



Analysis of 2010 Green Greek Challenge

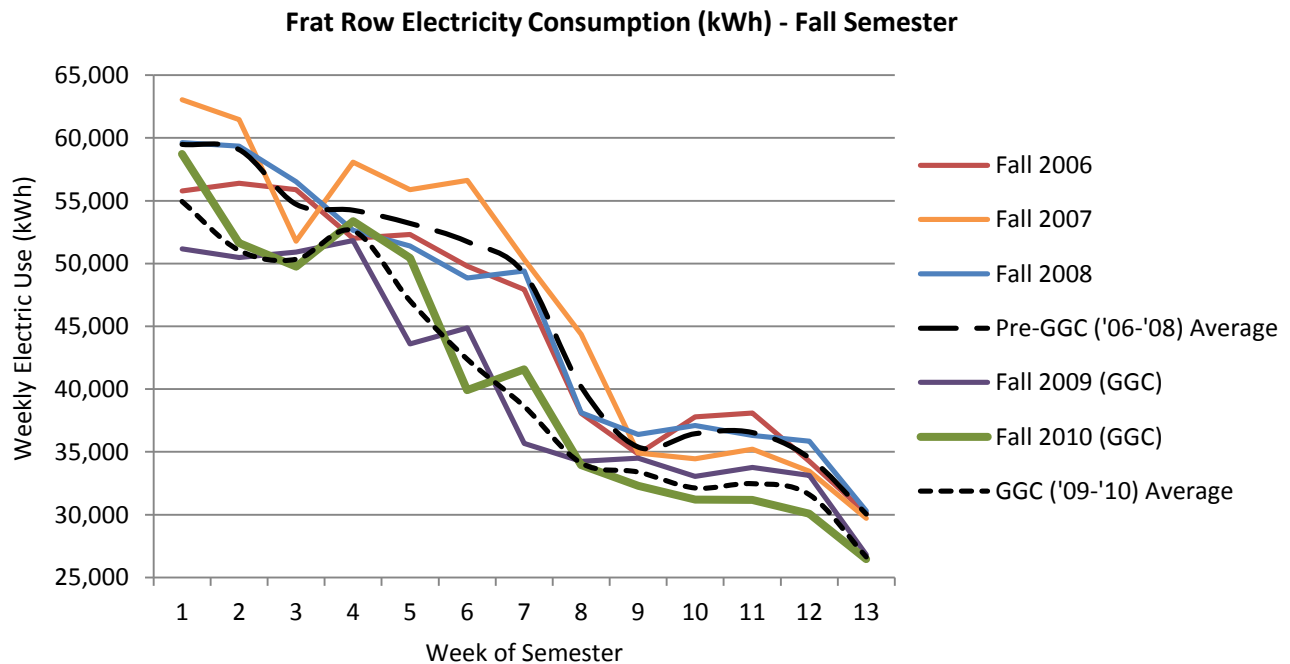
December 22, 2010

Introduction

During the fall semester of 2010, the Office of Sustainability (OS) partnered with the Department of Fraternity and Sorority Life (DFSL) on the Green Greek Challenge (GGC) – an initiative to encourage energy and water conservation among residents of Fraternity Row. For eight weeks (weeks 6-13 on the following graph), residents of all 14 houses on Fraternity Row received weekly reports detailing their electricity and water use and overall progress in the competition. An example of one of the weekly reports is attached.

Overview of Fraternity Row Electricity Consumption

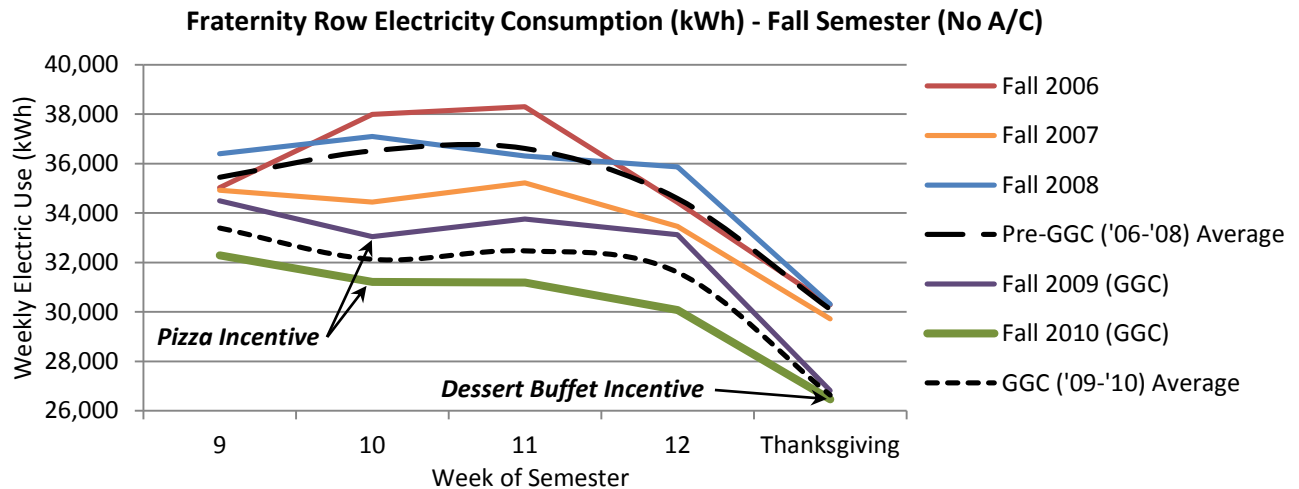
The following graph shows electricity consumption for all 14 houses on Fraternity Row for the first 13 weeks of the fall semester (the beginning of September through the end of November). The observed downward trend in electricity consumption through September and October is due to decreased demand on air conditioning systems as days and nights become cooler. The dip in week 13 corresponds with Thanksgiving break.



