

INDIANA UNIVERISTY: SUSTAINABILITY TASK FORCE

Utility Conservation Internship

Focus on Water Conservation: Spring 2009

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Introduction

This semester, I was the Utility Conservation Intern for IU's Sustainability Task Force. Initially my main responsibilities were to track historical water usage, display these numbers in a simple way, and place stickers in bathrooms and other places throughout campus where leaks occurred so students and faculty would know how to report leaks. After meeting several times with my mentor, Lee Walters, we had shaped a new vision for where this internship would go for the remainder of the semester. Although I understood the necessity of tracking historical data and mapping seasonal trends, I felt there was more to be done with this internship. I wanted to help make the transition between interns smoother and thought there was more that could be done in the sense of utility conservation than the use of stickers. The stickers did attribute to utility cost savings and contributed to raising awareness among students who saw them, but I thought we could also do something to raise awareness on a higher level.

Raising Awareness throughout IU's Campus

The historical data that I analyzed covered the following buildings: Psychology, Geology, Chemistry, Jordan Hall, Simon Hall, Meyers Hall, Swain East and West, and Optometry. At the end of the semester, the Kelley School of Business (Graduate and Undergraduate buildings) and SPEA were also added. The reasons we tracked the usage of the buildings were because they were individually metered, they had equipment within them that were water intensive, and the building's functionality relied heavily of water, as most of these buildings are the main areas on Bloomington's campus for scientific research.

In the bathrooms of many of these buildings, stickers had been placed by previous interns. The message contained the phone number to call to report leaks and a graphic relating to potential harm caused by not reporting them. An indirect takeaway for students would be for them to begin to think of their water consumption, which could cause a slight decrease in their everyday consumption. This was not a direct outreach to raise water consumption awareness among students, but the Energy Challenge that occurs in April serves as the main avenue for raising student awareness. During my internship and through research of other universities' conservation projects, I discovered that generating awareness is one of the most powerful ways to increase conservation efforts and decrease utility use among the general public. This is no

exception at Indiana University. To increase awareness of water usage in the Kelley School of Business, I created a slide that could be displayed on their flat screens stating average uses of water for the average person and the building on a weekly basis (Appendix 1). However, I didn't want my outreach efforts to stop with the students. I wanted to reach out to and discuss with those who are in charge of the building's process ways to conserve water.

One of my tasks as an intern was to contact each of the building managers whose building's water use we were tracking and discuss with them their water intensive equipment. Each building manager I talked to had one thing in common – they didn't know how much water they were using. Utility billing at Indiana University goes through one central location, the Physical Plant, and building managers never see their usage or bill. This lack of accountability could be a contributing factor to the excessive water use by some buildings. At each meeting, I discussed their water use with them and ways they could decrease their water usage. They would share with me the equipment they had within their buildings that were water intensive and its efficiency. The goal of sustainability is not to hinder necessary processes within a building - it is to make those processes efficient and as environmentally friendly as possible, which is why I discussed with them ways to make the equipment more efficient. Many buildings had out dated equipment within their buildings that could use replacement, but each building has limited funds and replacing these pieces of equipment don't necessarily come first as long as it is doing its job. Hopefully by talking to these building managers and sharing with them their water use and their water use compared to other buildings on campus with similar functionality and size, they will look to make their buildings run efficiently.

The other portion of my internship I worked on concerning the building managers concerned the intern transition period. The same buildings are tracked and every semester, the intern contacts the same building managers. This is a repetitive process that happens every semester where similar information has to be found from the same managers. To make the transition process smoother for interns each semester, I have begun a building manager profile packet. It includes each building being tracked, its manager, their contact information, the water intensive equipment I was told about, their respective inefficiencies, and anything else I discussed with each one. This will save time gathering contact information and each intern can build off of a previous intern's knowledge.

Compiling Historical Data

Every two weeks, Glenn Moulden collects water meter readings from the buildings listed earlier in the report. My goal was to separate each building's data and graphically display the data (Appendix 2). By seeing the data graphically, we could identify seasonal trends, the effect sticker placement had on water usage, and the usage for each individual building. After I receive the last reading from Glenn for this spring semester, I will send this data out to each building manager so they view their usage and see where they are at. Again, awareness is the largest contributor to conservation efforts, and this is one more way we can outreach to building managers and students. Hopefully, managers will allow us to display these graphs throughout their buildings so students can see how much water the University uses in a semester which would hopefully contribute to more conservative usage.

Academic Energy Challenge

A new addition that organically evolved during the semester was the idea of an academic building energy challenge. This challenge would have a different structure and new incentives due to the different participants that would be targeted for this challenge. It would essentially be an energy challenge for the building managers. The natural sense of competition present among the students on campus that helps fuel our current energy challenge is not present among building managers. Lee Walters and I talked about different ways to incentivize the managers to encourage participation. The strongest incentive we discussed was using the savings that would be generated during the academic energy challenge and putting it into a fund that the winning building would receive. Although the building would receive the money, it would have to go toward purchasing a new piece of equipment that is more energy and water efficient than their previous one.

