

The Green Pages



WKU LEEDing the Way...



Ransdell Hall earned LEED Gold certification from the US Green Building Council



Gary Ransdell Hall has become the first building at WKU to become certified LEED (Leadership in Energy and Environmental Design) Gold, the second highest certification you can receive from the US Green Building Council. Nate Allen of the USGBC announced the achievement at a reception held in Ransdell Hall for visiting USGBC representatives and State Representatives from neighboring states. The guests were hosted by KY Representative Jim DeCesare and KY Representative Mary Lou Marzian, a bipartisan team working to make every school a green school! The group spent the day touring Richardsville Elementary, the nation's first net zero school, and capped it off with a timely celebration at Ransdell Hall.

Ransdell hall is a leading example for future buildings on WKU's campus. Although recently adopted KY HB 2 requires that all construction

or renovation of public buildings for which 50% or more of the total capital cost is paid by the Commonwealth be designed and constructed or renovated to meet the high-performance building standards, WKU is ahead of the game. The University Energy Policy, adopted in 2009, includes a commitment to building green, high-performing buildings.

Ransdell Hall is 120,000 square feet and houses the College of Education and Behavioral Sciences. The building was designed by RossTarrant Architects of Lexington, and the Project Manager was WKU Planning, Design and Construction Assistant Director Ben Johnson. Stop by to check the building out, and you may even be lucky enough to get a tour by students, faculty and staff who are more than happy to show Ransdell Hall off.

By Cody Wooten

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Conservation Vacation 2011

The WKU "Conservation Vacation" was first introduced in 2008, when we saved more than 1 million kWh during the three week winter break! Since then, we've upgraded lighting, installed occupancy sensors, and become a more energy efficient campus, but the "Conservation Vacation" still offers plenty of opportunity to save energy. This year, we reduced electricity use by 10% over the same period last year, and decreased natural gas use decreased by 25% over the break. Warmer temperatures helped reduce our natural gas use (If you didn't know this yet, WKU this past winter switched from coal to exclusively natural gas heat for the first time since 1927). But our reduction in electricity use resulted from many efforts, including closing unused parking lots and turning off the lights, turning off water heaters and drinking fountains, reducing bathroom and hallway lighting to egress settings, and last but not least, unplugging vending machines. Additionally, buildings were maintained at ambient temperatures of approximately 60° wherever possible.

Individuals were asked to turn off office equipment and appliances, including defrosting and unplugging refrigerators. These simple acts before shipping home helped reduce the carbon footprint of the university and of individuals.

The Conservation Vacation is implemented each year from the end of fall semester after the conclusion of finals, until just before the winter break commences at the beginning of January. But the same energy conservation efforts are put into action at every break possible, including Thanksgiving and spring break.

Wonder what happens behind the scenes to prepare for the Conservation Vacation? The shutdown is broken down into two factions: manual shutdown and controlled shutdown. Facilities staff manually unplug and shut off much equipment but much of the work is done from one computer; in newer buildings, temperature, lighting, and electricity can be managed from a laptop!

By Sophia Sterling

Check out WKU's
Building Dashboard® @
buildingdashboard.net/wku



**You Can Find Green
Campus Interns at
many WKU Events.
If you come to our
table or booth and
make a commitment
to conserve, you can
get a free CFL light
bulb!**

Getting to Know The Tennessee Valley Authority

The Tennessee Valley Authority, the nation's largest public power provider, has a long and varied history ranging from farming to nuclear power to maintaining a whopping 29 hydroelectric power plants. Envisioned by U.S. President Franklin T. Roosevelt during the Great Depression, the TVA was to be "a corporation clothed with the power of government but possessed of the flexibility and initiative of a private enterprise." In the 1930s the TVA helped farmers and landowners to pull out of their massive downward spiral caused by the Great Depression. In the 1940s the TVA built 12 new hydroelectric dams to help the production of aluminum during WW2. In the 1960s the state of Tennessee was flourishing and the TVA had several new nuclear power plants in production. In the 1970-90s the TVA was forced by the rising price of labor to cut costs, drop half their workforce, improve efficiency in all their power plants, and cancel several nuclear

power plants. All of this resulted in an era of efficiency and dependability that lasts to this day (Bernard, Patricia Ezzell "TVA." *Tennessee Valley Authority*. November 30 2011.)

Today the TVA is no longer reliant on government funding as Roosevelt had imagined and are instead completely self-sufficient. The TVA provides WKU with inexpensive, reliable energy all year round, and we return this favor by reducing usage during peak periods so that they can more easily respond to peak demand. WKU also benefits from TVA's sponsorship of the *Green Campus Network* Interns and the *Energy Right Solutions* program. The TVA uses hydroelectric, nuclear, wind, solar, and coal to produce electricity and they are working to find new sources of cheap environmentally-friendly power.

TVA customers can support the production of renewable energy through the Green Power Switch program. To learn more, visit: <http://www.tva.com/renewable/index.htm>

By Eli Heintzman

TVA Total Generation Output:

37,294 million kilowatts (net summer capability) capacity
171 billion kilowatt-hours of electric power provided to communities and businesses across the TVA region.
11 fossil plants (52 active units, 7 idle)
3 nuclear plants (6 units)
29 hydro plants (109 units)
1 pumped-storage plant (4 units)
9 combustion-turbine sites (87 units)
4 combined-cycle sites (11 units)
2 diesel-generator sites (9 units)
14 solar energy sites
1 wind-energy site
1 digester-gas site
1 biomass-cofiring site



Green your spot on the Hill

Ask a Green Campus Intern to perform an Energy Audit for your classroom or office. In only 20 minutes you can help make an impact.