During each year of the GGC (2009 and 2010), residents on Fraternity Row used 12% less electricity than the pre-GGC (2006-2008) average – saving a total of 217,000 lbs. CO₂ and \$16,240 in two years. Many factors may have contributed to these savings including mild outdoor temperatures, residents' transition to more energy efficient electronics, greater general awareness of energy conservation, and the GGC. Unfortunately, Fraternity Row electric meters do not have the ability to disaggregate data into component uses, so it is difficult to determine the portion of the savings attributed to the GGC. Still, an analysis of electrical usage during non-air conditioned times provides some insight to GGC impacts.

Impact of GGC on Electricity Consumption

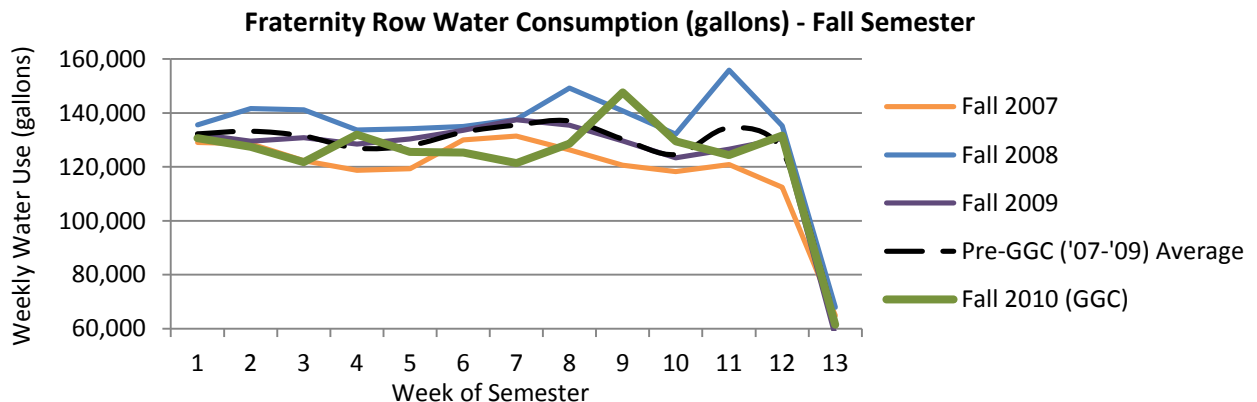
Whereas Fraternity Row electricity consumption is highly dependent on air conditioning during the cooling season, electricity consumption is *independent* of outdoor temperature during the heating season (weeks 9-13). For this reason, analysis of weeks 9-13 offer the best insight to the impacts of non-temperature dependent factors, such as the use of energy efficient equipment and behavior change motivated by the GGC.



The graph above provides evidence that the GGC is effective at promoting energy conservation. **During this five week period in 2010, residents reduced electricity consumption 13% (saving 22,039 kWh, 35,041 lbs. CO₂, and \$2,623) from the pre-GGC average and they even outperformed last year's GGC results by 6% (saving 10,017 kWh, 15,927 lbs. CO₂, and \$1,192).** The chance to win a pizza party for the chapter seemed to incentivize greater conservation behavior in week 10 of 2009 and 2010. Residents also had the chance to win a dessert buffet at a chapter dinner by having the lowest electricity consumption during Thanksgiving break, however, this incentive yielded the same results as when they were simply asked to unplug for the break in 2009. Overall, the observed year to year energy savings are encouraging.

Fraternity Row Water Consumption

The water side of the GGC competition did not seem to motivate any conservation behavior. This was the first year for the water challenge and overall water consumption decreased only 1.8% from the pre-GGC average. It seems it is easier to get people to turn off lights than to get them to take shorter showers. GGC organizers should provide more water conservation tips in the future.



