# Sustainability Spotlight

October 2012

## The Greening of Fraser Hall

By Jeff Severin, Director of the KU Center for Sustainability

Last year, Fraser Hall consumed over 800,000 kWh of electricity and 400,000 gallons of steam and generated nearly 720 cubic yards of trash. Although the students, faculty and staff who call Fraser Hall "home" have been reducing their impact, there are still many opportunities to conserve energy, reduce resource consumption, and create a better environment.

KU is setting out to lower those numbers in Fraser through a pilot project this fall. The effort, part of a Changing for Excellence initiative designed to address energy conservation and goals of the Campus Sustainability Plan. The program uses a building-by-building approach to evaluate facilities, identify opportunities, and develop Green Teams to assist with implementation and ongoing assessment and projects .

The program was launched Sept. 19th and 20th with an information fair; it will continue throughout the fall semester in phases:

*1) Assess the Facility:* In early October, a Facility Performance Assessment Team (FPAT) comprised of faculty and staff will conduct an analysis to review the building's functionality and identify opportunities for conservation measures. The team has a broad range of expertise (lighting/ mechanical engineering to behavioral analysis.) They will conduct interviews and gather feedback from building occupants regarding the challenges and opportunities they see in the building. This analysis will result in an action plan with specific steps that can be taken to create a greener Fraser Hall.

*2) Form a Green Team:* During the assessment phase, a Green Team formed of building occupants and students taking classes in Fraser will serve as the local support team to coordinate communications, promote the program, and maintain the initiative beyond the end of the year.

*3) Implement Sustainability Measures:* With help from the Green Team, an education and outreach campaign will be designed to promote and reinforce sustainable choices in the building. The campaign will raise awareness about the initiative, educate building occupants about how Fraser operates, and how they can contribute to the success of the initiative. Facilities Services will also review the recommendations and implement maintenance projects where funding is identified.

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At the project launch event, building occupants made a pledge to reduce their personal environmental impacts and help create a greener Fraser

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*4) Graduate the Facility:* The FPAT will develop a timeframe from the launch of the campaign to the point when they "graduate" the building. At "graduation" the Green Team will be given a reference manual for the building so they can continue to oversee implementation of sustainability measures not yet complete and receive communication materials and other tools to maintain sustainability initiatives in Fraser.

At the end of the pilot project, the approach will be assessed to determine the time and resources that would be needed to operate a larger-scale program capable of addressing several buildings each year. The pilot will provide for the development of a more detailed business case for a program to address mechanical and behavioral efficiencies while reaching as many buildings as possible.

# Sustaining Our Community

By Eileen Horn, Lawrence/Douglas County Sustainability Coordinator

In the City of Lawrence and Douglas County, we recognize the critical role that local governments must play in creating a more sustainable future. For the city and county, sustainability means finding more efficient, smarter ways of serving our citizens. But we also experience many of the same challenges and opportunities as our university partners like KU.

Both local governments and universities can demonstrate leadership by improving the sustainability of our own internal operations– from reducing the waste we generate to reducing the energy our buildings consume. But we have a further charge as well. We must reach out to citizens and students with ideas about compelling, common sense ways they can participate in the three pillars of a sustainable future: Protecting the environment, building the local economy, and striving for social equity.

Here are highlights of some of the key sustainability initiatives you might see us working on around town:

**Waste Reduction & Recycling:** This fall, the city will provide trash carts to single-family residences (apartments, commercial properties and those with dumpster service are not affected at this time). Standardized carts will make it safer for our workers, and will help provide an extra incentive for our residents to recycle. In September 2012, the city issued a request for proposals (RFP) for curbside recycling services for our residential customers. Allowing for the lead time required by state law, the soonest the city would be able to offer this service is June 2014.

**Transportation:** Our Transit system uses hybrid buses along its busiest routes, and we're piloting a compressed natural gas vehicle to learn more about this alternative fuel option. In 2011, the Lawrence City Commission passed a Complete Streets resolution. Complete Streets are planned, designed and operated to enable efficient and safe access for all users--pedestrians, bicyclists, motorists and transit riders of all ages and abilities.

**Energy:** For both the city and county, we continue to implement common sense energy -saving technologies.

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Lighting has been retrofitted to LEDs along Massachusetts St. downtown, at the Arts Center, and in the Community Health Building. We've installed solar panels at the County Fairgrounds, and our retrofit of the Library's heating and cooling system is using 21% less energy than before.

**Economic Development:** A key component of sustainability is ensuring that our region has a vibrant local economy. The former Farmland Industries site (at K-10 and O'Connell Rd) was acquired by the City in 2009. We are actively planning a new business park at the site- one that utilizes best practices for storm water management, includes bike lanes and trails, and integrates renewable energy and energy efficient lighting.

