

Sustainability in the Cal Greeks Community

Project Lead: Cole Triebold; Sierra Westhem

Sponsor: Engineers for a Sustainable World

TGIF Grant: \$5,500

Project Theme: Energy Efficiency and Conservation

Project Location: Delta Gamma Sorority House

2015 Application Submission

Status: In Progress

Project Description: The Sustainability in the Cal Greeks Community team will install water aerators, motion sensor light switches, and LED lighting in order to improve energy efficiency and decrease water consumption. After doing this, they will compare energy and water usage data in order to calculate the reduced costs due to the changes. Finally, they will hold sessions at each participating house and educate members of the Greek community about the project and the positive environmental changes that can be made.

Goals: Decrease energy usage in participating Greek houses. Decrease water use in participating houses. Raise awareness about products that have the potential to vastly decrease energy and water consumption that are also economically competitive. Educate houses on sustainable practices. Inspire change across the UC Berkeley campus with participating houses serving as an example.

Timeline:

Task	Expected or Actual Completion Date
Begin project. Find wasteful practices prevalent in the UC Berkeley Greek community	November 2014
Begin audits on houses	March 2015
Begin Educational Outreach	April 2015
Present our project at ESW National Conference	April 2015
Research alternative methods of sustainable practices and check for reductions in prices of lighting, aerators, etc.	August 2015
Receive first installment of TGIF funds. Begin purchasing materials and distribute them to houses.	November 2015

Finish first house retrofit	End of November 2015
Continue retrofitting houses until funds are expended	January/February 2015
Begin teaching about project at the ESW Decal	January 2016
Collect/ analyze energy and water consumption. Compare to previous statistics and calculate the amount of money, energy, and water saved.	January 2016
Finish final research and show the Greek community the advantages of utilizing sustainable practices. Use remaining TGIF funds to create posters to give to involved houses.	February 2016
Submit final project paper to TGIF	March 2016

Accomplishments:

Received full approval to retrofit houses
Audits being completed week prior to installation
Finished retrofitting Phi Gamma Delta Fraternity with lights, and project leaders hope to do water aerators soon
Finished audit of Kappa Alpha Fraternity, and installation took place in January 2016.

Challenges:

Finalizing list of houses
Getting approval from home owners
Understanding method of purchasing materials
Different houses need different types of lights
Buying the materials and then getting reimbursed quickly enough to stay within the timeline

Timeline Progress: Initial estimate of lights in each house was a bit conservative, and houses are in need of more lights than project leaders originally thought. Because of this, project will most likely end up retrofitting more houses than originally planned. So far, project has finished 1 house.

Task	Timeframe (how long it will take to complete)	Status
Begin project. Find wasteful practices prevalent in the UC Berkeley Greek community	1 month	Completed
Initial audits on houses **Audits are now going on approximately 1 week prior to retrofitting houses	2 months	In Progress
Educational Outreach	Continuous	In Progress
Present our project at ESW National Conference	1 weekend	Completed
Research alternative methods of sustainable practices and check for reductions in prices of lighting, aerators, etc.	1 month	Completed
Receive first installment of TGIF funds. Begin purchasing materials and distribute them to houses.	2 weeks	In Progress

Begin teaching about project at the ESW Decal *Decal was not funded and will not be created this year, instead we will be giving a presentation in one of our general body meetings this fall	N/A	Cancelled
Collect/ analyze energy and water consumption. Compare to previous statistics and calculate the amount of money, energy, and water saved.	2 Weeks	Planned for January 2016 Will most likely be delayed until March
Finish final research and show the Greek community the advantages of utilizing sustainable practices. Use remaining TGIF funds to create posters to give to involved houses.	2 Weeks	Planned for February 2016 Most likely delayed until March
Submit final project paper to TGIF	2 weeks	Planned for March 2016 Most likely delayed until April

Budget Update/Expenditures to Date:

No expenditures as of yet

Motion sensors will require a professional to install, but project is currently under budget so hiring a professional is feasible.

