Utilities
Conservation
Indiana University Office of Sustainability
Summer 2015 Internship

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Utilities Conservation

Introduction

**The Utility Information Group** is the authority on all utilities-related information at IU. They work with the Utilities Conservation intern to analyze past Energy Challenge data and make recommendations about how to proceed with future Energy Challenges. Ian Yarbrough and Glenn Moulton are great resources for researching past data, and Lee Walters can print all the materials you need to get the word out about the challenge.

**The Energy and the Built Environment Working Group** is the working group that the Utilities Conservation intern works with. The goals of the Energy and the Built Environment (EBE) working group are as follows:

- Strive to raise awareness of IUB’s energy use among faculty, staff, and students
- Implement strategies through behavior change and innovative building design
- Maximize the efficiency of on-campus production and distribution systems
- Reduce energy consumption and greenhouse gas emissions.

The Utilities Conservation intern directly works to change behaviors and reduce energy consumption on campus.

**Goals** for this summer internship included:

- Research differences between freshmen and upperclassmen residence halls.
- Have an Energy Challenge with full Greek house participation.
- Increase overall Energy Challenge savings from last year.
Summary of Work

**Behavior Analysis Research** was important at the beginning of this internship to understand why people use and conserve utilities in the manner that they do. SPEA Professor Shahzeen Attari’s Human Behavior and Energy Consumption course would be a great one to take. Her TED Talk, titled, “Why don’t people conserve energy and water?” was very useful in my research.

**Greek House Contact Information** was difficult to find online, so I reached out to a friend to find current information. I have emailed both the PanHellenic and Interfraternity Council directors of involvement. They have not yet responded, but I will contact them again at the start of the school year. I plan to get full Greek house participation for this Energy Challenge, so communicating with all chapters will be a top priority of mine in the fall. Here are the two most important people to contact again, because they can help me get contact information for all of the chapters:

Katie Nobbe- knobbe@indiana.edu
Wes Cuprill- wcuprill@indiana.edu
Building Manager Surveys were made using SurveyMonkey, and tried to get feedback from current IU Residence Hall building managers about their residents’ feelings towards the energy challenge. Here are the questions for the Residence Hall building manager survey:

1. Of which residence hall are you the building manager?
2. What is the approximate amount of freshman/first year students in your building?
3. About what percentage of students in your building do you think participated in the Fall 2014 Energy Challenge?
4. How do you think the students in your building responded to the Energy Challenge?
5. What do you think could be done to improve the reception of the Energy Challenge by students in your building?

Only five of the building managers have responded to the survey so far, but I already have some good feedback for the last question. Here are some responses to what they think could be done to help improve students’ reception of the Energy Challenge:

“Somehow making it more prevalent. We try to do this through programming, floor meetings, etc... but students don't seem to understand the value.”

“I think with the addition of the app and the idea to get awards (gift cards) then we are on the right track. Keep up the good work!”

“Not sure. Signage was good and visible. Maybe some door hangers announcing the challenge and it's importance.”

This feedback will be useful in planning how to approach students in the future. I will send the link out for the survey again when school starts in the fall so that I can get more responses and opinions.

I also plan to send a survey to Greek house building managers, but it is harder to get responses from students in the summer, so I will send it in the first weeks of school, as soon as I get contact information from the directors of involvement.
**Analysis of Past Challenge Data** was important to this internship in order to figure out how to approach freshmen vs. upperclassmen in the fall. I put together data from six years of challenges and made pivot tables in Excel to see if there is a significant difference between how freshmen and non-freshmen use water and electricity. This is an example of the pivot table I made:

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<th>Average of Water</th>
<th>Total Average of Electric</th>
<th>Total Average of Water</th>
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</tbody>
</table>

Here is a graph of my findings from that table:

Water usage vs. energy usage in freshmen (F) & upperclassmen (U) (X-axis: year, Y-axis: ratio of utility used during the challenge, where 1.0 represents the baseline before the challenge)

I found that as a whole, dorms that had mostly freshmen saved more water and apartments with upperclassmen saved more energy as a whole over the six years of the challenge (Figure 2). I will use this information to market water saving techniques to upperclassmen and energy saving techniques to freshmen. There are several factors that could affect these findings, and they include: Apartments have their own bathrooms, sinks, dishwashers, etc. so upperclassmen can access them more easily and therefore use more water. Also, freshmen are more likely to have roommates and feel less personally responsible for turning off the lights.

These conclusions are based on both the physical makeup of dorms vs. apartments, and behavior change. I will continue to analyze data from the past challenges to try to draw more conclusions that will help me moving forward with the Fall 2015 Energy Challenge.
Fall 2015 Energy Challenge

Focus of this Energy Challenge will be on residence halls and marketing differently to dorms and on-campus apartments. Other buildings on campus will also be involved, but I chose to focus on buildings that students live in, because they use a lot more energy than buildings where classes take place. I will still market to and involve other buildings.

Materials for the Energy Challenge will be printed by Lee Walters and will include designs from past challenges.

This is an example of a sticker and a poster that could be used again in the Fall 2015 Energy Challenge. I want to reuse designs that are simple and visually appealing in order to get students' attention and help spread the word about the energy challenge.

For the Spring 2016 Energy Challenge and beyond, I will be partnering with a graphic design class to design a new Energy Challenge. Unfortunately the turnaround time for designing a new logo will not be fast enough from when school starts to use in the Fall Energy Challenge, but it will be ready for the spring.

Possible Creative Marketing Ideas are important to think of because students need to be aware that the Energy Challenge is happening in order to participate. Here are some ideas I have come up with so far that would be fun and/or engaging for students:

- Sign up for the IUOS listserv for the chance to win gift cards to local businesses
- Wrap a bus with the dates of the Energy Challenge and some information about it
- Have a social media challenge between the dorms and apartments or Greek houses
- Host Greek pizza parties and table outside of dorms with food
- Speak at Greek chapters to speak to entire houses at once
- Have students sign energy saving pledges
- Market the challenge as being one of the best in the nation, and emphasize that students love participating in it
Recommendations for Next Intern

**Contacts** are very important for getting anything done. Make sure to get an updated list for building managers of dorms, on-campus apartments, buildings on campus, and Greek houses. Email me at sksalo@indiana.edu and I will send you the most recent list that I have.

**Research** of past challenges was a big component of this internship. Try to research something that you’re really interested in, and that you want to change. If I were to go back and do it over again, I would probably focus on the Greek community because I live in a Greek house on campus so it directly affects me. That being said, I am still pleased with my work and am looking forward to the Energy Challenge.

**Poster/Sticker Design** as well as other materials can be very influential in how people perceive the challenge. The consensus at IUOS is that some of the old designs are not reusable and need to be updated. I would try to talk to a graphic design class earlier and get a head start on designing materials.

**Social Media** can be really useful in this challenge. Keep up a presence on Facebook and Twitter, at least. Students use these websites every day, and they can be utilized to spread the word about the challenge and get more participation.