

UC/CSU/CCC SUSTAINABILITY CONFERENCE 2008
CAL POLY SAN LUIS OBISPO
July 31 – August 3

ENERGY EFFICIENCY PARTNERSHIP PROGRAM
BEST PRACTICE AWARDS APPLICATION FORM
Due Friday March 7, 2008

I. CONTACT INFORMATION

Campus: Cal Poly San Luis Obispo

Department: Facility Services

Contact name/title: Dennis Elliot, Manager of Engineering and Utilities

Telephone: (805) 756-2090

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Email: delliot@calpoly.edu

***Conference presenter name:** Dennis Elliot and team TBD

***Conference presenter telephone:** (805) 756-2090

*The Partnership will cover the conference registration and on-campus housing fees for ONE person per each project selected as a Best Practice Award winner. This person must be the main presenter in a conference session track and submit their name here.

II. PROJECT CATEGORY- see attached category descriptions

NEW CONSTRUCTION

- Best Overall Sustainable Design
- HVAC Design
- Lighting Design/Retrofit

SUSTAINABLE OPERATIONS

- HVAC Retrofit (labs included)
- Renewables/Innovative Energy Generation or Procurement
- Water Efficiency/Site Water Quality
- Innovative Waste Reduction
- Student Energy Efficiency
- Student Sustainability Program

III. PROJECT/ PRACTICE INFORMATION

A. GENERAL QUESTIONS

Project/practice name: Integrated Waste Management Program

Project/practice location: Campus Wide

Implementation cost: \$200,000/year for staff time

Estimated annual waste reduction: 70% of solid waste diverted from landfill

Estimated annual waste disposal cost savings (as applicable): \$490,000/year reduction in disposal costs, \$200,000/year revenue from sale of scrap, surplus, and compost
Description- Provide a detailed narrative describing the project or practice.

Cal Poly employs an Integrated Waste Management Program, involving cooperation between Facility Services, Campus Dining, Housing, Farm Operations, student clubs, and academic programs. This program has successfully diverted 70% of solid waste from landfill by maximizing recycling, resale of surplus, composting of food waste and green waste, and conversion of used cooking oil to biodiesel fuel for use in the campus fleet. Staffing includes a full time recycling coordinator, half a position to run the E-Surplus program and on-line auction website, as well as support from custodial, campus dining, farm operations, and grounds. Revenue from recycling, surplus auctions, and compost sales are reinvested to support sustainability programs at Cal Poly. Student participation in numerous facets of the program provides hands-on experience for students in a variety of disciplines, consistent with the Cal Poly philosophy of "Learn by Doing".

The Cal Poly recycling program provides blue bins for collection of recyclable materials at numerous collection points on campus, as well as in individual offices and classrooms. Commingled paper, plastic, glass, aluminum, and other recyclable materials are delivered to the local recycling facility where they are sorted and processed. Dedicated drop boxes are used on campus for bulk paper and cardboard. Shredded paper from confidential document shredding is also recycled. Recycling bins are collected by campus custodians and major pickups are handled by the recycling coordinator. Recyclable materials are collected from all campus buildings including offices, classrooms, labs, dormitories, and food service. Other recycled items include printer cartridges, tires, scrap metal, and concrete rubble. Business source reductions and the textbook buy back program contribute as well.

The Cal Poly E-Surplus program provides for on-line auction of surplus equipment, furniture, computers, etc. This program achieves reuse of materials normally destined for the landfill, while providing a low cost source of such materials to the local community. The E-Surplus program averages about \$10,000 per month in revenue, which is used to support recycling and other waste reduction programs. Please see the E-Surplus auction website at:
<http://www.publicsurplus.com/>

Campus grounds workers practice mulching or grass-cycling on lawn areas, eliminating the collection and disposal of grass clippings. Landscape trimmings from the grounds shop and green waste from farm operations and the crop units are composted.

Food waste from campus dining is separated by kitchen staff and composted. Using staff to perform separation rather than relying on students to separate food items from trash and recyclables results in a much cleaner food waste stream and eliminates contamination of compost with trash. In addition, Campus Dining has eliminated the use of styrofoam in all operations, and offers zero-waste catering service as an option on all catering orders. These sustainability initiatives have been accomplished with input and support from multiple student groups including the Cal Poly Zero Waste Club – please see their website at:
http://www.geocities.com/zero_waste/

Campus Dining has established an agreement with Salinas Tallow to collect waste vegetable oil for the production of biodiesel. B20 biodiesel fuel is purchased from a local fuel provider, J.B. Dewar Co., for use in campus fleet vehicles. Cal Poly Biodiesel, an academic program that started out as a student club, has built a portable biodiesel reactor and is working with campus stakeholders including Campus Dining, Facility Services, and Farm Operations to hopefully close this loop on campus. The goal is for campus waste oil to be converted to biodiesel on campus, in a student run academic program, for use in the campus fleet, including Campus Dining delivery vehicles as well as in diesel fueled equipment used by Facility Services and Farm Operations. Please see the Cal Poly Biodiesel website at:

<http://ceenve3.civeng.calpoly.edu/biodiesel/>

All compostable materials are hauled out to the farm area and laid in wind rows which must be turned regularly. The final product is a high quality compost which is sold to the general public, used on College of Ag crops, as well as at the 11 acre student run Organic Farm. Compost sales in 2007 exceeded \$45,000. In addition, compost is provided at no cost to local non-profits such as schools, churches, and community gardens. The student Organic Farm produces organic seasonal fruits and vegetables which are used by Campus Dining and are sold to over 300 subscribed members. Please see the Organic Farm website at:

http://sarc.calpoly.edu/programs/organic_farm.html

Relevancy to the Best Practices program- Describe the features of the project/practice that qualify it as a best practice of potential interest to other campuses (eg. replicability).