Metrics- Qualitative and/or Quantitative:

Successful poster presentation at ESW National Conference in Rochester, NY

Phi Gamma Delta (Fiji) Fraternity has 105 lights installed with more to be placed in rooms that were locked.

Final numbers will be counted then. Audit of Kappa Alpha (KA) Fraternity has finished and project plans on installing 154 lights in KA. Also, project counted 6 shower heads that can be replaced for KA, and 9 water aerators for sinks.

Delta Gamma (Sorority Audit):

Downstairs Bathroom:

- 2 CFL

Gnome Hall:

- 3 CFL
- 1 Incandescent

Chapter Room:

- 19 Ceiling light (Not sure what type of light)
- 3 CFL Light Lamps

“Little Girl’s Kitchen”:

- 4 CFL
- 2 Incandescent

Upstairs:

- 9 CRI (Don’t know what it is but I think it’s efficient)

Bathroom:

- 23

Each Bedroom:

- 2 Incandescent (1 Per Roommate)
- 1 CFL Per Closet
- 1 mercury light- 26-40 total (efficient)

Kitchen:

- 4 CFLs (6 chandeliers)
- 2 CFLs (2 Chandeliers)
- 1 Chandelier had a light missing

Downstairs

- 8 CFLs
- 23 Incandescent
- 1 CFL lamp

Date room:

- 12 Halogen lamps
- 2 CFLs
- 1 incandescent

Education and Outreach materials:

Project will begin working on posters and presentations after they're finished retrofitting the houses.
ESW poster presentation raised awareness of project. Primary outreach begins once data has been collected.

ESW
UC Berkeley

Sustainability in the UC Berkeley Greek Community

Project Leaders: Cole Triebold and Sierra Westhem
Team Members: Jennifer Kirby, Lucas Filshill, and Julia Sawaya

Background Information
Our project started after we noticed prevalent wastefulness and poor environmental practices throughout the UC Berkeley Greek community. Our vision is to raise awareness about the importance of energy efficiency and to implement a standard of sustainability within the UC Berkeley Greek Community, while simultaneously gaining a hands-on understanding of energy and water conservation. We believe that small changes could make a huge impact on the Greek system's pattern of energy/water consumption and waste. As an integral part of our school, the Greek community influences many students and has the potential to inspire widespread sustainable practices across campus.

Overview
The first step of the project was to audit each house in order to distinguish the areas that require the most improvement. Our auditing process included collecting data concerning the appliances, lighting, water use, and insulation within each house. We discovered that the most pressing issues were overconsumption of water and inefficient use of lighting. Our first goal is to implement motion sensors in the halls and large common rooms, as these are often the rooms that require the greatest amount of lighting and that have the most energy waste. Furthermore, we will implement faucet and shower aerators to decrease the water pressure of the sinks in the bathrooms, thus cutting down on water use and waste. Overall, in addition to making tangible changes to the homes, we want to encourage people to practice sustainable actions and behaviors within their homes.

Room Category	Incandescent	Compact Fluorescent (CFL)	LED
850 sq ft	80W \$1.81/yr	25W \$0.60/yr	15W \$0.36/yr
900 sq ft	80W \$1.23/yr	25W \$0.60/yr	15W \$0.36/yr
1100 sq ft	25W \$0.63/yr	15W \$0.36/yr	15W \$0.36/yr
1600 sq ft	100W \$2.85/yr	25W \$0.60/yr	15W \$0.36/yr

Outreach
One of the main goals of our project is to educate members of the Greek community on how they can make personal changes that will positively impact sustainability measures on campus. We will be hosting teach-ins within the houses and placing posters around the house with information on how to personally reduce water and energy consumption. We will offer the houses information and incentives to keep their homes sustainable in the long run.

The Green Initiative Fund
University of California, Berkeley