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September 2013 Newsletter

Issue #83

Welcome to the September 2013 PSC Newsletter!

The Fall semester is here! We are pleased to announce that we will be hiring For-credit Interns this month. We are seeking enthusiastic individuals that are interested in working along-side Project Coordinators to implement energy and water conservation projects. It is a great opportunity to work with staff and faculty around campus and get to know students at our fun events. The team has been busy spreading the word about the position so stay tuned for next month's newsletter where we will feature the new team members.

In this issue, Jenna highlights some products that help save energy at home and Delia keeps readers informed about energy efficiency projects in Arcata.

Enjoy!

Anais Rodriguez



ABOVE: Powersave Campus team at UC Santa Barbara



Welcome back to school, Lumberjacks!

By: Johnny Lococo

Summer vacation is over, but Fall 2013 is an exciting semester to be at HSU. The university is celebrating its 100th birthday, the student body is larger than ever recorded, ethnic diversity is up, the weather is pleasant, and climate change may keep it that way. Not to mention, PowerSave Campus is hiring a swath of for-credit interns. What all this means is that saving energy is as important as ever and that opportunities to do so are popping up around every corner.

I know that you have started out the semester with promises of academic diligence, strict budgeting, regimented workouts, and the like. The beginning of the school year is like a second shot at your new year's resolution, and I have something for you to add to your epic list of scholarly heroism: be conscientious about your energy use. Remember to shut off the lights when you leave the room. Power-down your laptop when you finish your homework. Unplug the stereo when you go to bed. Ride a bike. All these tasks are as easy to complete as they are to forget. So, make them a habit like cereal for breakfast.

PSC Humboldt has hit the ground running, and we call on all students and community members to join our efforts in local energy efficiency. With over 1,600 on-campus residents, many of whom are a part of the largest ever freshman class, there must be swarms of energy-saving ideas circulating our campus every day.

Hit us up, we'll chat up a storm, and exercise our power to save...

What's Going on in the Community?

By: Delia Bense-Kang



ABOVE: Digester at the Arcata Wastewater Treatment Plant (Poppendieck, 2008)

The City of Arcata's Environmental Services Department is looking into ways to improve and update existing technology. One proposed project suggests replacing the digesters located at the Arcata Wastewater Treatment Plant and exploring the uses from excess methane produced by the digesters.

A digester is something that is used to stabilize solids removed from wastewater during treatment. It converts solids into a non-hazardous form so it can be handled safely. Currently, the Arcata Marsh uses an anaerobic process which occurs in an airtight container.

The issue with digesters though is that they produce biogas, mainly methane, in the process. The Arcata Wastewater Treatment Plant reuses some of the biogas to heat the digester but has to flare the unused gas. Julie Neander, Energy Specialist, is currently looking into ways to turn the unused methane into electricity to power the entire treatment plant. I hope to be of assistance by help researching how to convert methane into electricity and find efficient digesters that will produce less methane in the first place.

iPhone, uPhone, wePhone Ourselves into a Climate Crisis

By: Rachael Londer

The relationship between my iPhone and I would be considered unhealthy, if it were not for the fact that the majority of Humboldt State University students also utilize smart phones and smart technology, such as tablets and the cloud. It's not uncommon to see someone walking while texting or charging their phone battery at one of the many on-campus cell phone charging stations. Social and economic issues aside, the rate of consumption of data presents an astounding amount of stress onto the electrical network, which is currently fired by coal.

In a recent National Geographic article on energy hogs in the home I was alerted to the immense amount of energy that iPhones use (Handwerk, 2013). The author references a study published this month by the Digital Power Group that demonstrates how **the network behind just one of our iPhones and data plans uses more electricity annually than an Energy Star refrigerator**. This depends on the amount of use, but it is staggering to think that an iPhone, the toy-esque device that I carry in my pocket, has the potential to use more electricity than the refrigerator in my home. There is at least one refrigerator per household, but often more than one smart phone per household, this all adds up to an excess amount of electricity that our phones and networks alone are consuming.

This is just food for thought; we often look towards corporations or institutions to make changes towards sustainability when we have the power to turn off our devices or opt to turn off the data connection when we are not actively using an application. **It is all about using our smart technology with intelligence**, as our data and instant gratification result in increased coal use and proven to have negative impacts on global carbon dioxide emissions ultimately resulting in the environmental dilemma of our time, climate change.

Though our iPhones can solve many of our daily problems, their energy consumption may soon become a problem that we will have to confront. The best way to alleviate the stress of information centered technologies on energy systems is to turn off our devices when not in use, or to at least turn off the data connectivity. In the home, it is important to use a power strip to avoid getting a phantom load from the smart phone's charger. Once the phone has been charged, the power strip can be turned off to avoid using extraneous electricity. Another smart phone tip is to utilize the power saving mode that many have in their settings. For my phone, it shuts down applications that aren't being used and keeps the screen backlight dim so it does not have to be charged as frequently. Efficiently using your phone and encouraging others to will lighten the load on the electrical networks that are used to support it, which will have an immensely positive impact on the environment, even just from your pocket.

