ENERGY EFFICIENCY PARTNERSHIP PROGRAM BEST PRACTICE AWARDS APPLICATION FORM Submission Deadline: March 7, 2012, 6:00 p.m., no exceptions

Eleventh Annual CA Higher Education Sustainability Conference - hosted by UC Davis

This form is only for nominations in the **Student Sustainability** category

I. Contact Information

- 1. Campus: California Polytechnic State University, San Luis Obispo
- 2. Contact name/title: Ellen Chambers/Project Coordinator
- 3. Telephone: 541.230.4820
- 4. E-mail: ellchambers08@gmail.com

II. Project Information (a student group may submit a single nomination for up to three discrete projects)

- 1. Project name(s): Creating Lasting Partnerships to Better a Campus Culture of Sustainability
- 2. Project location(s): California Polytechnic State University, San Luis Obispo
- 3. Implementation period(s): January 2011-present

4. Brief narrative description of project goals and strategies (300 – 400 words)

Over the past year, the Green Campus intern team at Cal Poly San Luis Obispo has built collaborative partnerships and developed initiatives that allow for involvement from all major campus entities in support of sustainability. These partnerships have extended to individual students, faculty, and staff as well as the organizing bodies representing these constituents including student government, the academic senate, and full-time staff departments.

Connections made to students start at freshman orientation, and continue through their experience at Cal Poly. Partnering with a variety of departments and clubs on campus such as Campus Housing, Career Services, and the Empower Poly Coalition, Green Campus is able to outreach to students from every discipline as well as provide individuals with opportunities for green career development and connections to projects for academic credit. In order to outreach to students more effectively, environmental rap superhero "Mr. Eco" was created by a Green Campus Intern. Through innovative parodies on pop culture songs and music videos, Mr. Eco has become an icon of sustainability on the Cal Poly campus, outreaching to students

through multiple forms of media and Green Campus projects including each Green Campus Awareness Month and the Red Brick Energy Competition.

Faculty and staff throughout Cal Poly are also engaged through the Green Campus Program's efforts to implement a culture of sustainability on the Cal Poly campus. Green Campus Certified, a workplace certification program, is a key project helping to make these goals realized through its efforts to engage campus faculty and staff. The initial roll-out of this project has been such a success that the Academic Senate (The governing body formulating and recommending policy for the University) approved all departments on campus to become Green Campus Certified. Furthermore, Green Campus has worked closely with Campus Housing, the Cal Poly Corporation, Administration and Finance Division Network Technology Services (ANTS), Information Technology Services (ITS), Career Services, and the Sustainability Advisory Committee (comprised of campus-wide representatives) to bring all entities on campus to work on a collective effort towards campus sustainability.

5. Project budget(s):

Through campus partnerships, the Green Campus Program has found a variety of methods to reduce costs while saving the campus finances. For instance, BigFix, a power-station management tool with a recently implemented pilot program of approximately 1,500 workstations saving 300,000 kWh and \$33,000 per year, earned a rebate of over \$40,000 for implementation. Another project with high savings is a 400 streetlight and parking lot light retrofit saving \$633,565 over 11 years. With these high return on investment retrofits, the campus is able to ultimately pay itself back through energy savings, representing a net zero cost to the campus. Many of the outreach events were also paid for through existing student group budgets, such as ASI's student fee funds, which represent a net zero cost to the campus.

6. Estimated annual energy savings (kWh, therms) and water savings (gallons):

These campus partnerships have resulted in projects that have achieved the following in terms of overall energy and water savings:

Actual energy savings: 141,846 kWh

Potential energy savings: 5,936,433 kWh

Water savings actual: 430,795 gal

Water savings potential: 10,950 gal

 Estimated annual cost savings (please state assumptions used for these calculations): Actual cost savings: \$15,613

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Potential cost savings: \$653,033