Email the Office of Sustainability @ sustainability@wku.edu to schedule.

What will the Green Campus Interns do?

- ◆ Perform a Plug Load Audit – And install a surge protector so that peripherals like printers are not drawing phantom loads.
- ◆ Replace conventional bulbs with compact fluorescent bulbs. CFLs use less energy and last longer!
- ◆ Set your computer, monitor, copiers and fax machines to go to “sleep”. Takes only a few seconds but reduces energy usage.
- ◆ Perform a Lighting Audit—Is your light at the right illumination and shining where you need it?
- ◆ Perform a Window Audit—Do you need a weatherization treatment for leaky windows?
- ◆ Perform a recycling/waste review—Are you armed with the bins and knowledge to help WKU become a zero-waste campus?

What can you do?

- ◆ Take advantage of good daylight. Research shows that daylight increases productivity.
- ◆ Turn office equipment completely off at night and on weekends. Even if they're in energy-saving mode Your appliances are still using energy. it adds up!

Spotlight on a Greenie

Between lecturing, attending meetings, answering emails, writing letters of recommendation, and the slew of other things on the agendas of college professors, taking the time to be mindful of energy and sustainability practices is not always on the forefront of their minds. Dr. Sullivan, professor in the Gordon Ford College of Business at WKU, however, takes sustainability into careful consideration in nearly all aspects of his life. His interest in sustainability started out when he was in law school, researching topics such as strip mine regulations and other legal initiatives to reduce environmental impacts. Today, he continues to serve as a local leader in sustainability, serving on the WKU Sustainability Committee and having the honor of being the first ever recipient of the President's Award for Sustainability. In the past couple of years, WKU faculty have been working to incorporate sustainability into all fields of study; and one would think that only science classes would merit the need for sustainability aspects, but this is untrue. Dr. Sullivan has included sustainability concepts into all of his business and management courses, mindful that it is an important subject for any professional in today's world.

Dr. Sullivan's dedication to sustainability and energy efficiency extends beyond just the classroom. In his office, students can often find him letting the sun shine through his window to light up his office space. He also is sure to keep a recycling bin near his desk. At home, he is attentive to how he impacts the environment as well, conserving energy with the installation of new windows and insulation, and keeping his thermostat low. He has a rain barrel to collect water that he uses for his garden. He also points out that these types of projects have multiple benefits—environmental and economic.

Dr. Sullivan is proud of WKU for taking a stand on energy efficiency and notes that many great things are happening on campus that people should know about. His favorite example of sustainability is the new LED lighting renovation in the WKYU PBS studio. The new LEDs have reduced energy consumption by 97% from its incandescent predecessors and are on the leading edge in lighting technology. Not only are the broadcasting students at WKU exposed to the most innovative equipment, but massive amounts of energy are being saved on this project and it was actually inspired by a lighting solution in Mammoth Cave. On this point, Dr. Sullivan likes to point out that how sustainability is approached in one area has the potential to impact other areas as well.

Dr. Sullivan looks to the future progress in improving WKU's dedication to the environment. He said he would love to see more rainwater collection systems installed around campus to cut back on water used for grounds purposes, as well as more thought into installing grey water systems around campus. His dedication to improve our standards here at WKU merit Dr. Sullivan as this month's Greenie and we applaud him for his commitment and efforts.

by: Ashley McCloughan



Dr. Brian Sullivan

The Phosphorescent Truth

The incandescent bulb produces light by running an electrical charge in a short circuit through a filament, which creates heat. The short circuit causes so much heat in fact, that the filament heats up to somewhere between 4000 and 6000 degrees Fahrenheit. The filament, once heated, glows white-hot and emits light. As you might imagine, the incandescent bulb puts out a lot of heat proportional to the light emitted; that's energy wasted heating up the air surrounding the bulb. Also, the constant heat applied to the filament combined with the inherent fragility of the tiny wire causes the incandescent light bulb to burn out in just a few short months. Fortunately, new technology is offering a more efficient alternative. You may know that the CFL (Compact

Fluorescent Light bulb) is slowly replacing the old-fashioned incandescent bulb mentioned above, but do you know why? CFL bulbs, unlike incandescent bulbs, do not produce light through the heating of a filament but instead produce light by passing an electrical current through a fluorescing vapor that is inside a glass tube that has a phosphorus coating. The vapor inside CFL bulbs is mercury and argon, elements that raise serious environmental concerns. Fortunately, the environmental impacts of mercury and argon can be lessened through proper recycling. And the efficiency of the CFL bulbs means less fossil fuel used to power it, resulting in fewer mercury and greenhouse gas emissions in the power production. The outcome is serious energy savings. According to energystar.gov, if every American home replaced just one incandescent light bulb with an ENERGY STAR qualified CFL bulb, we would save enough en-

ergy to light more than 3 million homes a year. This is an easy change that makes good sense. Furthermore, CFL technology is improving dramatically. The strike to full brightness (the time it takes to reach full illumination after being switched on) is decreasing, and CFLs now come in warm color. The total energy savings of a CFL bulb replacing an incandescent bulb can be found through the equation in the next column:

According to springlightcfl.com (a distributor of ENERGY STAR products which received the 2010 ENERGY STAR Partner of the Year Award) if you replace one 60 Watt incandescent bulb with the equivalent 19 Watt CFL the formula looks like this:

(incandescent Watts) 60 – 19
(CFL Watts) = 41 (Watts saved)

41 (Watts saved) x 10,000 hours
(average CFL life) = 410,000
(Watts saved over life of CFL)

By Eli Heintzman

Contact a Green Campus Intern Today!

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A Special
Thanks To:

