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POWERSAVE CAMPUS
AN ALLIANCE TO SAVE ENERGY PROGRAM

THE GREEN INSIDER

IN THIS ISSUE

CAL POLY POMONA

ENERGY EFFICIENT HOLIDAY DECORATIONS

By Brandon Sauer

Thanksgiving has passed, which means holiday tunes will be on the radio and stores will now be stocking mountains of holiday decorations. Each year, decorations are getting more and more energy efficient, so it may be time to finally ditch your old incandescent decorations for some LEDs and treat yourself to the gift of a lower energy bill! Here are some tips on how to save energy during the holidays.

If you're going to decorate, use LEDs! They use up to 80% less energy than traditional incandescents, and often look more vibrant and come in more varieties. If LEDs just aren't cutting it, make sure to look for the Energy Star rating when making purchases to guarantee savings. Along with better bulbs, keep a sharp eye on when the decorations are plugged in. Only run the decorations for a few hours and never use them during peak energy use hours! We advise using timers to automatically regulate the usage of your decorations. Everything looks better in moderation. Although every holiday movie tells you otherwise, more lights does not mean you are better than your neighbors -- it means you have a higher energy bill!

Avoid inflatables and animatronics as much as possible. Sure they may seem fun, but the blowers used to inflate some decorations use far more energy than the lights themselves, and the added effect of a deer mechanically bobbing its head up and down does not outweigh the extra energy usage of the motor.

If possible, look into charging your decorations using the sun. Solar-powered light strings are slowly making their way onto the market, and many solar-chargable batteries can already help take your decorations off the grid.

We hope when you start decorating for the holidays, you are able to take some of our tips into account! From the PowerSave Campus team at CPP, have a happy holiday season and we wish you energy savings until we see you again in the new year!

WAIT, WHAT IS LEED?

By Lynae Salgado

In many of our past articles we may have talked about projects or workshops that mention, "LEED." But what is it really? And how has it affected our world today? Here is a quick breakdown of what you really need to know about LEED. Leadership in Energy and Environmental Design is an entire rating system for green building projects designed by the United States Green Building Council. With a total of four levels of certifications, LEED is flexible to assess projects that fall under Building Design and Construction, Interior Design and Construction, Building Operations and Maintenance, Neighborhood and Development, and Homes.

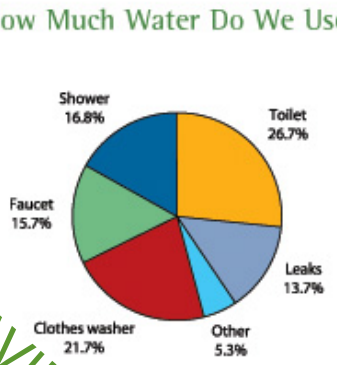
So who is qualified to perform these certifications? Anyone who has earned their LEED professional credential. By passing the first exam you can earn a LEED Green Associate credential that proves a current understanding on green building practices and principles through LEED rating systems. Taking the next level exam earns you the prestigious title of LEED AP where you have an advanced understanding of green building practices and principles in a particular rating system. To uphold that title, you must commit a number of hours on LEED education, project experience, authorship and volunteering.

Is it worth earning a LEED professional credential? Yes! Especially as a student, a LEED professional credential shows a proven understanding of sustainability practices as well as a strong commitment towards sustainability in your career. Many architects, consultants, facility executives have strived to earn their LEED credential and many more companies are on the hunt for young professionals with that "LEED AP" or "LEED Green Associate" next to their name. LEED is already on its way with their fourth version so start studying that new material now! You can find many resources on the USGBC website for study material as well as introductory classes.

So is LEED that effective? The dense rating system of LEED strives to covers all aspects of building design. From where building materials come from to storm water management. Just going through the process is a learning experience to the complexity of building design and how much a building affects our world. As it should, sustainability is becoming a "cool thing" and many more owners are looking for the sleek LEED Platinum certification on their building.

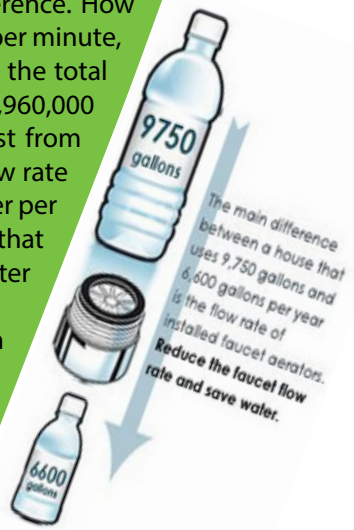
WATER AUDIT TRAINING: LEARN TO MEASURE THE FLOW AND... LET THE SAVINGS SHOW!

BY ARPY KASPARIAN



Did you know that the largest consumption of water in a household may come from your bathroom? According to the American Water Works Association Research Foundation, 59.2% of total water use comes from faucets, showers, and toilets combined. This percentage does not include leaks which often occur in bathrooms. Not all bathrooms have showers, and faucets can be found in other parts of your home, but if you ever wanted to conserve water use at home, the bathroom should be the first place you start. It's important to first measure your current water usage so that you can keep track of the most effective water saving strategies. Easy-to-use tools such as flow meter bags, toilet leak detector tablets, and drip gauges can help you get an idea of how much water you're currently using. Faucet aerators, toilet tank bags, shower timers, as well as good water conservation habits can help you save water easily and quickly.

