

Cal Poly Green Campus: Innovations in Saving Energy

2009 UC/CSU/CCC Sustainability Conference

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ALLIANCE TO
SAVE ENERGY

Creating an Energy-Efficient World





Program Description

- In 2007 the Cal Poly Facilities office and a group of five students established the twelfth Green Campus team.
- First project was the PG&E “Change a Light Campaign” in October of 2007. GCP distributed over 2,000 CFL's.





Projects

- **Greenwashing**
 - Green Campus Interns worked with Campus Dining to research and replace existing dishwashers on campus.
 - Total savings 9,320 Therms
 - Submitted a rebate from the UC/CSU/IOU Energy Efficiency Partnership totaling \$8,762.
 - GCP is currently supporting SLO Facilities Management to expand this effort
- **Vending Miser**
 - Green Campus Interns worked with Campus Dining to install Vending Misers on existing campus vending machines.
 - Without a Vending Miser 3,300 kWh used per year.
 - With a Vending Miser 1,800 kWh are used per year.
 - Total of 6,000 kWh saved and \$600 savings annually.
- **Dorm Energy Competition**



Project Overview

- In January of 2009, GCP interns held the second annual dorm energy competition.
- Involved 1,450 students and 24 staff members across 6 dorms
- Measured for water and energy savings by reading water and electric meters every other day for four weeks.



Project Goals

- First Green Campus Dorm Energy Competition (in 2008) had total savings of \$4,600.
 - Involved three dorms
 - Period of six weeks
- Based on the savings from the previous year, the Green Campus team set a goal to save \$7,000.



Metrics

All dorms achieved 30% or higher electricity savings

Average Electric and Water Savings for the Six Dorms

	Electric (kWh)	Electric (% savings)	Water (gallons)	Water (% savings)
Total:	61,000	34%	30,000	15%

Competition Total Savings

Total kWh Savings	61,000 (kWh)	\$6,100
Total Gallons Savings	300,000 (gallons)	\$3,000
Total Natural Gas Savings	685 (Therms)	\$870
Total Utility Cost Savings over 25 days:		\$9,990



Marketing and Outreach

- Introduced competition to residents
 - Provided root beer floats
 - Played the “Phantom Hunter,” a creative and educational video created by the Green Campus team at Humboldt State University.
- Created educational flyers called “Potty Talks”
 - Posted these in restrooms and laundry rooms
 - Provided tips and facts on energy and water savings



“Potty Talks”

“BTU Bob”

Dorm Energy Competition: 1/20/09 – 2/13/09

Participating dorms:

Tenaya
Sequoia
Fremont
Muir
Trinity
Santa Lucia



The competition will focus on behavioral changes over a four week period. The winner will be determined by the dorm that saves the most energy. At the end of the competition the winning dorm will be rewarded with an eco-friendly prize.

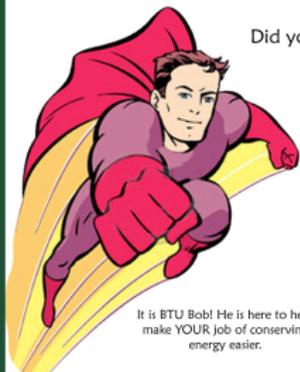
Good Luck!

Did you know...

Cal Poly's average monthly electric bill is \$280,000

Cal Poly's average monthly gas bill is \$100,000

If every California household replaced five incandescent light bulbs with CFLs, it would be equivalent to taking more than 400,000 cars off the road, the equivalent to the population of Miami, Florida



It is BTU Bob! He is here to help make YOUR job of conserving energy easier.

“Kilo Watt Karen”

mustangs go green Dorm Energy Competition LAST WEEK

This is the FINAL week to win the competition! Be sure to turn off those lights, unplug your appliances when they are not in use, take short showers, and don't leave the faucet on unnecessarily.

Just a Few Quick Tips:

1. Turn off the faucet when washing your teeth, dishes or cleaning vegetables.
2. Only flush the toilet or take a shower when you have to. 3/4 of our water is used in the bathroom and the toilet accounts for about 28% of water use in an average home.
3. If you are using a microwave, set your food on the outside of the rotating tray and if possible, create a great surface-to-volume ratio (ex: slices of potatoes will be quicker than a whole potato to heat). These two methods will make your food cook quicker and will save energy!



