


2010

2010 Sustainability Report [Western Kentucky University]

WKU Office of Sustainability

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SUSTAINABILITYREPORT

2010



WKU was proud to be included in the 2009 Princeton Review's Guide to 286 Green Colleges, a guidebook to institutions of higher education who have demonstrated an exemplary commitment to sustainability in terms of campus infrastructure, activities, and initiatives. The Guide is based on a survey of hundreds of colleges nationwide; those schools that earned a "Green Rating" numerical score of 80% or higher were included. In Kentucky, Berea College and Centre College were also included in the Guide. We are confident that we can, and will, improve our score for the next publication – we won't be satisfied until WKU earns a perfect "A".



Cover photo: solar thermal panels on Raymond B. Preston Health and Activities enter roof. Photo taken by Lisa Yeager.

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As I reflect on the past year, I am filled with pride and hope by our progress in becoming a more sustainable WKU. The milestones are significant: completion of our first building for which we will seek LEED certification, sustainability included as a core commitment in the WKU Strategic Guide for 2010-2012 and a Resolution for Education for Sustainability adopted, the first Education for Sustainability faculty retreat, the Energy Savings Performance Contract project initiated and nearly completed, and WKU included in the *Princeton Review's Guide to 286 Green Colleges*. These are but a few of the accomplishments made in 2010.

While we are all hearty Hilltoppers, our efforts in sustainability are not driven by our competitive spirit to be the best in all of our endeavors, but the desire for a happier and healthier global community. We strive to lead in sustainability in higher education not because we measure our success by our inclusion on certain “lists” (although inclusion in the Princeton Review Green Guide is pretty great) but by our ability to be a model for best practices, both in our operations and services and in academics. Modeling and teaching sustainability has become a core value at WKU because we realize that it must be.

WKU's commitment to sustainability, whether demonstrated in campus operations or in educational programs, will help to ensure that our graduates are prepared to address the complicated environmental, social and economic issues we face today. They will be able to think critically, solve problems creatively and be engaged citizens. If that's all we accomplish then we will have achieved great success. But our sustainability commitment pays dividends; it also leads us to reduce our environmental footprint, practice social responsibility, and conserve natural and economic resources. It encourages unprecedented cross-campus and community collaboration and partnerships. It supports our goal to be “A Leading American University with International Reach”. And it brings renewed meaning to the old WKU motto: “Life More Life”!

I am pleased to present the 2010 WKU Sustainability Report. Enjoy!

-Christian Ryan-Downing



A Sustaining Pride

By Adrianna Silver, student

In my four years at Western Kentucky University, I have witnessed many great strides to make WKU a sustainable campus. From food choices to recycling, WKU has taken the charge to become an environmentally sustainable institution. As a senior preparing to graduate, I take great pride in the level of dedication and integrity of our sustainability program, and the continued efforts made with present and future students in mind.

Life on WKU's campus now offers a variety of opportunities for students to act as responsible citizens of this world. Whether it be through courses offered, guest speakers, or student sustainability programs, students are continually provided with opportunities to learn about the important relationship of people and the environment. Aside from educational opportunities, the university has also made great improvements in sustainable living at WKU. Student housing, for example, now offers vast recycling options for residents as well as an online energy dashboard informing students of real-time energy use. Not only do students now have recycling and energy monitoring resources, but they also have healthier and more sustainable food options. All across campus, changes have been made in menus to offer students healthy alternatives, which are consequently environmentally sustainable. Changes in our dining services are of utmost importance, as dining is one of the first impressions that new students and faculty experience when visiting our campus. For visitors to WKU, a sustainable campus is an indication of a university that cares about progress. It shows that WKU is an institution whose leaders take seriously the future of their students.

As I consider my rapidly approaching graduation, I can feel proud of my diploma emblazoned with Western's name; thanks in large part to WKU's commitment to sustainability. I have been fortunate enough to witness many transformations and I am ever-anxious to witness more of these modifications before I graduate. Being a sustainable establishment, we represent a reflective, conscientious, and intellectual community-- a university to be taken seriously, a name of which one can be proud, and a progressive hub for active citizens of a global community to grow together.

Education for Sustainability

The mission of WKU is to prepare students to be productive, engaged, and socially responsible citizen-leaders in a global society. As a signatory of the Talloires Declaration, WKU recognizes the important role that higher education has to play in providing the leadership and innovation to help society transition to a sustainable future. In January, a Resolution for Education for Sustainability at WKU was approved by the Board of Regents and adopted as a strategic priority.

Significant accomplishments have been made in 2010 for Education for Sustainability (EfS) at WKU. Much of this progress is the result of the hard work and dedication of the Education for Sustainability committee, co-chaired by Nancy Givens and Dr. Ken Kuehn. 2010 EfS accomplishments include:

- An Emphasis in Interdisciplinary Sustainability Certificate for students in any major or minor was designed. The EfS committee is also working with the Gen Ed Revision committee to look at incorporating EfS as a core theme.
- An 'S' designation in Digital Measures is being created for tracking and reporting sustainability related

activity including courses, research, and creative activity.