Final Competition Results

Sigma Chi (house #14) dominated the GGC by finishing 1st place in the electricity competition and 4th in the water competition. This chapter used 44% less electricity per person than the least energy efficient chapter on the Row! The members of Sigma Chi truly deserve credit for their accomplishment.

Also worth honorable mention is Phi Kappa Tau (house #5), which won the water competition by using only 1,753 gallons per person over the eight weeks of the competition. Remarkably, this chapter used 63% less water than the least water efficient chapter on the Row!

Here are the final overall standings:

1st place: Sigma Chi

2nd place: Phi Kappa Tau

3rd place: Zeta Tau Alpha

Tied for 4th: Alpha Phi Epsilon, Delta Chi, Lambda Chi Alpha, and Zeta Psi

8th place: Alpha Epsilon Phi

9th place: Tau Kappa Epsilon

10th place: Kappa Alpha

11th place: Phi Kappa Alpha

12th place: Sigma Phi Epsilon

Tied for Last: Alpha Sigma Phi and Sigma Kappa

Green Greek Challenge Planning Team

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Green Greek Challenge

Sigma Chi (House 14) Competition Report - Issued 12/7/10



Last Week

38% Below
Frat Row Avg.



Overall Use

31% Below
Frat Row Avg.

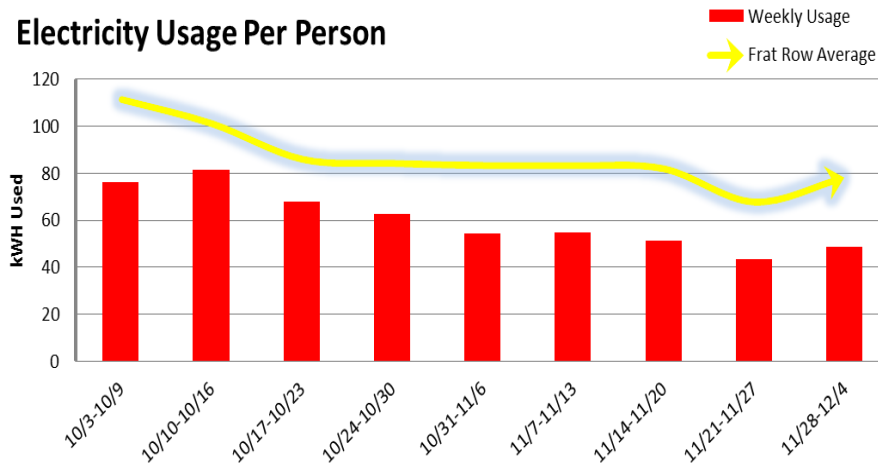


Green Greek Challenge Electricity Ranking

1st out of 14



Electricity Usage Per Person



Electricity Used Per Person This Competition

540 kWh Used
860 lbs of CO₂

Last Week

27% Below
Frat Row Avg.



Overall Use

22% Below
Frat Row Avg.

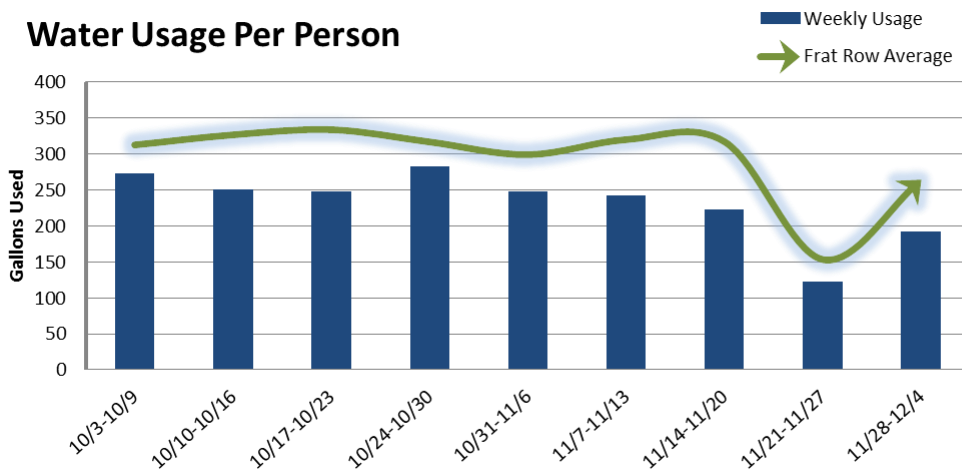


Green Greek Challenge Water Ranking

4th out of 14



Water Usage Per Person



Water Used Per Person This Competition

2,076 Gallons of
Water

OVERALL GREEN GREEK CHALLENGE RANK:

This is the rank order of your chapter's electricity ranking plus water ranking.
Example: a chapter ranked 1st in electricity and 9th in water (sum = 10) would be tied in the overall rankings with a chapter ranked 7th in electricity and 3rd in water (sum = 10)

1st out of 14