This assumes a \$0.13/kWh rate and a \$0.0045/gallon H2O

- How many students have you reached or involved in your project? Students involved: 8,862 people
- 9. Describe the way in which your project has engaged students from backgrounds that are traditionally underrepresented in the higher education sustainability movement. Without regard for a student's background knowledge of sustainability coming to Cal Poly, freshman students are exposed to the Green Campus Program and the iconic Mr. Eco during their orientation program. Through the Mr.Eco performance, students who would not otherwise be interested in sustainability are excited and engaged. As freshmen students move through the year, they are also exposed to the Red Brick Energy Competition. This competition involves six buildings, each building housing students from the six colleges on the Cal Poly campus: Architecture and Environmental Design, Business, Liberal Arts, Engineering, Agriculture, Food and Environmental Sciences, and Mathematics and Science. As certain majors are exposed to various levels of sustainability in their specific curriculum, the Red Brick Energy Competition exposes residents to principles of sustainability where their coursework may not be able to.

The Green Campus Program outreaches through various methods to students from all backgrounds and interest levels. This is done through Facebook, Mr.Eco YouTube videos, articles in the Mustang Daily (the campus paper), publicity on KSBY radio station, and the local San Luis Obispo television stations. Furthermore, Green Campus Interns have established Awareness Months to outreach to all students throughout campus on a specific topic every month.

 Relevancy to the Best Practice Program – Please provide a detailed narrative of the project(s), highlighting those project features that qualify it as a best practice of potential interest to other campuses

The Cal Poly SLO Green Campus team has worked to forge connections between campus departments, organizations, committees, and clubs, and in the process has built strong relationships between faculty, staff, and students across the university. These relationships have been formed through a variety of successful energy and water conservation projects, improvements to campus events and procedures related to sustainability education, as well as behavioral change through enhanced sustainability awareness amongst faculty, staff, and the student body. Through its connections with student organizations, the team has infused sustainability into the student experience by introducing students to sustainability principles

during orientation events, and continuing to enforce these values through residence hall competitions throughout their first year. By partnering with faculty and staff, Green Campus has connected upper class students with project opportunities and has spread the message of energy efficiency and sustainability beyond the students, and made these principles a key component of the campus culture at Cal Poly San Luis Obispo.

Students

Students' first interaction with the Green Campus Program, and exposure to the sustainability principles that will hopefully guide them throughout the rest of their time as students, is during Cal Poly's Week of Welcome (WOW). This immersive week-long freshman orientation program begins before the beginning of the Fall Quarter and is the largest orientation program in the United States! Green Campus intern and environmental rap superhero, Mr. Eco, created a rap and video that introduced students to sustainability on campus and included energy and water savings tips. It was viewed by over 4,000 freshmen students during the orientation presentations. Throughout the rest of the week, students received information about sustainability and Green Campus performed educational outreach along with many other sustainability clubs on campus including Student Life and Leadership, Housing, and the Empower Poly Coalition. Efforts included a CFL distribution during freshmen move-in, a sustainability themed jeopardy game, informational handouts, and sustainability groups to form a strong foundation for the Red Brick Energy Competition, which takes place annually during winter quarter.

The fifth annual Red Brick Energy Competition matched six freshman residence halls against each other competing to use the least amount of water and electricity during a four week period. The Green Campus Program collaborated with Housing to educate and inspire 1,500 freshmen students to reduce their energy and water consumption through daily behavior change. For the first time, the team also partnered with Lucid Energy to partake in a national competition known Campus Conservation Nationals in which universities across the country compete to reduce their consumption, with an end goal of saving 1 Gigawatt-hour of electricity.

To effectively outreach to students, the Green Campus team came up with a creative polar bear theme to encourage students to save water and energy (see #1 under Section III). This polar bear theme was tied in throughout the competition as the main goal of every resident to be sustainable in order to save their building's polar bear. The Green Campus team, working with the Coordinators of Student Development (CSD's) and Resident Advisers (RA's) got the

messages out through daily interactions as well as print material placed in laundry rooms, bathroom stalls, and common areas of each hall.