- A *WKU Education for Sustainability Gateway* website is being created and content will continue to be added, for formal launch to the university community at the start of Spring 2011. Much information will be generated and updated through direct links maintained at the departmental or program level.
- A Social Responsibility and Sustainable Communities graduate degree has been designed and approved by University Curriculum Committee and is under review by the Graduate Council.
- A Sustainability Resource Guide has been created and new resources purchased by the Educational Resources Center (ERC).
- A first EfS reporting for WKU is being prepared for the Sustainability Tracking, Assessment, and Rating System (STARS) report, which is a self-reporting framework to gauge progress toward sustainability goals developed by the Association for the Advancement of Sustainability in Higher Education (AASHE).

2010 Sustainability Across the Curriculum Faculty Development Retreat

In June 2010, the WKU Center for Environmental Education and Sustainability, Institute for Citizenship and Social Responsibility, and Office of Sustainability co-hosted a Sustainability Across the Curriculum Faculty Development Retreat. The intensive, two day retreat held at Barren River Lake Lodge featured guest speakers Paul Rowland, Executive Director of the Association for the Advancement of Sustainability in Higher Education; David Waldron, partner of Synapse Strategies; and Tom Fitzgerald, Founder and Director of the Kentucky Resources Council.

The retreat offered faculty members the opportunity to learn from experts and each other about concepts, pedagogies, innovative programs, and resources to help them incorporate sustainability into classes across the curriculum. The retreat was attended by forty faculty members from all of the colleges at WKU and two extended campuses. As a result of the retreat, many new sustainability courses have been created or syllabi revised to incorporate principles and pedagogies learned in the retreat.



Paul Rowland, Executive Director for the Association for the Advancement of Sustainability in Higher Education, gives keynote address at the faculty development retreat.

Special thanks to Nancy Givens, Sustainability Programs Development Coordinator, Center for Environmental Education and Sustainability, for her contribution to this section.

Resolution for Education for Sustainability at WKU

Whereas the Mission of WKU is to prepare its students to be productive, engaged, and socially responsible citizen-leaders of a global society; and

Whereas the United Nations has declared 2005-2014 the Decade of Education for Sustainable Development; and

Whereas WKU is a signatory of the Talloires Declaration, an action plan for incorporating sustainability and environmental literacy in teaching, research, operations, and outreach endorsed by colleges and universities throughout the world; and

Whereas WKU through its curricular offerings, within and across many academic disciplines, challenges students to explore and understand principles of sustainability in order to address the social, economic, cultural and environmental issues of the 21st century; and

Whereas WKU students, through their academic coursework, involvement in student organizations, and engagement with communities, are developing the skills needed to become effective leaders in finding solutions to sustainability issues locally and globally; and

Whereas WKU has established an Office of Sustainability to develop appropriate procedural, procurement and building efforts to reduce consumption and waste while increasing energy efficiency, and to communicate the University's commitment to sustainability; and

Whereas WKU understands the importance of both individual and institutional commitment to living and promoting more sustainable lifestyles through daily actions as well as broader scale decisions; and

Whereas students have demonstrated a powerful interest in education for sustainability and WKU has many centers of excellence, courses, and study abroad programs already established;

Therefore, be it resolved, that President Ransdell and the WKU Board of Regents approve the adoption of 'education for sustainability' as one of the University's core values, and that this core value be stated within the University's Strategic Plan and integrated into its Strategic Goals.

Adopted by the Board of Regents as part of the WKU Guide 2010-2012 in January, 2010.

International Students hone their English Skills with focus on Sustainability

By Jean Nehm, Associate Professor of English

I teach a section of English as a Second Language (DENG-051C) which is designed to help international students strengthen their English skills. The class emphasizes writing for academic purposes. Generally, writing assignments are based on class readings. During the fall 2010 semester, I decided to focus all the readings and activities around the theme of sustainability while teaching the common rhetorical writing modes that the students need to know. The class consisted of 16 students from China, Korea, Vietnam, Russia, and Saudi Arabia.

The following are several of the assignments:

Description: Students selected and printed a picture of Earth as seen from space. I gave them a copy of a quotation from Carl Sagan to introduce our study of preserving our precious planet. Their assignment was to describe their picture of our planet.

Narrative: I made an appointment with David Brinkley for a tour of WKYU, including an explanation of the new cutting-edge LED lighting in the studio. Students wrote a narrative about our visit to the studio. They were genuinely very impressed with what they learned and proud to be a part of such an innovative university. Several students brought their cameras, so I am sure that pictures of WKU's television studio have been shared across the world.

