

Green Pastures

CAL POLY POMONA

Parking Lot Lighting Assessment

Plus energy initiatives around the globe: Earth Hour, the Green Button Initiative, and more...



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A Publication of the Green Campus Program at Cal Poly Pomona

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What is the Green Campus Program?

The Alliance to Save Energy's Green Campus Program empowers college students to be tomorrow's energy efficiency leaders. Currently on 16 universities and colleges and employing over 75 interns each year, the program engages students in building pathways to green careers, realizing measurable energy savings, infusing energy and energy efficiency concepts into academic curricula, and promoting energy efficiency awareness. Green Campus interns work closely with faculty, staff, administrators, and other students to engage them in energy efficiency projects.

For more information please visit our website:

www.GreenCampusCPP.org

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Paid Internship!

Are you passionate about the environment? Are you interested in sustainability? Well then take advantage of this opportunity! Green Campus is now hiring!

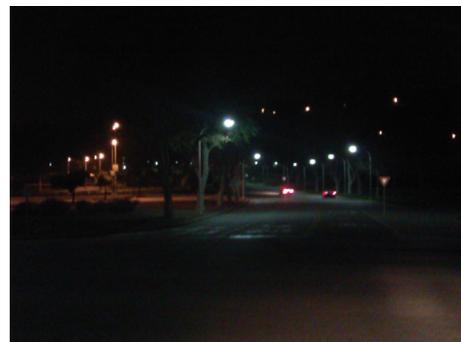
read more on page 3

On the Cover

A Cobra Head light fixture. One of the proposed lamps to be retrofitted to more efficient induction lamps. Read more about the Exterior Parking Lot Lighting Audit on pg. 7.

Right

Parking Lot F and University Drive. The difference between quality of light in metal halide fixtures (Lot F) and Induction lighting (University Drive).



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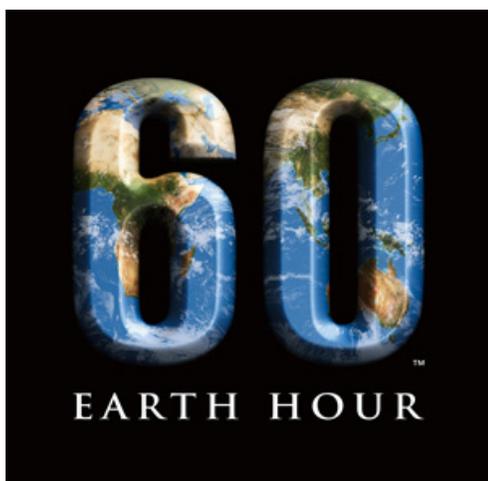


ALLIANCE TO
SAVE ENERGY

Creating an Energy-Efficient World



The Alliance to Save Energy's Green Campus Program is funded by the ratepayers of California under the auspices of SCE, SDGE, PG&E, and Sempra Energy.



On January 2012, the WiFi Thermostats project began with the purchasing of the Proliphix Wireless Thermostats. Unlike any ordinary thermostats, the wireless thermostat has many unique settings and functions. Other than accessing the internet and the network system, the wireless thermostats can be programmed in intricate and specific ways that are unlike other functional thermostats on campus.

The project was first introduced last quarter, and is now almost in the final process. The installation of the thermostat was simple, like any ordinary thermostats mounted on the wall; but when it comes to adjusting the settings and programming the functions, the new thermostat is much more complex. From fan motor control to temporarily network control override to scheduling temperature settings for individual time periods, there are numerous amount of functions the wireless thermostats can perform.

Starting last week, the Green Campus Team and Facilities Planning and Management have decided to do a test run in Building 49 by adjusting the settings of the wireless thermostats in ways to reduce energy usage yet at the same time provide sufficient amount of air into the building. Each new setting will be recorded for a week, and will later be analyzed to see if the new setting is appropriate for energy savings. In comparison with the old settings, which allow HVAC units to run from early in the morning to late at night, the new setting will allow more flexibility. This in turn would facilitate energy savings and possibly lead to a more innovated practice for the wireless thermostats.

