

UofL: Not Only Thinking Green We're Finding Solutions

UofL's Quest For Energy Independence through Research, Education and Sustainable Business Practices



Conn Center for Renewable Energy Research: Solar, Energy Storage, Biofuels, Energy Efficiency and Materials Manufacturing

The Conn Center for Renewable Energy Research serves as a manufacturing R&D center at the University of Louisville. Using their expertise and advanced testing facilities, scientists and engineers are developing energy solutions that help attract high-tech manufacturing industries to the city of Louisville and the state of Kentucky. Their work fosters fundamental discoveries and transforms lab-scale technical innovations into precommercial-ready processes for harvesting, storing, and deployment of next generation energy. The Center has been assisted by bipartisan support from State Energy Secretary Len Peters and House and Senate leadership.

So what does this mean to you?

1. New methods for producing advanced materials in large enough quantities to be used in solar cells batteries, and energy-efficient buildings.
2. Developing alternative fuels: technology to convert fats and oils to jet fuels and green diesel that use available storage, transport, and delivery equipment.
3. Producing cost-effective solar cell technologies for large-scale energy production – to meet **100%** of the electricity demand in the U.S. would require **7,700** square miles of **10% efficiency** solar cells, which is nearly **1/5th** the area of Kentucky!

Kentucky Pollution Prevention Center: Playing for KEEPS

Established in 1994, KPPC is a state-mandated technical assistance resource center at UofL. KPPC's Kentucky Energy Efficiency Program for Schools (KEEPS), created by HB2 and sponsored by Representative Rocky Adkins, identified \$634,973 in potential annual savings for school districts through on-site energy use assessments and found more than \$200,000 in possible refunds, reimbursements and credits to be returned to school districts from utility bill analyses. All of the state's 174 school districts are enrolled in KEEPS.

The U.S. Environmental Protection Agency selected the Kentucky Pollution Prevention Center as a 2011 ENERGY STAR® award-winner. KPPC received the ENERGY STAR award for management programs. Leveraging ENERGY STAR resources, KPPC helps commercial and industrial facilities and school districts across the state build self-sustaining energy management programs.



The President's Report: Carbon Neutral for Second Year

The university emissions produced in shipping this report were offset by renewable energy credits that help fund renewable energy projects, and it is also printed on 100% post-consumer recycled paper. Carbon offsets purchased are dedicated to NativeEnergy to help build a new wind farm in Greensburg, Kansas. Greensburg is the site of a 2007 tornado that destroyed 95% of the town. It is committed to rebuilding as the "greenest town in America." The carbon offsets will help fund 10 new wind turbines that can provide clean energy to power nearly 4,000 homes.

A Letter from the President

Dear Friend,

Most of you have seen Rodin's sculpture *The Thinker* located in front of Grawemeyer Hall. The university is in the first phase of restoring *The Thinker's* bronze casting and getting rid of the green tint caused by acidic rainwater reacting with a copper compound in the bronze. But maybe we should leave the green patina on *The Thinker*? Maybe the hue of UofL's most famous permanent resident is symbolic of our school's commitment to thinking "green."

UofL is receiving national recognition from the Sierra Club and others for its sustainability efforts. We're recycling almost half the waste we produce and we've cut our trash by nearly a million pounds a year – enough to cover the grass on the Belknap Campus Oval with a four foot high pile of garbage. We've extended our energy efficiency contract with the Siemens Co. to the Health Sciences Campus. Siemens' work is guaranteed to save us \$6,400 per day on our utility bills. We're also working on rain gardens, composting and using alternative fuels in UofL vehicles.



We're also building with sustainable design. We already have three buildings on our campuses that are LEED Gold certified and we're expecting the first building on the Shelby Campus to achieve LEED certification as well. This will be the first LEED-certified multi-tenant office building in the region.