Exposition: Our class enjoyed a very informative tour of the WKU campus given by Christian Ryan-Downing. They learned about the Big Red Bikes program, the cisterns for collecting rainwater, the new natural gas boiler in the Central Steam Plant, the solar trash compactor and solar system on Preston

Center, the herb garden, and the new College of Education and Behavioral Sciences building, along with the concept of LEED rating. Again, their papers included statements saying they were proud to be a part of a campus that cares so much about sustainability. **Advantages/Disadvantages:** We read several sources about wind energy and synthesized the information to explain the advantages and disadvantages of using wind turbines. I have a subscription to The New York Times for this class, and the paper just happened to have an article about wind turbines in Italy and another one about complaints about the noise of the turbines in Maine. I used the opportunity to show them how to find reliable sources on the Internet and found some helpful information from the U.S. Department of Energy. Not only did the students learn about wind energy, they learned about gathering information, organizing information, and drawing conclusions. This is often a very difficult skill for international students coming from teacher-centered environments where they were told to memorize instead of evaluating what they learned. Their concluding paragraphs were very thoughtful analyses of the great potential of wind energy to replace the harmful and limited use of fossil fuels.

Summary/Paraphrase/

Documenting sources: In this section of the course, we took a look at global water sustainability. We read a recent article from Time magazine about all the problems going on with the Ganges River in India. The assignment was to write a summary, using their own words. We continued the theme of water sustainability with

readings about bottled water. The assignment was to paraphrase key sentences, using their own words. Summarizing and paraphrasing are also very difficult skills for students who come from cultures with completely different ideas about plagiarism than we have.

Compare/Contrast: We studied the differences between industrial agriculture and sustainable agriculture. One assignment was to check various items in the grocery store to see where they came from and the distance between growing and consuming. We also had readings along with watching some of Food, Inc. which is a dramatic view of how unsustainable the modern methods of farming are, economically, environmentally, and socially.

Argument: I introduced the concept of mountaintop removal mining. Students wrote an argument about this unsustainable practice.

With the theme of sustainability in this class, planned student learning outcomes include:

- Understanding of the concept of sustainability
- Appreciation of the value of preserving our planet's resources
- Motivation to become aware of sustainability and personally participate in sustainable practices
- Critical thinking concerning sustainability and the search for solutions to global problems



English as a Second Language (DENG-051C) students learn about the new natural gas boiler recently installed in the WKU Central Steam Plant on their campus green tour.

Center for Environmental Education and Sustainability

Dr. Terry Wilson's ENVE 560/ *Investigating and Evaluating Environmental Issues* students don't just identify and research environmental issues, they work to find solutions. After examining the strengths and issues of the local community, Dr. Wilson's Spring 2010 students felt that energy overuse was one of the main issues that needed to be addressed. After conducting research on ways to save energy, the students decided that installing SmartStrip surge protectors would be an effective and user-friendly way for the occupants of Jones-Jaggers Hall (JJH) to save energy.

To start, the students discussed the project with the university Sustainability Coordinator and the campus Energy Manager to investigate sources of funding to cover the cost of the energy-saving power strips. Impressed with their scope of research and level of determination, Energy Manager Dale Dyer agreed to fund the \$1600 price tag for the SmartStrips. To encourage the occupants of JJH to participate, the students designed an incentive program in the form of a drawing. If each employee

signed a pledge to do their part to save energy, they earned one chance in the drawing. If the employee allowed a SmartStrip power strip to be installed in their work station, they earned a second chance in the drawing. Finally, if the employee hung a poster in their work station as a reminder to save energy, they earned a third chance to be in the drawing.

The students began the process of informing all of the employees of their project and their plan to save energy. They also explained the incentive program, to which all of the employees responded receptively. After setting up a date and time to install each employee's power strip, the students began installing the strips in each of the work stations in the building. A total of 40 SmartStrips were installed. All but one employee in the building participated in the project and everyone seemed enthused about saving energy. The students then followed up with each employee by sending a survey asking for comments about the success of the project from the employee's perspective.



Educating for Sustainability goes far beyond teaching students about sustainability concepts and issues; it often means teaching in a completely different way. The Earth Force model engages students as "active citizens who improve the environment and their communities now and in the future". Students identify real problems or issues and then actually work towards sustainable solutions. Dr. Terry Wilson, Director of the WKU Center for Environmental Education and Sustainability, and Dr. Steve Spencer, Department of Kinesiology, Recreation and Sport, have had great success in using the Earth Force model in their courses.



Recreation Students Improve McChesney Field Campus for Outdoor Classroom

Dr. Steve Spencer's Recreation Resource Management (REC 430/430G) class undertook an impressive project in the fall of 2010 – improvements at the McChesney Field Campus.

Mindful of the historic elements of the site, the class worked with Dr. Darlene Applegate of the Anthropology department to ensure that nothing of archaeological significance was disturbed.