Green Campus Program Now Hiring

Green Campus Program is now looking for new, motivated students to join their team! The Project Coordinator will work with a handful of other students/team members, for an average of 7 - 10 hours per week, at \$11 per hour, year-round. We prefer freshmen and sophomores who are able to make the long-term commitment, but all undergraduate students of any major are welcome to apply. The Green Campus Program is looking for someone who is not only passionate about the environment, but also tech savvy, or at least open minded about learning different technologies as they apply to energy and water efficiency. The Project Coordinator will support the implementation of all team projects, while also developing his/her own specific objectives through ongoing consultation with program staff and Cal Poly Pomona faculty/administrators.

Applicants should:

Be currently enrolled Cal Poly Pomona students

Possess excellent written and oral communications skills

Be responsible and motivated to complete projects in a timely and professional manner

Possess an interest in environmental issues (especially those relating to energy)

Preference will be given to candidates with the following attributes

Experience in on-campus activism

A working relationship with campus environmental groups

Experience working with administrators/staff in facilities and/or housing departments

Experience with energy tracking technology, energy systems or building performance

Academic studies in engineering, environmental science, quantitative analysis or social science research

Underclassman status with ability to make a long-term commitment

To apply please send a resume, cover letter, and a 2-page writing sample to greencampus.cpp@gmail.com

Applications are due by 5:00 p.m., Thursday, April 5, 2012. Selected candidates will be contacted for an in-person interview. For more information about hiring, please visit our website at <http://www.greencampuscpp.org>.

President Obama's New Green Button Program

By Grace Jaen

President Obama's Green Button program kicked off last fall following success in a similar concept, the Blue Button program of the Veteran's Administration. Blue Button provides VA health care clients instant online access to their health care data through the click of a literal blue button icon on their screen. Now think of that, but in terms of energy use and you have the Green Button, which manages all sectors of the electricity supply chain to offer easy-to-understand energy data to consumers. This will give consumers the opportunity to help reduce waste and save money on their bills. Nancy Sutley, Chair of the White House council on Environmental Quality, emphasized that, "Green Button will arm millions of Americans with information they can use to lower their energy bills." She believes, "Innovative tools like these are good for our economy, good for the health of our communities, and an essential part of our approach toward a secure and clean energy future that works for Americans."

Pacific Gas & Electric and Southern California Edison, two of the Green Campus Program's stakeholders, were actually two of only six utility companies that first committed to the Green Button program back in January of this year. In fact, PG&E helped co-sponsor the Apps for Energy Contest to spur development of new online energy-related applications, based on the Green Button model. Since then, approximately two dozen companies have made similar commitments to allow electricity customers to download their household or building energy-use data in a computer-friendly format that they can easily understand.



The Green Button program does not only benefit consumers individually, it also plays an important role in the production of our nation's energy. In the U.S., coal is used to generate about half of our country's electricity. And in the process greenhouse gases or GHG like Carbon Dioxide are entering the atmosphere at an alarming rate, causing the rapid warming of our planet. However, since the Green Button program emphasizes the relationship between utility companies and consumers, utilities are seeking out new alternative energy that requires improved information sharing between provider and consumer to operate smoothly, such as distributed solar energy; this in turn is causing coal fired power plants, that are emitting these GHG, to shut down. The Obama administration has made an important step in leading our nation to a more energy efficient future by designing the Green Button program. Hopefully this will encourage more and more utility companies and states across the U.S. to join the cause and fight for a better, more sustainable future.



If you are a PG&E customer and want to see the Green Button in action, simply go to their website at <http://www.pge.com/> and you will see the literal Green Button on their homepage. And look out for a similar application by Southern California Edison later on this year!

