorporated a number of sustainable features. To date six buildings have been constructed. These include the Allied Health and Public Service Center, Chico Center, Learning Resource Center, Library Renovation and Expansion, Arts, and Student and Administrative Services. All of these buildings incorporate features such as sustainable siting, daylighting, energy efficient lighting, carpets and equipment made of recyclable materials, low emissivity windows, energy efficient HVAC systems, and lighting occupancy sensors. The last five buildings have each exceeded California Title 24 requirements for energy efficiency by at least 15%.

Beginning with the Arts building, the college changed our standard to require that future buildings be constructed to meet Leadership in Energy and Environmental Design (LEED) requirements. Additionally, buildings were then certified as meeting these standards by the U.S. Green Building Council. To date the Arts Building has been certified as meeting as the LEED gold standard. This building was the first educational building in Northern California to be LEED certified at the gold standard. The Student and Administrative Services was constructed to the LEED gold standard as well. Certification from the U.S. Green Building Council for this building is pending.

The Arts building's innovative design won several awards at the UC-CSU-CCC 2009 Sustainability Conference. These included the Energy Efficiency Best Practices Award for the HVAC design and an honorable mention for the Best Water Efficiency and Site Water Quality award.



## Energy and Water Efficiency

Butte College is committed to efficiency as a key component of our campaign to be climate neutral by 2015. In 2002 the college developed a set of design standards that incorporate energy and water efficiency along with other sustainable features. Over the past eight years the college has implemented a number of projects in the following areas to make the campus more efficient. These include:

- Upgrading lighting - T12 to T8 to LED;
- Implementing variable air volume (VAV) systems and replacing variable frequency drives;
- Installing lighting occupancy sensors;
- Replacing HVAC systems with high efficiency, modulated multi-zone units;
- Adding waterless urinals;
- Using water and lavatory sensors;
- Installing low flow valves;
- Installing vending machine misers; and
- Implementing Monitoring Based Commissioning (MBCx).

The college continues to explore new technology to increase energy and water efficiency.

## Solar

Butte College will become the first "grid positive" college in the country when Solar Phase III is completed in Spring 2011. This means that the college will produce more clean electricity from sustainable on-site solar than it uses.

- In 2005 the college completed Solar Phase I. This is a 1.1 MW DC ground mounted system that provides electricity for the Allied Health/Public Service Center and the Campus Center.
- Solar Phase II was completed in 2009. This project, which included four arrays, added .75 MW DC to the college's solar generation capacity. These arrays include a roof mounted system at Facilities, a system at parking lot 4D that provides shaded parking, and ground mounted systems to support the gym and the sewage treatment plant.
- Solar Phase III, our largest installation, has been approved by the Board and is scheduled to be completed in Spring 2011. This system will be 2.7 MW DC and includes a number of arrays that will provide shaded parking, covered walkways, and a shaded bus terminal.

When Phase III is complete, Butte College will have a solar capacity of 4.55 MW DC. Yearly generation will be 6.381 million kW hours. This is enough

electricity to power 9,200 standard sized homes or the equivalent of removing over 6,000 automobiles from the roadways.

The concept for funding the solar project was to use rebates and savings from the electricity accounts to pay for the cost of the projects. In order to get the best interest rate the college issued lease revenue bonds for Solar Phase I, used bank financing for Solar Phase II, and used a combination of federal Clean Renewable Energy Bonds (CREBS) and district funding for Solar Phase III. Largely because the college is able to avoid the cost of future increases in electricity rates the overall district savings are anticipated to be \$130 million over 30 years.

## Transportation

Butte College operates the largest community college transportation system in California. This system, which is mostly funded by student fees, currently serves 1,600 students per day. It includes routes through Chico, Paradise, Oroville, and Gridley. Additionally, the college partners with Glenn Ride to provide students from Glenn County with a public transportation option. The buses drive over 300,000 miles per year and the total system cost is over \$1 million.

In Fall 2010, the college partnered with Butte College Associated Students to purchase and implement the Zimride online ride sharing system. Zimride, launched in 2007, is the leading social ridesharing system in the country. Its innovative software is specifically tailored to meet the college's needs, engages users with social profiles and optional Facebook functionality, integrates with the college and county transportation initiatives, is easy to use, and is designed to attract the critical mass necessary to build a reliable form of transportation.

