

# Pastures

## Green



*Green Campus Intern, Brandon Ro, presents ASI staff members with a Green 101 lecture.*

## CAL POLY POMONA

Green Campus Program



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## ASI Meets Green Campus!

By Andrew Coyne

On December 11, Green Campus interns, Andrew Coyne and Brandon Ro, and Energy Services Manager of Facilities, Planning, and Management, George Lwin presented energy efficient as it pertains to sustainability to members of the Associated Students, Inc (ASI). The presentation was part of a half-day long conference for ASI staff. The Associate Executive of ASI, Powell Velasco, invited Green Campus to present to ASI staff to encourage them to support ASI's Sustainability Initiative. One of the goals of the ASI Sustainability Initiative is to increase awareness and educate students and staff about energy efficiency and sustainable practices. Brandon Ro began the discussion by introducing the Green Campus Program and offering the audience an overview of past projects. He then went on to discuss the meaning of the word "sustainability" and provided some hard numbers to demonstrate the pressing importance of saving energy. Some ASI staff members were greatly surprised when Brandon told them that buildings were the biggest producers of green house gases (U.S. Energy Information Administration).

Andrew Coyne then offered the audience a number of energy savings tips that covered a spectrum of areas, ranging from appliances and computers, to heating and water. Andrew emphasized the importance of being aware of phantom loads, or energy that is consumed when an appliance is technically, yet still plugged in. The audience especially liked the chart, which showed the monetary value of phantom loads for different appliances.

### NEWS FLASH!

**Take the "Buck the Juice" Sustainability Pledge TODAY!**

Visit our website for details:  
[www.GreenCampusCPP.org](http://www.GreenCampusCPP.org)

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Energy Services Manager, George Lwin followed with a presentation on various energy savings projects that Facilities, Planning, and Management have spearheaded at Cal Poly Pomona. Some of these projects include the Science Building Fume Hood Control System and the Music Building HVAC retrofit. George also mentioned future projects, one of which is the photovoltaic shelter project for cars in the M lots. When completed, these shelters will provide solar energy for the campus plant. The 20 ASI staff members who were present were enthusiastic and engaged throughout the entire presentation and asked many pertinent questions. Not only did this presentation have a positive impact in educating the staff members, but it also marked the beginning of a new relationship between ASI and Green Campus. There are plans in the near future to collaborate on an energy audit in the ASI offices. We are excited about our new relationship with ASI!



*Energy Service Manager, George, Lwin, speaks to ASI staff about what Cal Poly Pomona is doing to "green" the campus*

## Cal Poly Pomona Green Campus 2009 Highlights

By Elaine Dulay

The year 2009 was a year of great accomplishments and discovery. At Cal Poly Pomona, Green Campus Interns have continued to strive in maintaining strong successful relationships with on campus stakeholders, students, and also establishing new relationships. During this year the team underwent a change in its team members. Two interns Ryan Tade and Razilee Tadeo transitioned off the team and welcomed two new interns Andrew Coyne and Shannon Nowell. With the new interns on board, they brought with them lots of energy, excitement, and great new project ideas. In looking back at this past year's accomplishments, Green Campus interns have achieved their goals in reaching out to other green groups/organizations on campus and collaborating with them on projects, outreach to students and faculty/staff at the different colleges in the campus community.

Green Campus Interns would like to thank those of you who have supported the Green Campus Program in effort of promoting a more energy efficient campus.

Let's take a look at this past year's Green Campus Program 2009 highlights.

### DID YOU KNOW?

**In 2009 the Green Campus Program has increased its hard energy and monetary savings by 135% compared to 2008!**

**Green Campus has also seen an overall savings increase of 217% in energy and 300% in monetary comparing 2009 to 2008!**

### January

*Green Campus Energy Efficiency Summit at UC Irvine Jan 25th-26th (L to R: Jennifer Alvarez, Ryan Tade, Elaine Dulay, Razilee Tadeo, Brandon Ro)*



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## February

CFL exchange with the College of Environmental Design's APSA American Planning Student Association in February.

## March

Take the Stairs Day at the University Library on March 4th. "Take the Stairs Day" volunteers pose with Green Campus interns after receiving a Certificate of Participation.