Want to put some of these tools to the test? You're in luck! The PowerSave Campus team currently has a program that will train you to use these water-auditing tools AND make a difference on campus. Cal Poly Pomona currently has over 600 bathroom sinks on campus. Installing faucet aerators can make a huge difference. How huge? If we assume that the flow rate for these bathroom faucets is the federal standard of 2.2 gallons per minute, that each faucet is being used about an hour a day (60 minutes), and for 5 school days a week, then the total bathroom faucet water use would equal 396,000 gallons per week for 600 bathroom sinks. That's 3,960,000 gallons of water per quarter (10 weeks)! That's enough to fill 6 Olympic-sized swimming pools! Just from bathroom sinks! If we were to install faucet aerators on all bathroom sinks, which would lower the flow rate to the standard efficient rate of 1.5 gallons per minute, our campus could save 1,260,000 gallons of water per quarter! That's enough to serve the water needs of 5 families of four for an entire year. And don't forget, that when water is saved, energy is also saved. Yes, it takes energy to pump, heat, treat, and deliver the water we use every day.



The PowerSave Campus team is on a mission to get faucet aerators installed on all bathroom sinks on campus. Thus, we need to measure the water flow rate of every bathroom sink on campus and prove that the savings from installing efficient faucet aerators will truly make a difference.

You have an opportunity to join our mission and be a part of real change on campus. Sign up for a water audit training session to learn how to use the tools that measure water usage and to be a part of the data collection for this project. You will also receive a free DIY audit kit and a certificate of completion to add to your resume! There are several dates and times available and training sessions are approximately one hour long. Sign up here, through our Facebook page, or contact any one of the PowerSave team members. Don't miss out on this opportunity!

YES, WE ARE STILL IN A DROUGHT!

By Jomel Bautista

It seems as if the California drought is something of the past. However, that is false! Though the drought has not been at the top of headlines, the United States Drought Monitor reports California is still in a state of being "Exceptional Drought" which is deemed the highest degree on the drought meter.

Luckily, new technology is being developed to tackle the problem from the roots, up, literally. Soil moisture sensors, otherwise known as "SMSs", measure soil moisture content at the root zone and regulate the system of irrigation a property uses. For example, soil moisture sensors can be programmed to activate a sprinkler system only when appropriate as oppose to the out of date timer system. Previously, owners would have sprinklers go on based on a schedule. Though convinient, this method can often times water crops when water is not necessarily needed. In addition, the bulk of soil water is most accurately measured from the root zone which is attainable with this device.

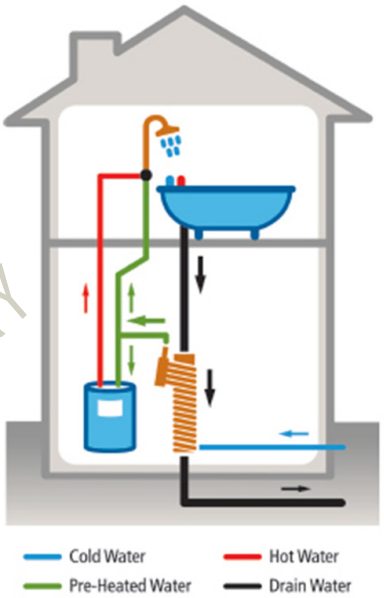
Such a device will play a huge role in how California combats its current drought issues. In a report given by the United States Environmental Protection Agency, residential outdoor water use accounts for nearly 9 billion gallons of water each day and primarily for landscape irrigation. As much as half of this water is wasted due to evaporation, scheduling, or improperly designed irrigation systems. So far, savings through these soil moisture sensor systems have been at least a 20% saving and will potentially increase with further research and development.

All in all, if more property owners and farmers invest in soil moisture sensors, this technology has the potential to save millions of gallons of water across the entire country.

DRAIN WATER HEAT RECOVERY

By Ryan Goff

One of the newer technologies in the sustainability field that requires little change to existing infrastructure is drain water heat recovery. In residential and industrial applications, heated water from faucets and showers flows down the drain and is lost. However, if you take the cold incoming water, and place it next to the warm outgoing water, it will preheat the incoming water warming it a few degrees, and thus saving energy. Most people believe that the outgoing water flows to fast for much heat to be transferred to the incoming water, yet, the heat transferred isn't dependent on time, but on surface area of contact. To solve this, the incoming water is coiled around the drain pipe ensuring that significant amount of heat is transferred to the incoming water. This simple process merely involves putting in a coiled pipe section on your incoming water line around the drain, before it goes to the water heater, and the incoming water can experience around a 25 degree rise in temperature before entering the heater. One can save many therms of natural gas a year with this simple process that requires no overhaul of existing piping and infrastructure in the building.



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