(continued, next page)

Environmental Issue/Problem	The occupants of Jones-Jaggers Hall are continuing to draw energy during non-working hours.
Policy or Practice to be Changed	-Turn off power to appliances at the end of the work day.
Project Goal	We want the occupants of Jones-Jaggers Hall to turn off their appliances, which will result in energy savings.
Strategy	In order to achieve this, we will install Smart Strip power strips in each of the work stations in this building.
Key Parts of the Strategy	
<ol style="list-style-type: none"> 1. First, we will inform the occupants of Jones-Jaggers Hall (JJH) of our project and their role in energy savings through a letter written to each department. 2. A group of students will design posters to encourage the occupants to save energy. 3. A group of students will design an incentive plan to encourage the occupants of JJH to participate in our project. 4. A group of students will create a survey to gauge the occupants' interest in energy savings. 5. One student will talk to each of the occupants explaining the incentive program and plan a time to come install the Smart Strip power strip. 6. One student will actually install the power strips in each of the work stations in JJH. 	

Special thanks to Dr. Terry Wilson, Director of the Center for Environmental Education and Sustainability, for his contribution to this section.

They then got to work removing trash, including an old Ford Pinto, appliances, and other assorted waste. A total of approximately 4610 pounds of assorted metal was recycled!

Next, they built a central trail; approximately two miles long, the McChesney Trail Loop links the existing road with segments of an old road through the property. This trail was marked with signage donated by the WKU Outdoor Leadership Program. Students determined GPS coordinates for the trail for mapping and development of a trail map is currently in progress.

Additionally, several spur trails were created, complete with signage, leading to the historic Sulser-Hurst Graveyard (Dr. Applegate's spring archaeology class determined that 41 people were buried in this graveyard), the historic spring, the old ferry/landing site, and Tweety's rock and Indian Creek.

With the help of Drs. Hey and Gibson with the Kinesiology, Recreation, and Sport department, who transported their own tractors to the site and spent a day working on the area, extensive grading of the easement/access road to the parking area, the parking area, and portions of the trails were completed. Underbrush and saplings around the old homestead were cleared, with the assistance of Greg Fear, WKU Campus Grounds Manager and his staff. There are several more improvement projects in progress, including downed tree removal where necessary and installation of trail blaze markers (purchased with revenue from recycled metal).

The students have identified further improvements, including: flora inventory, geological mapping, further archaeological assessment, boundary survey and identification markers, construction of a pavilion with potable water, restroom facilities, and canoe

access (Indian Creek) and storage. Finally, the class recommended the development of a long term Master Plan for the property.

Special thanks to Dr. Steve Spencer for his contribution to this section.

From Green to Gold

the Gordon Ford College of Business prepares the business leaders of today

Business leaders are recognizing the business case for sustainability. The Gordon Ford College of Business is responding, seeking to better serve our students by preparing them for a new sustainability based economy. Courses such as the one described below, developed by Dr. Brian Sullivan, and educational processes such as Learning in Action! used by the Center for Entrepreneurship & Innovation (*see next page*), will ensure that our graduates are well-prepared to be the business leaders of today, with the skills and abilities to meet the changing needs of our global society.

Senior Seminar Environmental Policy/Sustainability (MGT410)

Inspired by a camping trip in Yellowstone National Park, where local environmental problems are embedded in national policy, Dr. Sullivan developed this course for students to investigate the development of national environmental policy and management's role in the creation of, and the reaction to, that environmental policy. However, this simple synopsis does not adequately describe the course or its comprehensive scope.

The course is divided into five sections: *Introduction to Sustainability and Environmental Policy*, during which definitions of sustainability and both historic and more recent national environmental policies are explored. In the next section, *From Conservation to Environmentalism toward Sustainability*, the

evolution of sustainability is considered, from 19th century conservationism to the 1970's environmentalism to today's global concept of sustainability. Section 3, *Corporate Sustainability, From Green to Gold*, focuses on the corporate perspective, considering the business case for sustainability and issues and concepts including sustainable manufacturing, transparency, sustainability metrics, entrepreneurship, risk analysis, and regenerative leadership. In Section 4, *Looking for the Green Economy*, students investigate renewable energies and other sustainability-related economic opportunity. Section 5, *Some Bottom Line Concerns*, covers such topics as the "triple bottom line", externalities, and full life cycle analysis. Finally, in Section 6, *It's Global Stupid*, Dr. Sullivan discusses personal and community consumption patterns, the Happy Planet Index, and the Tragedy of the Commons.

The course includes a wide array of compelling readings by authors including Peter Senge, Amory Lovans, Richard Ettenson, Thomas Friedman, Aldo Leopold, and Rachel Carson. To round it out, the class took several field trips during the semester to observe local Best Practices, including the WKU Green Tour, Service One Credit Union's LEED building, Mammoth Cave National Park's LEED visitor center, BGMU water treatment plant, and the Transpark stormwater quality management parking lot systems. For the upcoming semester, Dr. Sullivan has developed sustainability focused MBA courses and an Honors Colloquia on sustainability. Stay tuned for much more from the Gordon Ford College of Business.

Special thanks to Dr. Brian Sullivan for his contribution to this section.