During my meeting with the building managers, I briefly mentioned the possibility of someday in the future there being an energy challenge. Most managers displayed an interest in the challenge but raised some concerns on how the challenge would be structured in order to create a level playing field. I mentioned these concerns to Lee and we created a list of potential concerns and issues that we would have to address in order to create a quality challenge.

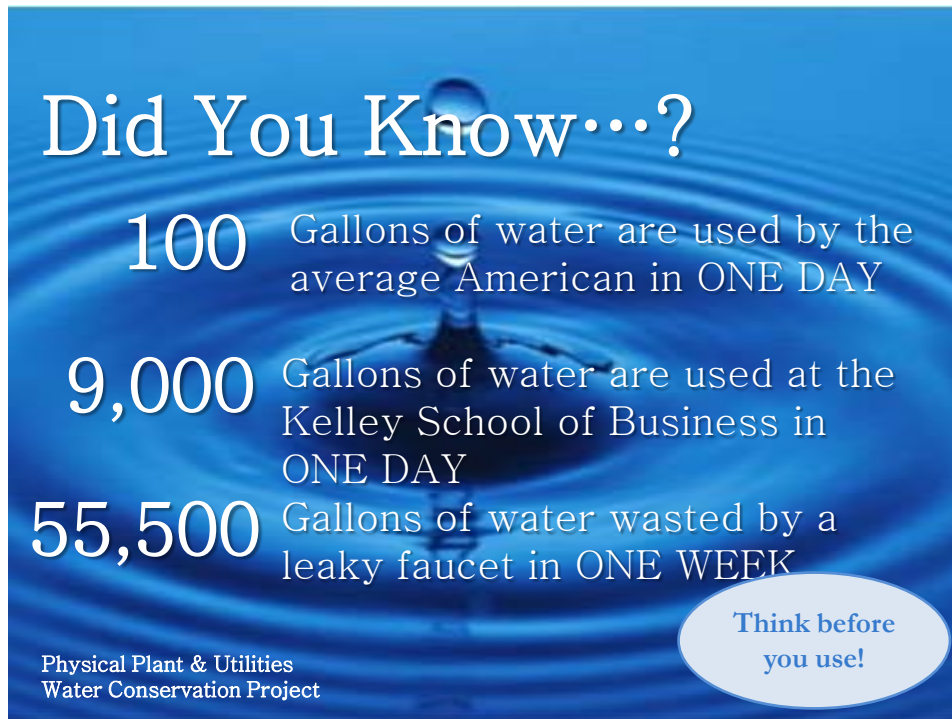
When comparing the academic building challenge to the current energy challenge, there are more differences than just of the level of competition. There is more personal control to be had on the dorm and Greek house level than within an academic building. The manager cannot control how the students use the facilities and the students lack a sense of accountability for the building. The main users of the buildings, the students, would more than likely have a small connection to the building which gives them little incentive to wholly participate. Also, they are not directly connected to the reward given to the winning buildings. Another issue we addressed was which meters we would read. For example, Jordan Hall not only has a water meter, they also have a “FIRE” and “TOWER FILL” meter, which other buildings contribute to the usage.

Despite these obstacles which have no easy answer, the ultimate goal of both energy challenges must be kept in mind. Although we want to decrease our usage as much as possible, the end number is not the ultimate goal of the challenge. The primary driver behind this energy challenge is to raise awareness and to get students to think about how much, why, and when they use utilities. This would also be the ultimate goal of the academic building challenge as well. We want building managers to be aware of their usage, think about what pieces of equipment they have that drive up their usage, and ways they can make classroom process more efficient. At the beginning of next semester, Lee and I will send out another round of usage reports to the managers so they know where they stand, and will send updates so they can see the impact their efforts are having. The Academic Building Energy Challenge may be a few years away, but generating an interest early on will be essential.

Conclusion

This semester, my internship grew from compiling and displaying data to forming relationships with building managers across campus and discussing a possible academic energy challenge. I also created a table that generated estimated cost savings because of leaks being reported more timely. The ultimate goal of my internship was to generate awareness and spark someone’s interest so that they could discover ways to conserve water on a personal level.

Appendix 1: Kelley School of Business Slide



Did You Know...?

100 Gallons of water are used by the average American in ONE DAY

9,000 Gallons of water are used at the Kelley School of Business in ONE DAY

55,500 Gallons of water wasted by a leaky faucet in ONE WEEK

Physical Plant & Utilities
Water Conservation Project

Think before you use!