Prior to the start of the competition, Mr. Eco created a rap specifically for the competition and one of the prizes for the winning dorm is being featured in the official music video. The team posted competition standings, and comprehensive graphs, tips, and updates on its Facebook page, which grew in size to 668 fans. Participating students were encouraged to post their most creative techniques for reducing their usage, creating an open dialogue between students among different halls to share energy and water savings methods. In order to motivate the students across all halls, two prizes were given to individuals who posted the most innovative way to save energy and water on the Facebook fan page. These students were given a contribution to the World Wild Life Fund in their name and the other was given an Amazon gift card.

To continue the polar bear theme of the competition and to get students excited about saving energy, the Green Campus team made the winning dorm's prize a polar bear adoption through donating to the World Wildlife Fund. This prize gave a \$250.00 donation to the World Wildlife Fund's "adopt a polar bear" program. For this donation the winning hall got a giant plush polar bear as well as a photograph and certificate of adoption to hang in their hall. The Green Campus team with Campus Housing held a pizza party for the winning dorm to celebrate their success and present them with their polar bear prize. As a final push the last week of the competition and to involve the halls not in the lead, the Green Campus team offered a secondary prize for the hall that reduced their energy and water the most during the last week. For this prize the Green Campus team gave a \$100.00 donation to the World Wildlife fund.

The total savings from this year's Red Brick Energy Competition came out to 25,798 lbs of CO2. When comparing freshmen residents over the last three years, a decreased energy and water usage is seen each year, demonstrating the competition has a lasting impact on students. In performing this competitions annually, the Green Campus team in partnership with Campus Housing works to motivate students to sustain their conscientious behavior as they transition away from the residence halls and into the rest of their lives.

To reinforce sustainable behavior beyond freshmen year, the Green Campus Program has created sustainability themed awareness months to educate the campus community about different aspects of sustainability and opportunities to get involved, often coinciding with current events in the local community. Themes include Water Awareness, Rideshare, Turn 'Em Out Lights Out, Keep Air Fresh, and Reusable Bag Month. Green Campus has worked with Empower Poly Coalition and the Facility Services Department to outreach to both students and staff through photo contests, email blasts, video competitions, and tabling events. Many of the awareness months have also coincided with music video releases by Mr. Eco, who has used his

creative rap lyrics to inspire change among students and reach out to the broader San Luis Obispo community (see Mr. Eco section).

In addition to providing education material for students, the Green Campus Program has given them the opportunity to get directly involved in projects (see for-credit internship section) and prepare them for future careers in sustainability. To help students gain hands-on skills, the team conducts energy audit trainings to teach students how to identify potential energy saving opportunities, use energy measurement tools, and perform energy calculations. Students leave the trainings with the knowledge of how to complete a basic office energy audit, and the confidence to implement these techniques in their own room or apartment.

To connect students with employers in the green workforce, Green Campus partners with The Empower Poly Coalition and Career Services as part of the annual Career Fair. By distributing a survey to the employers prior to the career fair, the group of Empower Poly Coalition students and Green Campus interns have determined which employers are sustainably minded and who potentially have jobs for students in the green workforce. These selected employers are invited to the "Green Career Mixer" which is held in the evening between the two days of the career fair. This setting gives employers and students an opportunity to network with each other in a more relaxed setting while highlighting the employers who are sustainable and offering a chance for students to learn more about the green workforce.

In order to publicize the event, the group of Green Campus Interns and the Empower Poly Coalition created a video about the green workforce. A variety of Cal Poly faculty, staff, and students were interviewed by Mr. Eco (see below) which was then distributed via YouTube. Not only does this video give students an opportunity to hear about the Green Career Mixer, but it also brings to their attention aspects of the green workforce and what it means to the Cal Poly campus as a whole.

<u>Mr. Eco</u>

Mr. Eco is an environmental rap superhero created by Green Campus Intern Brett Edwards. Through innovative parodies on pop culture songs and music videos (see #2 under Section III), Edwards has been able to make Green Campus known to a much wider audience on Cal Poly's Campus. In addition to partnering with (WOW), creating awareness month videos and being a focal part of the Red Brick Energy Competition, Edwards has also worked with Athletics and PG&E on a special sponsorship to fund his work.