Learning in Action!

Center for Entrepreneurship & Innovation

By Dr. R. Wilburn Clouse, Executive Director, Center for Entrepreneurship & Innovation, Gordon Ford College of Business

Learning in Action! (LIA) is a process related to connecting learning with the framework of the learner. LIA is a holistic approach to the learning process involving the whole-part-whole teaching strategies that connect the learning to live cases written across several different disciplines, developing an authentic learning experience. Through a problem-based case experience, the student learns multiple concepts and different disciplines simultaneously. LIA is developed through problem based learning cases that are multi-disciplinary in nature. The overriding theme is to produce students who can be creative thinkers in the 21st century.

Our world is filled with uncertainty in our social, economic and political systems. Certainty and stability are no longer a given. In recent years, political systems have failed, terrorist activities have increased worldwide, world energy systems are changing, world markets are changing, products and process development systems are being modified, and natural disasters have occurred with worldwide impact. The world is unstable and uncertain. But yet, most of our formal educational systems teach students how to work and live in a stable and structured organizational world. Most curriculum teaches structure, order, linear thinking, and certainty, while the world is filled with chaos, ambiguity, and uncertainty.

The question arises as to how we can deal with an environment of rapid change and uncertainty. We are, of course, uncertain about how to handle this changing and uncertain world, but we believe that individuals who are creative and entrepreneurial are more likely to succeed than those who are linear thinkers. Thus, we have developed a process to encourage creative thinking by developing the whole-part-whole process using resources designed for just-in-time learning and using a recursive curriculum design. Thus, the LIA process has been developed to encourage creative and entrepreneur thinking. We want to influence students to *make* jobs rather than *take* jobs. We are interested in the ultimate reason for learning-- the

application of knowledge - thus creating Knowledge in Action!

The LIA process involves the development of learning cases with entrepreneurship as the central theme of each case. We have developed a series of cases that teach students to expand their thinking to be outside of linear systems and “right answer approaches”. We want students to be able to deal with uncertainty and chaos and to see opportunities that may come out of an ever-changing environment. Thus, we have tried to include new idea development, creativity, humor, and entrepreneurship as a way of viewing and thinking about a way of life. We want to maximize life by developing individuals who are self-sufficient, self-determined, and who have a passion for new venture creation. We are concerned about the current educational system that teaches certainty, linear thinking, and conformity. We believe that chaos and uncertainty are now a part of our everyday lives and that current learning systems will not produce the type of citizens needed in this century. Thus, we have developed a learning process that leads to the application of knowledge through problem based cases and learning activities developed in Humor, Creativity, and Entrepreneurship. Problem-based learning cases include:

[Blackout in America!](#) (Electrical Energy) This case is about the great electrical energy blackout that began in the Midwest and continued to the Eastern US several months ago. This case encourages students to think about new alternatives to electrical power.

[A Question of Power](#) (Oil Related Case) This case is associated with the oil industry and provides the student with the opportunity to investigate new business ventures related to other sources of energy.

[Chasing the Dragon](#) (Drug Related Case) This case is about the problems associated with the increase in the number of methamphetamine labs in Tennessee. The production of such toxic illegal drugs has created a major social, political and economic problem across our country.

[Not in My Backyard!](#) (Recycling Case) The United States is a “throw-away society.” This case is about recycling and the many

social and economic issues related to this problem.

[The Santa Fe Effect](#) (City Planning Case) This is a case designed around the rejuvenation of small downtown areas. [Long Lines and Short Tempers](#) (Homeland Security) This case was written for engineering design classes interested in small device designs for homeland security and terrorism prevention.

Learn more about Learning in Action! and the case studies above at: www.wku.edu/cei

Gordon Ford College of Business

The Gordon Ford College of Business has a mission to be a leader in providing high quality and applied business academic programs to enhance the economic well-being of the Commonwealth of Kentucky and beyond, through dedicated student-focused teaching, relevant and applied research, and value-adding outreach activity. The college challenges students to “think and go beyond the college degree”. Their mission is exemplified in their efforts to include concepts of sustainability in their programs of study.

The MBA program recognizes the importance of preparing graduate students in business for a business world that is beginning to focus more upon long term goals and business opportunities created by sustainability efforts. Recently, an interest group on Sustainability in Business met among faculty in the Gordon Ford College of Business. This group recommended a series of three courses which will be offered to the full-time MBA students this Spring and Summer. These courses will include such courses as "Sustainability in Business Overview," "Metrics Businesses Use in Sustainability," and "Entrepreneurial Opportunities in Sustainability". It is believed that this will be the first such series of sustainability courses offered in an MBA program in the state of Kentucky.

Entrepreneurship and Innovation is essential for progress in sustainability. The Gordon Ford College of Business Center for Entrepreneurship & Innovation is using teaching strategies that are problem-based and multidisciplinary, preparing students with the skills they need to be engaged in finding solutions to the challenges of our global society.