The college also offers carpool parking spaces and spaces for alternative fuel, hybrid, and fuel efficient vehicles.

## Recycling

Butte College was among the first in California to meet the state standard to divert over 50% of its waste stream from the landfill. The college met that goal in 1995. Currently, the college diverts between 75% - 93% of our waste stream from the landfill each year. The college's recycling program is integral to meeting this goal. This program focuses on collecting and recycling paper, cans, bottles, scrap metal, and other commodities. The college also meets all regulatory standards pertaining to hazardous waste.

The college has also used recycled materials in a number of innovative ways, including using recycled tires to resurface the college's track, using recycled rubber as the backstop for the college's academy firing range, and using the Computers for Schools Program to refurbish used computers and provide them to low income students.



Members of the Butte College 2010 Sustainability Steering Committee.

## Technology

Over the past three years the Information Technology Department has focused on reducing the electricity and other resource costs associated with technology. Specific measures include:

- Analyzing computer lab usage and, based on this analysis, eliminating several computer labs;
- Automatically shutting down computer labs based on the instructional schedule and campus closure times;
- Automatically shutting down faculty and staff computers based on work schedule;
- Using the stringent Electronic Produce Environmental Assessment Tool (EPEAT) as the standard for computer purchases;
- Continuing to use virtualization to maximize the efficiency of existing servers and reducing the need to procure new ones; and
- Purchasing and installing a Thin Client computer lab for the Mathematics Department to test this more energy-efficient configuration.

## Auxiliary Services

- Dining Services partners with the Agriculture Department to compost approximately 1,500 pounds of pre-consumer food waste from the landfill per month. This waste provides food for 30,000 worms which produce castings for use on the Butte College farm.
- The Agriculture Department has gained organic certification on 26 acres where it grows fruit, hay, and wine grapes
- The Clear Creek Riparian Restoration Project uses goats to consume 90% of the non-native vegetation and noxious weeds growing along 2.5 miles of Clear Creek.
- Dining Services uses napkins made from recycled paper and our paper plates are made from 100 percent compostable sugar cane.

## Community Partnerships

The college's sustainability efforts are integrated with those of many of our partners. A few of these many active partnerships with specific examples of collaboration are listed below.

- California Community Colleges/Investor Owned Utilities program. This program provides training and funding for energy efficiency.
- CSU, Chico. The college's sustainability programs are closely aligned with those of the university. In 2010-2011 the college is partnering with CSU, Chico to co-host one of the largest sustainability conferences in the country, "This Way to Sustainability VI."
- CSU, Chico College of Engineering. The college is partnering with the College of Engineering on a number of clean technology grants.
- CSU, Chico Construction Management Program. The college is partnering with the Construction Management Program on its Green Building program.
- Contract Education. This program offers sustainability-related training to businesses and community members

- Cities of Chico, Oroville, and Paradise. The college is currently partnering with the city of Chico and the CSU, Chico on implementing a grant from Pacific Gas and Electric to measure behavioral change based on energy auditing and energy efficiency measurement.
- Butte College Tech Prep. This program works closely with high schools and local Regional Occupational Programs to integrate academic and occupational education with hands-on learning opportunities.
- NoRTEC and the Butte County Private Industry Council (PIC). The college works closely with NoRTEC and PIC on many initiatives to provide training to enable workers to successfully compete in the emerging green economy.
- Service Learning Projects. Many of these community related projects are sustainability focused.
- Regional Occupation Program. The Skyway Center, which is scheduled to be opened in Fall 2011, includes space for a K-12 automotive technology program.
- Private Sector Companies. The college works closely with private sector companies such as Chico Electric, FAFCO, Lundberg Family Farms, DPR Construction, and Bank of America to meet worker training needs and to implement projects.



## BUTTE COLLEGE

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## Signatory Partnerships & Associations:



Talloires Declaration  
(ULSF Chartered Sustainability Action Pledge)



Association for the Advancement of  
Sustainability in Higher Education



U.S. Partnership to UN Decade of Education  
for Sustainable Development 2005-2014



AMERICAN COLLEGE & UNIVERSITY  
PRESIDENTS CLIMATE COMMITMENT



American Council of Renewable Energy



U.S. EPA Green Power Partner