Edwards received \$8,000 worth of sponsorships from Pacific Gas & Electric (PG&E) for a public service announcement awareness campaign that featured 15-second energy saving tips that

played at Cal Poly football, soccer and basketball games. Mr. Eco read half of the tips and also had Cal Poly representatives President Jeffery Armstrong, Dean Dave Christy, Dean Debora Larson, Sustainability Director Dennis Elliot, Soccer Coach Paul Holocher partake in the campaign. Half of the money went to Cal Poly Athletics for the media time and the other half went to the Green Campus Program and is being used for sustainability projects on campus.

Mr. Eco has represented the Green Campus Program on the front page of the Mustang Daily twice, on KSBY News six times, on Charter Local Network News, on Cal Poly's CPTV News program and on Cal Poly's CPR radio. His YouTube channel has received over 19,000 views and he has over 500 facebook fans. His videos have been posted on Brita's as well as the Sierra Clubs facebook's and have been featured on "The Environmental Blog." His efforts have not only publicized the Green Campus Program and its initiatives, but promoted a fun and exciting reputation for sustainability for Cal Poly San Luis Obispo in the local community.

Faculty/Staff

In the past year, the Green Campus Program has created a strong connection with Cal Poly staff through its Workplace Certification Program (see #3 under Section III). The program seeks to foster behavioral change in the workplace by creating a point based certification similar to the building industries Leadership in Energy and Environmental Design (LEED) that recognizes department efforts to conserve. The program focuses on the areas of administration, energy and water conservation, recycling and waste reduction, purchasing, and transportation. Each department is required to designate a "Sustainability Mentor" who serves as the contact person between Green Campus and the department, and works with the team to implement conservation efforts. Since its inception, 12 departments have been certified, including the entire Administration and Finance Department, which received a 'Platinum' rating for all its departments, the highest level of certification. Through employee behavior change, lighting upgrades, delamping, motion sensor installation, and appliance consolidation, a total energy savings of 52,886 kWh, 20,295 lbs of CO2 and savings of \$9,782 have been realized.

The Green Campus Program is now moving to expand the program to faculty as well as staff, and in May 2011, the Academic Senate approved certification of all academic departments across campus. This represents a new and exciting challenge for the team, as certifying such a large number of departments will require many hours of auditing and an adjusted point system, but will yield huge opportunities for energy, water, and paper savings. Furthermore, the work done by Green Campus has initiated a lasting relationship with every academic department on campus, even those that have not traditionally been involved in sustainability.

The Green Campus team has created even more opportunities for full-time staff to support sustainability via direct involvement on sustainability projects. On every campus lies a huge opportunity for energy savings in the information technology field. In a partnership between Facility Services, Administration and Finance Division Network Technology Services (ANTS), Information Technology Services (ITS), the Cal Poly Corporation, and the College of Science and Mathematics, the Green Campus Program has been working to implement workstation power management software. Green Campus helped testing and evaluating several software platforms, finally selecting BigFix. This is a program that manages and reports on the power settings of machines across an entire network, including support for PC, Mac, and Linux. Thus far the BigFix team has completed a pilot phase of implementation on nearly 1,500 workstations, saving 300,000 kWh and \$33,000 per year, and earning a rebate of over \$40,000.

In addition to the Big Fix installation, the Green Campus Team has also worked with ANTS to replace traditional power strips with "smart strips" as part of the Workplace Certification initiative. Smart strips work to reduce power consumption by shutting down power to products (like printers, copiers, and computers) that go into standby mode, saving an estimated 5 to 10 percent of total energy usage. ANTS has currently installed 8 smart strips though 500 more units are scheduled to be installed by June 2012.