**Local Food:** In 2009, Douglas County Commissioners established the Douglas County Food Policy Council, a stakeholder group convened to propose policies to build a local food economy. The Council worked with the Lawrence City Commission and staff to develop the Common Ground program, launched in 2012. This innovative program that makes vacant or under-utilized city properties available for organizations and residents to rent for urban agriculture and community gardens. In our pilot year, we opened five Common Ground sites: 2 community gardens, a community orchard, a children's garden, and a student-run farm.

**KU is a key partner:**
We're proud of the progress we're making and we hope that these projects help create a more sustainable future for our residents. But we can't do it alone! KU is a key partner in this endeavor. We need your ideas, passion, and commitment to help make our city and county a model for sustainability, and an even better place to call home.

## Shred-It Saturday a Success!

On September 29, KU departments hosted their first "Shred-It Saturday" to raise awareness and promote prevention of consumer fraud and identity theft. KU's shredding service provider Cintas was on-site at Park & Ride to shred and recycle personal and business documents.

The event was open to the campus community and the general public; more than 200 cars came through the line. By the end of the day, Cintas had shredded 12,000 pounds of confidential documents.

On just this one Saturday, recycling this amount of paper is equivalent to saving:

- 102 trees
- 2,280 gallons of oil
- 42,000 gallons of water

Saturday's total can be added to the pounds of confidential KU documents Cintas has recycled in the past year, saving:

- 3,378 trees
- 75,759 gallons of oil
- 1,390,953 gallons of water

## Sustaining our Planet

# EcoHawks Biomass Drying Project

By Mitch Favrow, Mechanical Engineering Student

Every day, a significant amount of water is heated until steaming by burning thousands of tons of coal, and then the steam is driven under high pressure to turbines in order to create electricity for use by the City of Lawrence and the KU campus. Over the next two semesters, four mechanical engineering students - David Yoe, Heather Roberts, Jesse Coatney, and myself- will be developing an example of a low-energy, low-cost, biomass-drying system to combat the large requirements of water and coal as part of an EcoHawks senior design project.

The EcoHawks are a group of mechanical engineering seniors focusing on the connections between the environment, energy, economy, education, and ethics to solve real-world problems while applying engineering principles. Students will be collaborating with Professional Engineers at Black and Veatch on the project, which will provide these four seniors with beneficial experience and professional assistance.

Biomass includes sustainable materials such as woods, crop-based leaves and grasses, and sewage sludge. If these materials can be dried to a combustion-friendly level, they could be used to replace some of the coal used for heating water. The drying of biomass is an ancient process originally used in the preservation of foods. The drying methods were typically passive, involving placing the mass on a stone or hard surface in direct sunlight. This drying method, while economically efficient, is slow and susceptible to the addition of impurities from environmental exposure. For this project, it may be possible to use the environment effectively, including wind and solar sustainable energies, to accelerate drying.

Furthermore, the students hope to find a way to successfully recover the water evaporated from the biomass. This water may be routed for agricultural use or returned to the power plant for cooling. Most of the drying methods currently being researched do not include this facet of the project, but the students and their supervisor, Assistant Professor Christopher Depcik, are accepting the challenge to produce an innovative solution to recover the evaporated water.

The project addresses the water energy nexus directly with a hope to bring light to the issue, as well as create a sustainable solution.

# Greening the Crimson and Blue

## Gameday Recycling

By Blaine Bengtson, Center for Sustainability Intern

When fans gather on Saturdays during the Fall to support the Jayhawk football team, pigskins aren't the only things being tossed around at tailgating sites. It seems almost every tailgate uses an abundance of plastic; lots and lots of plastic. There is currently one recycling program during game day, provided by Cans for the Community to capture aluminum. However, efforts to recycle plastic remain limited. To divert much of this recyclable waste, the Center for Sustainability, KU Recycling, KU Student Senate, KU Athletics, and Recycle and Blue, KU have all partnered to increase game day recycling. In mid-September, Student Senate passed legislation to purchase 60 bins to be placed around the stadium grounds. These University departments and organizations plan to launch a new game day recycling effort during the Homecoming game against the University of Texas October 27. The University will be participating in a national competition to recycle the most waste during a game that day. With the help of volunteers, we can surely rank highly among our peers. **If you are interested in helping with the game day efforts, please contact the Center for Sustainability at** sustainability@ku.edu.

## Staples' Smarter Packaging

By Meredith Walrafen, Center for Sustainability Intern

Earlier this year KU negotiated a new contract with Staples for office-related products, aiming to save the university $240,000 annually through the seven year agreement. This is this good news for the University's budget and also a step towards making KU more sustainable.