Source: Handwerk, Brian. "Six Stealthy Energy Hogs: Are They Lurking in Your Home?" National Geographic: Daily News. National Geographic, 26 Aug. 2013. Web.

DID YOU KNOW?

Apple has sold 85 million iPhones in the U.S. since it launched in 2007, this figure does not include iPhone 5 sales!

Energy-saving Product Spotlights

By: Jenna Bader

We have compiled a list of the newest and greatest products on the market for residential energy savings. Make a small investment and see the savings build up year after year!



<– Home Energy Meter

The *Energy Detective (TED)* products is a simple real-time energy meter on the living room wall that will show your energy usage compared to your neighbors' average will help reduce your use by 5 to 20%.

Low-flow Shower Head →

Showering at home accounts for about 17% of residential indoor water use. Standard showerheads use about 2.5 gallons per minute (gpm), and EPA standards are set at 2 gpm. To save hot water energy, we recommend installing *WaterSense* fixtures and an *Evolve 1.5 gpm* showerhead.



**WaterSense* fixtures all meet EPA criteria, so make sure to look for the label when upgrading.

<– Smart Power Strip



Phantom loads add up quickly in the home, but with the click of a remote, you can turn off all the electronics plugged into the *Belkin Conserve Switch Surge Protector* with remote when leaving a room. These power strips can be found online for around \$35. The remote has a range of 60 feet, and can be set for 8 different channels so you can wirelessly control multiple power strips in the home. Awesome!

Lighting →

Both LED's and fluorescent light bulbs produce about 65 lumens of light per watt of electricity. However, for the 60 watt equivalent bulb, *CREE's* 84 lumens per watt bulb is an exception. It produces 800 lumens of light at 9.5 watts at a cost of \$13 per bulb at Home Depot.



Lets not forget Executive Order 987...

By: Anais Rodriguez

Executive Order 987 states the policy on energy conservation in the CSU system. It mandates policies and practices that CSU's should be abiding by and goals that they should be aspiring to achieve.

Although the document can be lengthy to read, Spring 2013 PSC for-credit intern, Anna Rhoads, summed up the important points of the document (as pictured below) to illustrate parts that should be enforced on campus. The flyer is a reminder to staff and faculty to remove energy intensive appliances in the office such as space heaters and personal refrigerators, keeping in mind there is a policy standard that should be followed. Currently, the flyer is used as a

distribution tool for offices that participate in the Green Workplace Assessment and Certification Program.

We should recognize as a collective that sharing appliances such as printers is the best practice and unplugging everything at the end of the day is vital for long-term campus energy savings. There is opportunity for improvement all around us, if we individually make changes and remind others to do the same we can achieve anything.

What is Executive order 987?
Executive Order 987, signed by the CSU Chancellor, explains the policy statement on energy conservation, sustainable building practices, and physical plant management for the CSU system. It lists the energy conservation goals that the CSU system must comply with.

Energy Conservation Goals

- Promote cost effective renewable non-depleting energy sources
- Monitor energy usage monthly
- Create an energy resource plan
- Ask for feedback from faculty, staff, and students to monitor the effects of energy conservation efforts



Sustainable Building Practices

- Infrastructure will feature sustainable and durable design
- Balance long-term needs for academics with environmental concerns
- Create a CSU Sustainability Measure System, based on LEED principles.



Physical Plant Management

- Thermostats should not exceed heat settings above 78° F or cool settings below 68° F
- Achieve optimum energy efficiency
- Air conditioning equipment must be shut off during the weekends/holidays
- All windows in buildings that are air conditioned will be kept closed
- Personal heaters, fans, and mini fridges are not to be used
- All lighting except for security purposes are to be turned off when buildings are unoccupied
- Indoor lighting will be reduced, and existing incandescent lamps for general-purpose lighting will be phased out
- Decorative lighting beyond "reasonable" display cannot be used
- Conserve water resources



POWERSAVE GREEN CAMPUS

AN ALLIANCE TO SAVE ENERGY PROGRAM



Fall 2013 PSC Team



ABOVE: (from left to right) Rachael Londer, Delia Bense-Kang, Anais Rodriguez, Jenna Bader, Team Advisor TC Comet, and John Lococo

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Photo of the month:



PSC office located in
Plant Operations

SEPTEMBER METRICS

2

outreach events attended

64

students interactions

1230

website views



“The Alliance to Save Energy’s PowerSave Campus Program is funded by the ratepayers of California under the auspices of SCE, PG&E, and Southern California Gas Company”