In Spring of 2011, The Green Campus Team worked with Facility Services to identify a huge energy savings opportunity, outdoor lighting. There are currently 400 streetlights and parking lot lights on the Cal Poly campus that use either high pressure sodium or mercury vapor technology, both of which are inefficient and produce poor quality light. Green Campus and Facility Services have identified which lamps can be upgraded to induction fluorescent technology, which use 50% less energy and produce cleaner, brighter light. The lights will also be motion-activated, and will dim to a fraction of their full output when nobody is around, and ramp up to full lighting potential when movement is detected. Once completed, the project will lead to an annual savings of 504,350 kWh and a lifetime savings of 5,759,677 kWh and \$633,565 over 11 years. This retrofit will build on the culture of sustainability we have established through our other partnerships and ensure the campus' physical attributes support the commitment to sustainability reflected by the initiative set forth by the campus body.

The Green Campus Program has also used its partnerships to connect students back to their academic departments establishing ties between like-minded students, faculty, and staff. Every quarter, Green Campus offers students the opportunity to work on sustainability related projects for academic credit. Students are required to find a faculty sponsor through their major who will sponsor them and Green Campus provides the student with a project for the quarter, helping them gain relevant internship experience in addition to their class credit.

Through the for-credit internship program, Green Campus has connected students with faculty in Engineering, Architecture, Graphic Arts, and Environmental Studies, Marketing, and Business classes building valuable partnerships between students, Facility Services, and the academic departments. Green Campus projects have also been integrated as the subject of senior capstone and general class projects, which have ranged from building tabling displays and conducting Mr. Eco publicity campaigns. This has represented another way we have infused sustainability into non-traditional departments such as Marketing and Mechanical Engineering.

The for-credit student internship program allows students to participate in LEED documentation of both new and existing building projects. Through a connection between the Green Campus Program, Facility Services, a senior level environmental design class (Implementing Sustainable Principles, EDES 408) and the student club American Society of Heating, Refrigerating & Air Conditioning Engineers (ASHRAE), a student design team has developed a framework for students to work as volunteers on real LEED certification projects The pilot project was done during the group's work on the Rec Center Expansion Project and is now continuing to Faculty Offices East, Poly Canyon Village student housing, and the new Centers for Sciences building. In addition to LEED documentation, the for-credit interns have worked on a variety of other projects, including building a bike generator, sustainability outreach and education, energy audits, campus wide lighting retrofits, and even constructing a bio-diesel generator. Green Campus will continue to offer for-credit internships every quarter, training Cal Poly students to be competitive in the evolving green workforce.

addition to providing students with hands on project opportunities the Green Campus Program has been collaborating with the Academic Senate Sustainability Committee (ASSC) to integrate sustainability learning objectives into the curriculum and incorporate sustainability in course syllabi. Every week, the ASSC highlights faculty who have implemented sustainability within curriculum and Green Campus is working to bring a student voice to sustainability efforts among departments. This recognizes faculty who have made an effort to support campus sustainability through their courses, and further promote sustainability as a key component of the campus' identity.

Working with the Empower Poly Coalition (a network of sustainably focused clubs on campus) the Green Campus Program has made efforts to implement The Green Initiative Fund (TGIF). This fund, if voted on by students, would be a \$5 increase in student tuition fees to go to the funding of student lead sustainability projects. If this fee were to pass, an extra \$300,000 would be available to fund projects such as renewable energy, energy efficiency building retrofits, water conservation projects, sustainable transportation, recycling and composting

In

programs, and sustainability internships. Green Campus is working to outreach to students and faculty to encourage the passing of this essential initiative.