WKU as “Living Laboratory”

Benefits to students, university, and planet.

WKU seeks to model sustainability in its operations and services and encourages the use of the campus as a “living laboratory” by students, faculty, and staff. Robert Choate, Professor of Engineering, and Thomas Choate, Graduate of the Gatton Academy of Math and Science and current freshman at Vanderbilt University, have done just that. Upon hearing about plans for weatherization of all campus administrative and academic buildings, Robert Choate approached the Department of Facilities Management (DFM) with an idea. He proposed utilizing infrared thermography equipment owned by the Department of Engineering to assess building envelope air leakage, consequential energy loss, and impact of repairs upon completion. DFM eagerly accepted the proposal, and the resulting partnership has been a great success. Robert and Thomas have been working with DFM Maintenance Manager Charles Harrison on the project, which began with Grise Hall, a building that is on schedule for extensive HVAC and weatherization repairs.

Below are excerpts and photos from their case study, “Using Infrared Thermography to Support Campus Wide Weatherization Repair and Energy Auditing of University Campus Structures”:

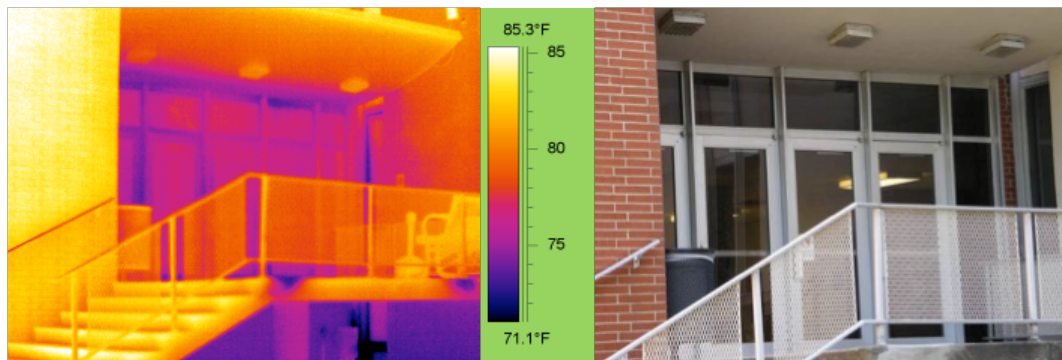
“As many universities throughout the country are seeking to reduce energy losses inherent in decades-old buildings on their campuses, infrared thermography provides an avenue for determining which structures are in the most need of repair and specific areas of the structures that are most vulnerable to heat loss during the heating season and heat gain during

the cooling season, as well as locating moisture issues due to water leaks both internal and through the building enclosure. An academic building on our campus, Grise Hall (GH), completed in 1966, was initially selected for this assessment since it was scheduled to have repairs performed to its Heating Ventilation and Air Conditioning System in fall 2010 and spring 2011 and weatherization repairs in summer 2012. ... The intent of the study was to provide before and after thermographic images to assess the impact of the building repairs.

Infrared thermography was demonstrated as a viable tool in ‘visualizing’ university campus building envelope deficiencies by providing quick assessment and presenting very discernable images. This technique was shown to effectively visualize air exfiltration in a university multipurpose building. The opportunity to apply infrared thermography to a campus-wide weatherization plan will provide the Department of Facilities Management with qualitative assessments of the benefits of their

plan and identify additional areas of focus. The Department of Engineering, its faculty and students, will benefit through the application of the technique to identify and verify the solutions to energy management issues associated with building envelopes. The University as a whole is the ultimate winner in this process through lower operating costs, greater cooperation between faculty and Facilities Management staff, and vested student interest in developing their knowledge and skills through their participation in the campus living-laboratory environment.”

Special thanks to Robert E. Choate, P.E., CRE, CBST, WKU Department of Engineering, and Gatton Academy Alumnus Thomas Choate, for sharing their Case Study for inclusion in this report.



Thermogram and photograph pair of Grise Hall 2nd floor lobby single bank door and window panel. This “visualized” air leakage pattern shows the convective cooling of the exterior surfaces by the conditioned air from the interior building space, resulting in possibly significant energy loss from the building space compromising human comfort in the occupied space and resulting in wasted energy.

Growing Sustainably in the Student Garden

ICSR 301



Fall 2010 Class

In 2009, a group of students developed a vision for a student garden at the WKU Farm. They requested and were granted a 1.5 acre garden plot by the Agriculture Department and start-up funding by Student Government Association. Initially under the guidance of Dr. Martin Stone, they began hands-on, sustainable gardening education.

This fall, the vision of the Student Garden was further developed through the Institute for Citizenship and Social Responsibility (ICSR) 301 course – *Growing Sustainably in the Student Garden*. The course, offered as a one credit hour bi-term, included readings by such authors as Michael Pollan, Wendell Berry and Janine Benyus, and responses (in any medium to encourage thoughtfulness and creativity), as well as reflective journals. However, the primary focus was the garden.