Staples recently launched a new smart-size packaging program to reduce the environmental impact associated with delivery waste by reducing unnecessary, bulky packaging. According to Ken Perdue, Staples' Environmental Initiative Specialist for the Central South Region, historically most of Staples' environmental impact has historically come from packaging- but not anymore. New technology allows Staples to customize the shape of a box as an order is sent to their warehouse, improving the way boxes are packed into shipping containers or delivery trucks and reducing or eliminating the need for materials to fill empty air space in the package. It means more efficient transportation as well as significant reductions in the amount of corrugated cardboard and air pillows used.

Staples smart-size packaging is just one piece in their sustainability strategy. In 2009 they eliminated PVC plastic from all Staples brand products packaging in North America and they used 880,000 fewer pounds of cardboard in the packaging for their paper.

These changes not only benefit Staples bottom line- they help KU on our path to sustainability. If the new program is any indication, the next seven years will include many positive developments in sustainable procurement for KU, putting the University that much closer to being truly sustainable.

For more information on Staples' sustainability initiatives, visit their website at http://staplesadvantage.com/solutions/environmental-solutions.html

## Greening the Crimson and Blue

# Potter Lake Cleanup

By Stan Loeb, Environmental Health and Safety Office

A diverse group of volunteers gathered Sunday, September 23, at Potter Lake to begin what turned out to be a four hour non-stop effort to remove as much aquatic vegetation from the lake as possible. The volunteers were students from Environs and the Center for Sustainability, staff members from the departments of Environment, Health & Safety and Design and Construction Management, the Student Health Center and the Kansas Biological Survey, as well as KU Administration and faculty.

The first boat was launched at 9 a.m. to begin lassoing the plants with a weighted rope that the others on the shore pulled in. The plants were collected either by hand or with rakes, put into wheel barrows and transferred to what would soon be one of four large piles of weeds which were picked up the following day by members of Facilities Services and placed in a compost pile on West Campus.

As the size of the volunteer group grew, a second boat was launched to lasso more weeds and then other methods to remove the plants were devised. At least three people donned chest waders and got into the lake to pull weeds. Others rigged the steel rakes with ropes to throw out and drag weeds from the lake. Numerous times the weight of the lassoed weeds exceeded the strength of the volunteers pulling on the weeds, so a truck was brought in to do the pulling. After about four hours, volunteers had removed some 5 – 10 tons of aquatic vegetation from Potter Lake.

The purpose of this effort was not to eradicate the plants from the lake but rather to remove what would become next year's food for algae and plant growth. As aquatic plants (both water lilies and hornwort) die and drop to the bottom of the lake over winter, they decompose into nitrogen and phosphorus which feed the algae and plants next spring. The University went to the effort and expense to dredge the lake a couple of years ago; this type of cleanup can slow the rate of time it takes for excessive amounts of food to build up and turn the lake an unsightly green again.

This annual cleanup activity is scheduled to occur every fall. If you missed the chance to join in this year, you are encouraged to participate next time. For those that did assist, their dirty hands, wet shoes, muddy pants and a good deal of strenuous exercise were greatly appreciated.

# Live Sustainably

## Upcoming Campus and Community Events

**10/6-10/7**
**Kaw Valley Local Farm Tour**
**10:00 AM-6:00 PM**
Self-guided tour of 23 participating farms
www.kawvalleyfarmtour.org

**10/10**
**"We're Serving Something Green for Lunch"**
**12:10-12:50 PM**
Computer Services Facility Auditorium
1001 Sunnyside Ave.

**10/13**
**Electronic Recycling Event 9 AM-1 PM**
Recycle unused or obsolete electronic equipment.
Free State High School Parking Lot
4700 Overland Drive

**10/10**
**Environmental Film Festival, 5 PM**
Spencer Museum of Art

**10/15**
**Sisterhood, Womanhood, and the Challenges We Face Today, 7 PM**
Woodruff Auditorium

**10/17**
**Diversity Talks 3:30 PM**
Kansas Room, Kansas Union

### Campus Sustainability Week

**10/21**
**Stuff the Bus Canned Food Drive**
**(Part of Homecoming Week Events)**
**12 PM– 4 PM**
Dillon's on 23rd or the Adams Alumni Center
See www.homecoming.ku.edu

**10/23**
**Ambassadors Meeting: The Campus Landscape**
**12 PM– 1 PM**
Kansas Union

**10/26**
**Sustainability Research Symposium**
**3 PM-5 PM**
Center for Design Research

See www.sustainability.ku.edu/events/csw.shtml for details and updates on Campus Sustainability Week

**10/29**
**Tilford Conference on Diversity & Multi-culturalism**
Kansas State University Campus

# Join Us

For more information about sustainability at KU, visit www.sustainability.ku.edu like us on Facebook at www.facebook.com/KUSustainability, or follow us on Twitter @SustainKU.

# Contribute

Is your department or organization contributing to a more sustainable KU? We'd love to hear about it and include your efforts in our next issue of the Spotlight! Send submissions to sustainability@ku.edu.