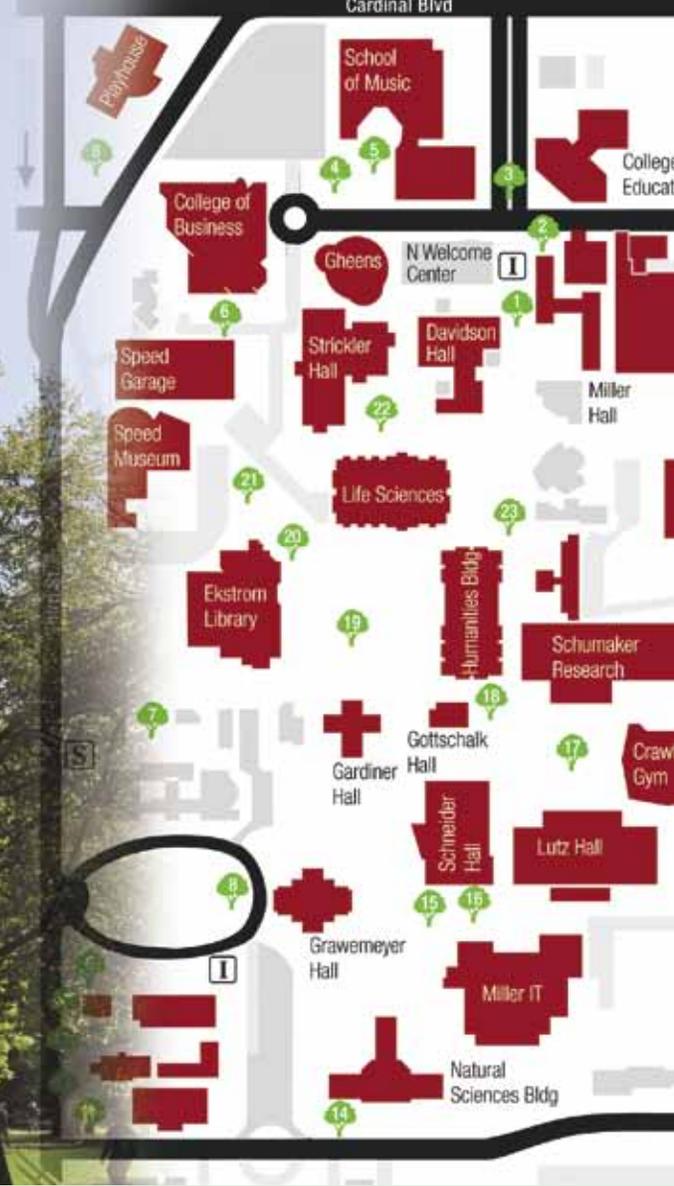
But perhaps our most important green work will happen in the classrooms and research labs as UofL helps discover ways to find alternative forms of energy and lower our dependence on oil.

I'm proud of our efforts and proud to say that the faculty, staff and administrators at UofL are doing more than just *thinking* about being green, they're *doing* it.

Sincerely,

Arbor Day Foundation Bestows "Tree Campus U.S.A." Status on UofL

With more than 1,100 trees on UofL's Belknap Campus for over a century, the university has attained "Tree Campus U.S.A." status this spring from the Arbor Day Foundation. Age, winds and ice have taken a toll on Belknap Campus trees in recent years, but UofL is committed to maintaining its campus as a green oasis in an urban setting. UofL has launched a self-guided tour to encourage visitors to explore the campus and its many species of trees. The full tour takes about an hour and a half, and is approximately a 1.75-mile walk.



Take the tour online now at
uoflblog.com/tree-tour

Mini-bins Make a Big Difference

If you spread it out over the entire grassy area of the Belknap Campus Oval, it would pile up more than four feet high.

That's how much garbage the University of Louisville kept out of landfills in 2010 through ramped-up efforts to recycle and reuse materials on campus, according to a report recently filed with the state.

The university reduced the weight of its trash by 996,000 pounds last year, an amount measuring about 10,000 cubic yards. Put another way, UofL recycled 48 percent of all the solid waste it produced, a gain of 3 percent over 2009.

Some 29,000 pounds of glass and 20,000 pounds of plastic were among the recycled materials, a net gain of 49,000 pounds because UofL recycled neither before 2010.

The amount of recycled aluminum rose from 6,100 to 12,500 pounds, and the amount of recycled paper and cardboard

– 65,000 pounds and 204,000 pounds respectively – reached an all-time high.

On top of helping the environment, the extra recycling saved UofL \$10,000 in landfill charges, said recycling coordinator Aaron Boggs.

A single-stream recycling effort launched early last year and a strong commitment to recycling by the offices that keep the campus operating factored into the increase, Boggs said.

"Single-stream recycling is doing exactly what we hoped it would do. At first, some people worried it might lead to bug problems, or that drains might clog up when people rinsed stuff out in the sink. But we haven't seen that at all."

Starting last February, people at UofL began discarding paper, cardboard, plastic, aluminum and glass into a single bin. Physical Plant workers have been collecting the mixed material and sending

it to a private company in New Albany, Indiana for sorting and recycling.



Food waste and other non-recyclable garbage now goes into a personal green mini-bin about the size of a coffee can that people are responsible for emptying themselves.

More than 4,000 mini-bins have been distributed since single-stream recycling began and all but a few campus buildings are now on board with the program, Boggs said.

Not only are people recycling more on a personal basis, but also a growing number of UofL offices, such as Physical Plant, Information Technology and Planning, Design and Construction, are regularly recycling materials on a mass scale, he said.

For example, the university recycled 200,000 pounds of scrap metal, 40,000 pounds of e-scrap and 18,000 pounds of lamps and ballasts were recycled through UofL's performance contract with Siemens Building Technologies Inc. to make the campus more energy efficient.



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