## April/May

Earth Week tabling event on April 21st. (L to R: Trivia Winner, Brandon Ro, Elaine Dulay, former intern Ryan Tade, Andrew Coyne, and Shannon Nowell)

Farewell to Intern, Razilee Tadeo and welcome dinner for new interns, Shannon Nowell & Andrew Coyne. (L to R: Shannon Nowell, Razilee Tadeo, Elaine Dulay, Brandon Ro, Ryan Tade) (not pictured: Andrew Coyne)

(No photo shown) May Stakeholder Advisory Meeting

## June

8th Annual UC, CSU, CCC Sustainability Conference at UCSB June 21st-24th. (Photo on Right. from L to R: Brandon Ro, Shannon Nowell, Andrew Coyne)

## July

Campus-wide exterior lighting audit. Interns Shannon Nowell and Elaine Dulay collected data on exterior light fixtures on campus.

## August

GreenSpace office audit at the Energy Services Unit in Facilities Management and Planning office at Cal Poly Pomona. (L to R: Interns Andrew Coyne, Brandon Ro, and Energy/Utilities Project Coordinator Jesse Ochoa)

## September

Bronco Fusion tabling event on September 23rd. Interns Shannon Nowell, Brandon Ro, and Elaine Dulay met with new incoming students to promote energy efficiency and sustainability.

## October

Housing energy competition kick-off event held on October 19th. Green campus interns suit up as Energy Hog and Energy Hog Busters to kick off the start of the Energy Competition.

Interior lighting audit for Building 5 College of Letters/Arts/Social Sciences. Interns Shannon Nowell & Andrew Coyne are shown performing the interior lighting audit for Building 5.

Interior lighting audit for Building 9 College of Engineering. Intern Brandon Ro is shown performing the interior lighting audit for Building 9.

## November

Housing energy competition pizza party for the winning dorm Encinitas Hall. Encinitas Hall residents celebrate their success in the competition by eating pizza and drinking soda.

## December

ASI Presentation on December 11th. Interns Brandon Ro and Andrew Coyne are shown giving a presentation on Green 101 to ASI staff.



# Parking Structure Saves Big Again!

By Brandon Ro

What would you do if your college or department's energy bill doubled? This is exactly the question that faced Parking and Transportation Services (PTS) after the completion and opening of the new parking structure in spring of 2007. The 750,000 square foot facility quickly became known as an energy hog on campus; however, as of today the parking structure has reduced its energy consumption by more than 30%! It is now saving enough electricity to power 19 homes every year, according to the EPA's Greenhouse Gas Equivalencies Calculator ([www.epa.org](http://www.epa.org)).

How did this come about? It all began in the spring of 2008, when a group of student interns from the Green Campus Program noticed that the newly built Parking Structure's lights remained on 24 hours a day, 7 days a week. They approached Energy Services Manager, George Lwin of the Facilities Planning and Management department with their concerns, and created a plan to conduct a lighting audit of the structure. Green Campus interns then presented their plan to PTS who supported the idea, and gave interns approval to conduct a lighting audit of the structure during spring break. Using baseline light level readings and experimental test results, the team came up with two major options to reduce energy consumption in the structure on a large scale.

These results were presented in September 2008 to PTS Director Glenn Shenker by Green Campus Program Coordinators, Brandon Ro and Razilee Tadeo. In this report Green Campus proposed two potential options of how to save energy within the structure. Option 1 consisted of using varied



lighting levels on the different floors of the parking structure during the daytime, and option 2 involved utilizing a de-lamping strategy which removes half of the current bulbs and replaces them with phantom tubes. Green Campus also presented and discussed alternative strategies that included part-time shut downs during nights, weekends, holidays, and breaks.

As a result of this meeting, PTS has implemented several of the recommended energy reduction strategies. On December 15, 2008, the main lighting circuits of the parking structure were programmed to turn off from 12am-6am every day. This resulted in saving thousands of kilowatt hours of energy for the university! More recently since summer 2009, PTS has implemented Green Campus' option of de-lamping the light fixtures within the structure. Both of these measures have helped reduce the PTS Parking Structure energy bill while saving an estimated 208,360 kWh and \$29,170 annually!

## December Energy Savings

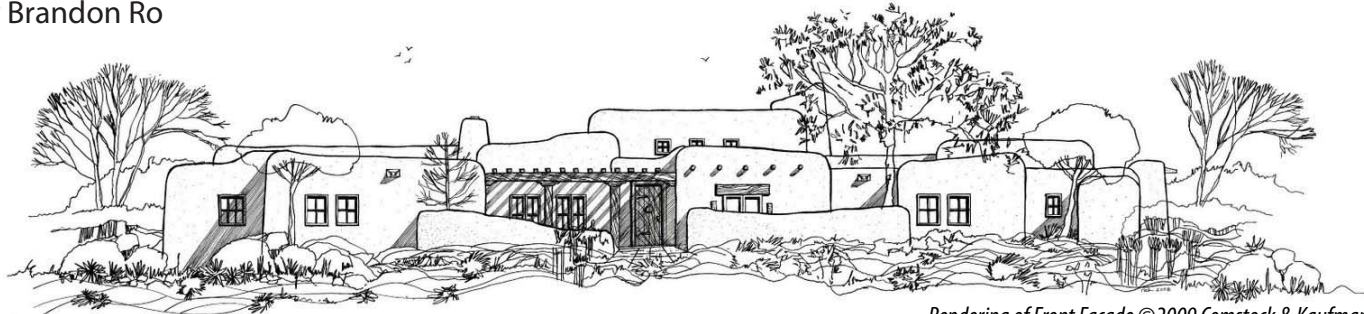
EVENT	QUANTITY	ENERGY	WATER	CO2 EMISSIONS	\$\$\$
Parking Structure De-lamp & Lights off Strategies*	n/a	208,360 kWh	n/a	329,810 lbs	\$29,170
Buck the Juice Sustainability Pledge*	11 pledges	30,945 kWh	105,900 gal	130,803 lbs	\$10,252
<b>Projected Savings Subtotal</b>	<b>n/a</b>	<b>239,305 kWh</b>	<b>105,900 gal</b>	<b>460,613 lbs</b>	<b>\$39,422</b>
<b>Grand Total of Projected Savings since 2007**</b>	<b>n/a</b>	<b>1,090,265 kWh</b>	<b>1,105,710 gal</b>	<b>2,547,327 lbs</b>	<b>\$203,576</b>

NOTES: \*Comprises projected yearly savings. \*\*Grand Total Projected Savings include both actual and estimated savings



# Energy Efficiency Rising from the Ashes

By Brandon Ro



Rendering of Front Facade ©2009 Comstock & Kaufman, Inc.

With the slow but steady rise of utility rates, homeowners are asking themselves just what they can do to reduce their energy bills. For those thinking of building their own dream home or are just looking for ways to retrofit their current home, we may have a solution for you. The Fallbrook Pueblo House is one of the most energy efficient homes ever built in San Diego County and acts as a great precedent for homeowners to look at for solutions to lower utility bills. In fact, according to Mark Gallant the energy consultant, the house "if built according to plan, will be the most efficient he's seen in his 26-year career. It will also be the most efficient in the county, according to reports required for construction and renovation projects under state energy code Title 24." This residence is also a San Diego Gas & Electric "Showcase Home" for Energy Efficiency and a U.S. Green Building Council Platinum LEED-Certification Candidate, as it is currently on target to exceed Title 24 requirements by more than 70 percent!

The Fallbrook Pueblo does have a sad beginning, but it has an even happier ending. Homeowner and builder, Ken Rexrode lost his home to the Rice Canyon fire in 2007. Although it was a devastating event, it gave him the opportunity to build his dream "Green" home. Architect Rick Kaufman calls it an "innovative home of the future rising from the ashes [that] utilizes the latest technology to obtain maximum energy efficiency." This home demonstrates what the future holds in store for green building.

What makes the Fallbrook Pueblo House unique? This home was designed to be both energy efficient and sustainable. Such systems and design principles include optimizing daylight through windows and Solartubes, direct-solar gain and solar thermal heating for water and radiant flooring, natural ventilation, a double insulated cool roof, advanced photovoltaic solar system, 350 year-old reclaimed lumber, recycled content building systems and finishes such as Perform Wall and Fluid Stone, native and drought tolerant landscaping, and an electric car charger port in the garage.