Six dedicated students, Instructor Christian Ryan-Downing, and assistant Cristin Lanham made great progress in the garden this fall, focusing on installation of the perennial components of the garden for future generations of students. These installations included 24 high-bush blueberry plants of several different

cultivars (to ensure cross-pollination), a collection of strawberry cultivars (selected so that the plants will produce all summer), pecan trees that will someday provide both shade and food, and preparation for an asparagus patch.

All installations began with soil testing and proper soil preparation and amendment and ended with protective mulching. In an effort to be frugal and sustainable in the use of resources, creative solutions were sought, including incorporation of many “waste” products from main campus, such as:

- Cardboard, newspaper, and shredded paper for mulch (providing superior weed control and moisture retention to limit irrigation needs);
- Compost made from pre-consumer food scraps provided by Fresh Food Company, grass clippings from campus lawns, and more shredded paper (it provides a nutrient-rich soil amendment);
- Leaf compost from the Farm (it provides an excellent, nutritive groundcover).

A highlight of the course was a visit from guest expert Jake Schmitz, Ohio Valley Regional Coordinator for Organic Valley Cooperative. Jake’s visit resulted in a delightful surprise – the garden was granted funding support from the Organic Valley/ CROPP Cooperative, Midwest Regional NOVA Team. This team of farmers from KY, IN, OH, and MI voted to give us the full amount of money that we needed to purchase fruit trees for the orchard (apples, pears, cherries, and plums galore!), brambles (blackberries and raspberries) and our asparagus crowns. Thanks, Organic Valley Family of Farmers!

This spring, the course will be offered as a full semester, one credit hour course. The fruit trees, brambles and asparagus provided through funding support from Organic Valley will be planted, as well as a variety of other vegetables. Students will sell their produce on campus at a student farmers’ market in late spring. Volunteers are always welcome in the student garden so if you’d like to help, or for more information, contact WKU Sustainability Coordinator Christian Ryan-Downing.



Lesley Heck prepares for Pecan Tree Planting

I had the great pleasure of taking this course and getting my hands dirty for a cause that will engage many students to come. We had many conversations on what we wanted the future of the garden to be, we learned about growing our own

food, visited Wes Berry’s house where he raised a nice flock of chickens, and met with Jake Schmitz, a representative from Organic Valley Co-op.

Much work is still to be done, but next semester students will gain another aspect of farming -- marketing. Students enrolled in the course in the spring will sell the produce grown to raise awareness about food issues while promoting a healthy local diet. Within the next few years, as these perennial crops mature, we will have fresh fruit, grown sustainably, right here on our own university farm. Apples, pears, cherries, and plums will abound, as will blackberries and raspberries. All will be available at our student farmers’ market, so keep an eye out for their debut.

—Student Intern Lesley Heck

Sustainability Leadership Retreat

Gatton Academy of Mathematics and Science

By Melissa Schultz, Gatton Academy Assistant Residential Life Coordinator

The Carol Martin Gatton Academy of Mathematics and Science teamed up with Western Kentucky University's Center for Environmental Education and Sustainability (CEES) to bring Academy students a progressive retreat opportunity focused on sustainability leadership.

Sixteen Gatton Academy students were selected to participate in the inaugural Sustainable Leadership Retreat, which was held on November 4th-6th at Loucon Training and Retreat Center in Leitchfield, KY. The mission of the retreat was to foster the development of students' ability to be sustainability leaders who choose to engage in the process of creating transformational change with others and aimed toward building a sustainable future. Students also enjoyed outdoor activities like zip lining, hiking, canoeing, and other activities that promote teamwork and leadership.

Throughout the retreat, students engaged in various interactive discussions and activities on topics like environmental law, leadership theory in practice, building a sustainable

community, green design and holistic approaches to community design and redevelopment, steps toward a sustainable campus, and defining the meaning and practice of sustainability in terms of the environment, society, and economy.

The experts leading workshop sessions included: John Baker, Education Coordinator from the Office of Leadership Excellence; Dr. John All, Department of Geography and Geology; Christian Ryan-Downing, WKU Sustainability Coordinator; Cristin Lanham, Recycling Coordinator; Terry Shoemaker, Program Coordinator for the Institute for Citizenship and Social Responsibility; and Nadia Denov De Leon, Community Engagement Coordinator for the Alive Center. Also joining the retreat was Scott Southhall, Vice President of Landscape Architecture and Planning Group Manager of CDP Engineering. CDP is a Kentucky enterprise committed to sustainable practices in business and industry.

A Student Perspective

By Sydney Combs, Gatton Academy Senior & Green Club Co-President

"Sustainability" is a major catchword in the environmental movement and that's what we thought the sustainability trip was going to be – learning how to live green – a full fifty-four hour tutorial on reducing, reusing, and recycling. Only once we got there and started listening to the messages presented by our speakers did we begin to realize that sustainability is much more.