All campuses must manage their waste disposal issues and recycling programs. While urban campuses may not have the farm operations found at Cal Poly, all campuses have food waste, student resources, and opportunities to “close the loop” that have been untapped.

Design integration- If appropriate, describe the ways in which this project/practice incorporated multiple disciplines and/or stakeholders into the design process. Describe how collaboration produced sustainable solutions or improved the project’s performance.

Cal Poly has developed an integrated approach that looks for holistic solutions for the campus as a whole. This has built partnerships between Facility Services, student clubs, academic program, Farm Operations, and Campus Dining, while providing hands on learning opportunities for our students. This program can serve as a model for building relationships between different organizations to serve a common goal in a mutually beneficial and sustainable way.

Load management- If appropriate, describe how the project/practice provides on-peak electricity demand reduction, or demand response capability.

NA

B. DEPENDENT QUESTIONS- This section contains questions that are relevant **ONLY** for certain awards. If the award you are submitting under is listed, please address the question that follows.

Best Overall Sustainable Design:

Please describe the design of the building envelope, focusing on its effect on the facility's overall energy-efficiency.

Water Efficiency/Site Water Quality:

Please provide an estimate of the annual amount of water saved or treated.

Best Overall Sustainable Design; HVAC Design; HVAC Retrofit; Lighting Design/ Retrofit; and Water Efficiency/ Site Water Quality, if applicable:

Please describe how the project/practice has been received by building occupants. Describe what has been met with satisfaction or dissatisfaction, and why.

IV. ADDITIONAL INFORMATION

Please provide any additional information necessary to assist the selection team in understanding and evaluating the project. Supplemental information in the form of photos, drawings, etc. may be submitted. **PLEASE NOTE:** If you are submitting in the Best Overall Sustainable Design category, the following must be submitted:

1. Completed submittal form, 2. Floor Plans, 3. Elevations and Sections illustrating sustainable features, 4. Perspectives (or photographs if the project is constructed). This information will enable the selection committee to adequately evaluate the building design.

[See attached solid waste diversion summary for 2007](#)

V. SUBMISSION DIRECTIONS

Please submit proposals (electronic transmission is preferable) by Friday March 7 to:

Trista Little
Sustainability Analyst
University of California, Office of the President
390 Wurster Hall # 1839
Berkeley, CA 94720-1839
Email: trista.little@ucop.edu
Phone: 510.760.7656

Fax: 510.643.5571

**Please visit the UC/CSU/CCC Sustainability Conference webpage at
<<http://sustainability.calpoly.edu>> for information about this year's conference.**

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PROJECT CATEGORIES

NEW CONSTRUCTION/MAJOR REHABILITATION

1. **Best Overall Sustainable Design** - This category is for best overall sustainable design for a new building or major building renovation. The building should show outstanding implementation of sustainability principles and energy efficiency measures. The building design must have been completed between January 1, 2004 and January 1, 2008. Building must not be a previous recipient of an Energy Efficiency Partnership Program award.
2. **HVAC Design** - Projects in this category should demonstrate leadership in HVAC equipment selection, distribution system design, and controls specification. Laboratory designs are included in this category. Examples include: appropriate

equipment sizing; energy efficient equipment selection; maximizing the benefits of local climate; air distribution system innovation; and fume hood control innovation.

3. **Lighting Design/ Retrofit** - Projects in this category should demonstrate leadership in a new design or retrofit of lighting delivery systems and lighting control systems. Examples include: energy efficient fixture selection and deployment; utilization of daylighting technologies; and use of advanced lighting control technologies.

SUSTAINABLE OPERATIONS

1. **HVAC Retrofit** - Projects in this category should demonstrate leadership in HVAC equipment selection, distribution system design and controls specification. Laboratory retrofits are included in this category. Examples include: appropriate equipment sizing; energy efficient equipment selection; maximizing the benefits of local climate; and air distribution system innovation.
2. **Renewables/ Innovative Energy Generation or Procurement** - Projects in this category should increase the campus' consumption of renewable energy through the installation of alternative energy technologies or renewable energy procurement.
3. **Water Efficiency/ Site Water Quality** - This category highlights outstanding water efficiency projects that have measurable and documented savings. Additionally, projects that significantly improve or protect site water quality may submit under this category. Water efficiency applicants with documentation or calculations of associated energy savings will be given special consideration throughout the review process. Examples of water quality projects include bioswales, riparian zone restoration or other sustainable landscaping design.
4. **Innovative Waste Reduction Programs** - This award will spotlight a program, organization, or group that has demonstrated significant leadership in waste reduction and recycling efforts. Award candidates in this category should be engaged in campus-wide programs that seek to leverage student, staff, faculty, and community interest and commitment to reduce waste and increase recycling. Programs should be able to demonstrate innovative strategies and programs in reducing waste while maximizing their collections of recyclables to lead the campus to achieve zero waste goals.
5. **Student Energy Efficiency** - This award will spotlight a program, organization, or group that has demonstrated real leadership in student-led energy efficiency and conservation efforts. Award candidates will be engaged in campus activities that seek to leverage student interest and commitment to sustainability in order to increase energy awareness on campus; realize environmentally-friendly campus policies and commitments; and involve students in efficiency activities that compliment their campus' goals and that result in measurable energy savings.
6. **Student Sustainability Programs** - This award will highlight a program, organization, or group that has demonstrated real leadership in student-led

environmental sustainability efforts. Award candidates will be engaged in campus activities that seek to leverage student interest and commitment to sustainability.