Sources:

Casey, Tina. "President's Green Button Energy Saving Program Attracts Heavy Hitters." *Triplepundit.com*. n.p., 2011. Web. 24 March 2012.

Office of Science and Technology Policy. *New Industry Commitments to Give 15 Million Households Tools to Shrink Their Energy Bills*. Washington: Government Printing Office, 2012.

U.S. Environmental Protection Agency. *Greenhouse Gas Emissions*. *Epa.gov*. n.p., 2012. Web. 25 March 2012.

Green Dictionary

Delamping: A way to inexpensively reduce electric loads by simply removing existing lamp fixtures.



Wi-Fi Thermostats Update

By Sony Bui

On January 2012, the WiFi Thermostats project began with the purchasing of the Proliphix Wireless Thermostats. Unlike any ordinary thermostats, the wireless thermostat has many unique settings and functions. Other than accessing the internet and the network system, the wireless thermostats can be programmed in intricate and specific ways that are unlike other functional thermostats on campus.

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Photo above: A Wi-Fi Thermostat in use. Green Campus Interns work with Facilities Planning and Management to test the technology.

Green Campus By the Numbers - March 2012

EVENT	ENERGY	WATER	CO2 EMISSIONS	\$\$\$	People Attended
Sustainability Pledge*	1,424,975 kWh	287,760 gal	676,858 lbs.	\$55,000	47
Parking Lot Lighting Assessment*	5,494,710 kWh	-	3,758,381 lbs.	\$714,312	3

*NOTES: *Comprises potential, projected savings for 1 year. **Comprises of actual savings for 1 year.*

Parking Lot Lighting Audit Presentation

By Crystal Huang

In the past, Green Campus has audited many of our school's most important infrastructures, including the parking structure and exterior walkway units. In each of these cases, we looked for ways to improve efficiency of these large consumers of energy and were mostly successful. The Parking Structure project garnered an estimated 200,000 kWh in energy savings by simple powering off for six hours, and delamping unused lights. The Exterior walkway audit was also extensive in its research and its proposed strategy to retrofit metal halide lamps to induction lamps could save our campus another 200,00 kWh per year. Our next project was the Exterior Parking Lot Lights, and in the summer of 2010, Green Campus Interns along with Energy Manager George Lwin documented lighting systems in over 30 of Cal Poly Pomona's parking lots. With this information, interns were able to analyze the data, and develop strategies for improved energy efficiency and light efficacy.

Out of the 428 outdoor parking lot lights that were surveyed, most were identified to be metal halide (MH) or high-pressure sodium (HPS) lamps. Though these lamps were highly efficient in the past, increased energy demand and cost issues, an alternative solution was imperative to cut energy loads and reduce costs. The answer was identified as induction lighting. This lighting fixture lasts up to 100,000 hours, with a life expectancy of 5-13 times longer than a metal halide fixture. It is a lot a brighter higher quality light output, with low lumen degradations, while still using less energy than metal halide lighting. Furthermore, there are no re-strike time delays with induction lighting, meaning that in case of power outages, induction lights will re-light as soon as power is restored. There are many benefits to upgrading or replacing current fixtures with induction lighting, and Green Campus interns proposed to phase out the project to maximize funds and time.

There are currently three different categories of fixtures identified on these parking lots: the Cobra Head, Kim (hockey puck) light fixtures, and other, which include flood lights, culie-hat, and shoe box. Replacing or upgrading all 428 lights will result in over 350,000 kWh and \$40,000 saved! These facts were presented to Energy Services on March 22nd. The presentation went well, followed by a discussion of implementation strategies. Ideally, this project can be phased in by light fixture or by parking lot to eventually change out all lights to induction fixtures. Either way, induction lighting is truly a way to improved efficiency and increased savings for our campus.



Photo above: A Kim (Hockey Puck) light fixture.



Photo above: The parking lot lighting assessment presentation with intern Crystal Huang

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