- 11. Collaborative design and implementation Describe the way in which this project incorporated stakeholders from multiple disciplines into the project's design and implementation. Describe how this collaboration produced sustainable solutions and improved the project's performance. The Green Campus Program's efforts truly have been campus wide, incorporating stakeholders from every college and department on campus. Starting with the Green Campus Certified Project, Green Campus has brought sustainability to all departments in the Administration and Finance Department (AFD), which would not likely have thought about these aspects of sustainability without the program. Green Campus Interns, along with Mr. Eco have also presented to a large group of staff working for the Cal Poly Corporation (in charge of campus dining, campus-wide retail, business services, etc.) and have been involved with the Cal Poly Sustainability Advisory Committee (a campus wide group made of faculty, staff, and students). With involvement in these groups as well as future Green Campus Certification for all academic departments, Green Campus will reach nearly all disciplines within the Cal Poly campus. Green Campus has established connections between the groups as well, fostering a connective and collaborative environment between the disciplines while encouraging the campus culture of sustainability.
- 12. Describe how the project has been received by campus stakeholders. Describe what has been met with satisfaction or dissatisfaction, and why.

The Green Campus Program has been well received on all fronts. Amongst students, Green Campus interns with Mr. Eco have outreached to nearly 100% of all freshman. Students are able to relate to Mr.Eco and enjoy listening to his music and seeing his videos. As these students move through their education, they will have a better idea of who the Green Campus Program is as well as the iconic Mr.Eco. Additionally, faculty and staff from all aspects of campus enjoy working with the Green Campus Program because of the proven quality and reliability of the intern's work from year to year. At semi-annual stakeholder meetings as well as daily interaction, there is continuously enthusiastic response in support of one another.

13. If applicable, describe how you collaborated with members of your local or regional (offcampus) community in implementing your project.

Mr. Eco has represented the Green Campus Program on the front page of the Mustang Daily twice, on KSBY News six times, on Charter Local Network News, on Cal Poly's CPTV News program and on Cal Poly's CPR radio. His videos have also been featured by: The Sierra Club,

Brita FilterForGood, The Environmental Blog, UN-Water World Water Day, United Nations Visitors Centre and The Humanitarian Forum.

III. Additional information

Please provide up to three additional files (total) to assist the selection committee in understanding and evaluating the project.

- The Green Campus team created a polar bear theme to encourage students to save water and energy during the Red Brick Energy Competition. This attachment demonstrates the graphics used to motivate students in an entertaining, personable, and concise way. Please view Additional File 1_Red Brick Energy Competition Polar Bear.pdf attached.
- A significant portion of outreach and branding the Green Campus has done successfully involves the music videos of Mr. Eco. Please go to Mr. Eco's YouTube page <u>http://www.youtube.com/watch?v=QjgOtaJ3VeY</u> to view his innovative "Turn Em Out" video. Mr. Eco's other videos can be seen on the right hand side of this page through the MrEcoCalPoly YouTube site.
- The Green Campus Certified project is an all-encompassing project looking at many pieces of workplace energy and office usages. To understand the multiple categories of savings, the Green Campus team has created this spreadsheet. Please view Additional File 3_Green Campus Certified Total Report.pdf attached.

IV. Speaker bio

Please submit a brief speaker bio or bios (max. 80 words; limit two speakers per project).

Speakers will present at the Sustainability Conference if their project is selected for a best Practice Award. Speaker bios will appear in the conference program.

At least one of the speakers listed here must be a student. Co-presenters from non-campus entities (e.g. architecture firms, consultants, etc.) are permitted.

Ellen Chambers

Ellen is a second year Mechanical Engineering major who grew up on a small pumpkin farm in Oregon's Willamette valley. She loves everything about California, especially the sunshine. She has learned about energy efficiency and sustainability through her family farm that was centered on ideals of sustainability, and she is excited to make Cal Poly even more sustainable. Ellen's hobbies include line dancing, baking, reading, and hanging out at the beach with friends.

Jenny Michelfelder

Jenny is a third year Art and Design major from Cupertino, California. She is passionate about drawing, painting, graphic design, and photography. She is excited about the opportunity to use art to promote sustainability in water and energy use with Green Campus at Cal Poly. Jenny loves San Luis Obispo, and in her spare time enjoys being outside. Her other hobbies include rock climbing, yoga, and crafting.

V. Nomination submittal

Send completed Nominations to Andy Coghlan, Sustainability Specialist at the University of California Office of the President. All submittals must be received by 6:00 p.m. on March 7, no exceptions.