Lower energy bills are first preceded by a smart green design, but for those who cannot redesign a new home

one may perform a home energy audit to see in what ways he or she can save energy. For some it can start with changing out a light bulb. As for the Fallbrook Pueblo, energy efficiency is rising from the ashes!

For more information on the Fallbrook Pueblo House please visit:

- [http://www.nctimes.com/news/local/fallbrook/article\\_ac7e7c8a-e84f-5aef-a570-57870ee0409e.html?mode=story](http://www.nctimes.com/news/local/fallbrook/article_ac7e7c8a-e84f-5aef-a570-57870ee0409e.html?mode=story)
- [http://www.nbcsandiego.com/news/green/Firestorm\\_Victim\\_Rebuilds\\_Better\\_Greener\\_San\\_Diego.html](http://www.nbcsandiego.com/news/green/Firestorm_Victim_Rebuilds_Better_Greener_San_Diego.html)
- <http://gogreen-development.com/fallbrookpueblo.html>
- [http://greenguardianhpc.com/web\\_documents/fallbrook\\_pueblo\\_open\\_house\\_flyer\\_2\\_.pdf](http://greenguardianhpc.com/web_documents/fallbrook_pueblo_open_house_flyer_2_.pdf)
- <http://www.fallbrookpueblo.blogspot.com/>



Floor Plan of the Pueblo House ©2009 Comstock & Kaufman, Inc.



Photo of house exterior and drought tolerant landscaping.

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# Interview with Rosie Squires of Green Team

By Shannon Nowell



*One of our goals at Green Campus is to create effective and lasting partnerships on the Cal Poly Pomona campus. Rosie Squires is currently the Co-President of the Green Team, a student-led environmental awareness organization. We have collaborated with Rosie and the Green Team on several awareness events such as America's Recycle Day, Buck the Juice Energy Competition kick off, Earth Day, and Sustainability Forums. We look forward to our collaborations in the near future!*

**GC:** Tell us a little about Green Team!

**RS:** The Green Team is a campus organization under the Educational Interest Council in ASI. We have the typical officers, and then we have committee chairs running separate committees. Alana Rivasdeneyera is our Recycling Committee chair, for instance. She has an internship for course credit with facilities to work on researching topics related to recycling on our campus. We also have a Compost, Food & Agriculture, and Biodiesel chair. All of our general members have the opportunity to get together every Tuesday, either for a general member meeting or Sustainability Forum during U-Hour. On the other Tuesdays we're doing a community dinner with a guest speaker or a film screening for our Outdoor Sustainability Film Series we've put together with B.E.A.T.

**GC:** Are there some upcoming events with Green Team?

**RS:** We have our Winter Retreat scheduled for Dec. 13th, and anyone is welcome to join us. During the retreat we will talk about our plans for a spring regenerative event,

perhaps to be scheduled around Earth Day, and some of our other goals for the coming quarters, such as campaigning for a Green Initiative Fund to be placed on the ASI ballot as a student fee increase. The money will potentially go into a fund that students can apply for green projects they would like to carry out on campus.

**GC:** What made you want to join Green Team and get your master's in RS?

**RS:** I have always wanted to make a difference wherever my school or neighborhood happens to be, and the Green Team, which was born out of the Regenerative Studies master's program of which I am a student, was the perfect conduit for getting involved at Cal Poly Pomona. This year we are continuing a five year legacy of advocating for environmental awareness and promoting sustainability initiatives on the Cal Poly Pomona campus. I think that the Green Team is important for our campus community because it allows students, faculty, and staff a place to go to get answers about what we're doing as a campus for sustainability. We do our best to stay connected and informed so that we can disseminate timely, practical information to the campus body. Lots of people want to help, but they're not sure how. We try to create opportunities for people to become involved.

## Project Updates

### External Lighting Audit

Green Campus has completed the first phase of the External Lighting Audit by assessing all the parking lots on campus and compiling the gathered information. Next phase, walkways and streets!

### Energy Video - Be Respected, Not Rejected: 10 Energy Savings Tips for Campus Living

Despite challenges in putting together by early fall 2009, the Green Campus energy video is still underway and should make its debut in January 2010!



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SAVE ENERGY  
*Creating an Energy-Efficient World*



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#### Green Campus Website:

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