Thanks for participating and
GOOD LUCK!

For More Information:
greencampus.calpoly.edu
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Brought to you by the Alliance to Save Energy's Green Campus Program



“Potty Talks”

Water and Energy Saving Facts and Tips on Doing Laundry

Facts:
More than half of the world's population uses 25 gallons of water per day. An average American, however, uses approximately 160 gallons per day.

An average washer uses 40 gallons of water per load.

America uses about 15 times more energy per person than a developing country does.

Washing your cloths in hot water instead of cold water for one year will use more electricity than leaving your refrigerator door open 24 hours a day for that year.

Tips to Try:
Wash your clothes in cold water, hot water takes a lot of energy.

Make sure you are washing and drying full loads. If you need to to wash a small load, make sure the "small load" setting is on.

Always clean the lint filter in the dryer before you start your load.

This will increase air circulation making your cloths dry quicker with less energy wasted.



Brought to you by the Green Campus Program's Dorm Energy Competition
January 20-February 13

Energy Saving Facts & Tips



Did you know...
Compact Fluorescent (CFL) Bulbs use 75% less energy than regular incandescent bulbs.

Also...
If every home in America replaced just one incandescent light bulb with one CFL, we would save enough energy to power 3 million homes and prevent greenhouse gas emissions equivalent to that of 800,000 cars.

So why not try...
Replacing your old incandescent light bulbs with CFL's.



Even replacing one will make a difference!

Water Saving Facts and Tips

Dorm Energy Competition
January 20-February 13

Tips for Saving Water:

- Sing one song in the shower instead of two
- Shower with a buddy
- Shower... get in, get out

Water Saving Facts:

- A five minute shower uses more water than you drink in two weeks
- As nice as your dorm bathtub looks... baths use four more times water than showers.

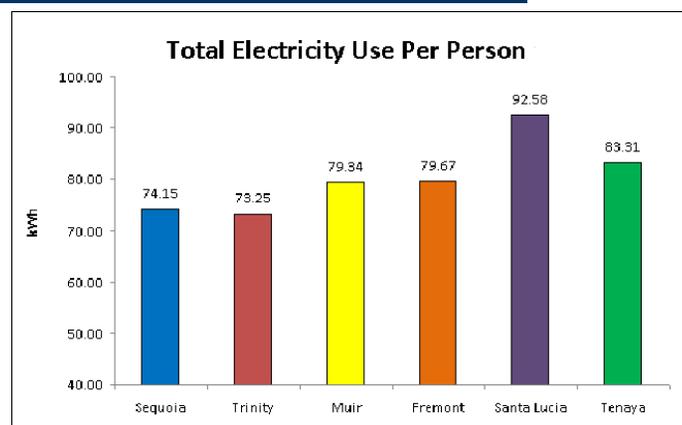


Brought to you by the Green Campus Program



Marketing and Outreach

- Progress posted on website throughout competition.
 - Let students monitor their progress through competition
 - Created competitive atmosphere among dorms
 - Chart on right displays final results (winners shown by lowest consumption)
- Cal Poly team member made creative radio advertisement to play campus wide to encourage dorm energy competition and inform students throughout campus.





Accomplishments

- Multiple forms of marketing and outreach
- Coordinator of Student Development (CSD's), Resident Advisors (RA's), and Hall Councils played major roll in motivating students
- Competitive atmosphere created
- Prize for winning dorm





Challenges

- Doubled number of dorms
 - More students to reach
 - Larger implementation cost
 - More meters to read and calculation conversions to make
- Two weeks less in competition
 - Less time to get word out
 - Less time to see behavioral changes
- Resident Advisors did not always post “Potty Talks” or help motivate students



Lessons Learned and Ideas for Future Competitions

- CSD's, RA's, and Hall Councils important to success
- Prize for Resident Advisors of the winning dorm
- Follow up survey about competition effect and long-term behavioral changes
- Reaching out to larger number of students was successful
 - Next year goal to extend competition to “Poly Canyon”
 - Complex houses approximately 3,500 second year students



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