Sustainability is about the interaction between the environment, the economy, and society. We learned that we all have a joint responsibility to take care of the world as a whole, that small steps lead to influential change, and how we can be the leaders of these changes. However, we also learned that substantial change is a group effort that requires passion. As members of the upcoming generation, we now realize how important our actions are, and we must continue to live our lives with the future in mind.



Gatton students Holly Morris and Rachel Metcalfe.


THE GATTON ACADEMY
OF MATHEMATICS AND SCIENCE IN KENTUCKY

education
radicate
prove
choice
al Food
choices
Water - stormwater
Public transportation
Durable Goods
air quality - radon
BIOMIMICRY
RESPONSIBILITY
SIMPLICITY
BALANCE
ECONOMY
FUTURE
NATURE
HAPPINESS
COMMUNITY
SOCIAL JUSTICE
ECOSYSTEM SERVICES
ENERGY HEALTH WATER
corn
green
envi
socie
cult
Tech
conserve
gender
equality
RESOURCES
global
social
class

Sustainability Leadership Retreat brainstorming board.



Gatton students Tyler Parke and Lori Lovell.

Energy

The biggest news in energy at WKU is that the Energy Savings Performance Contract (ESPC) on which we've partnered with Johnson Controls Inc. is nearing completion. WKU's ESPC includes \$9.7 million in energy-reducing and facility improvements. Thirty-eight existing buildings will be impacted with water and lighting improvements, touching 3.5 million square feet. The overall project has a 15 year payback period, with a guaranteed cost avoidance of more than \$1 million in utilities annually. And, the project has created or impacted more than 200 jobs for the Commonwealth!

Since late spring, we've been upgrading lights, plumbing fixtures, and working on a variety of other energy saving projects. To date, the project is 90% complete.

The numbers:

- 35,000 indoor light fixtures including 1,402 occupancy sensors – saving 7,833,962 kWh annually (equal to annual electricity use for 709 homes)
- 2,114 water saving fixtures and three rainwater collection applications – saving 20,312,792 gallons of water annually (enough to meet the annual needs of 62 families)

These will reduce WKU's greenhouse gas emissions by 21,487 metric tons annually!

To complement the ESPC, the Department of Facilities Management has initiated some additional energy saving projects including:

- Installation of reflective roofing on the Ivan Wilson Center for Fine Arts



Western Kentucky University is an institutional member of the US Green Building Council, with twelve LEED Accredited Professionals on staff.

- Weatherization of all administrative and academic buildings
 - Installation of Elevator Misers that turn the lights off when no one is aboard
 - “Smart scheduling” of classes and activities
 - Temperature setbacks during nights, weekends and other unoccupied periods

Many of these initiatives are described in the WKU Energy Policy, which can be found on the Department of Facilities Management website.

Our energy conservation efforts are paying off. Financial savings from 2008 were reinvested in the purchase of a natural gas boiler for the Central Steam Plant. The new boiler allows for increased fuel flexibility, reduced use of coal for heat, and a reduced carbon footprint. Additionally, 2009 savings have allowed for the purchase of a second natural gas boiler, which will be installed this spring. The two new boilers will provide complete campus heating with natural gas.

Real-time energy use for the main campus can now be viewed on the web. Housing and Residence Life provided the dashboard for residence halls in 2008, and in fall 2010 the main campus was added to the site. Eventually, all campus buildings will be added to the dashboard so that real-time energy data will be available for any WKU building, any time. Check the main campus dashboard to see how much energy we're using (or saving!) at WKU:

<http://www.wku.edu/housing/dashboard.htm> and click on the “main campus” icon to see energy use for WKU.



The WKU Central Steam Plant provides heat for most campus buildings.



Installation of natural gas boiler.



WKU main campus energy use can be monitored in real-time on the "Building Dashboard®" by Lucid Design Group, Inc. (www.luciddesigngroup.com)

Gary A. Ransdell College of Education Building

“LEED”ing the Way

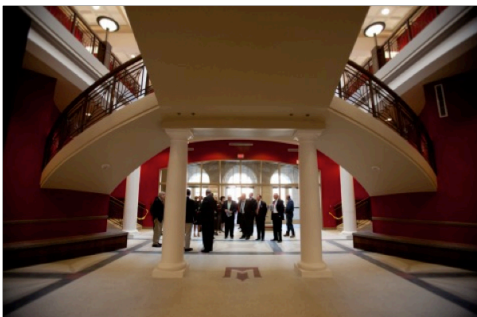


In late October, the WKU Board of Regents gave the new College of Education its name: The Gary A. Ransdell College of Education. The building, for which we will seek Leadership in Energy and Environmental Design (LEED) Silver certification after the required one year of occupancy, will be the first LEED certified building at WKU. Some credits for which we will seek certification include:

- access to public transportation
- bicycle storage and changing rooms
- reflective coating on roof and parking lots to reduce heat island effect

- water efficient landscaping and low flow plumbing fixtures
- optimized energy performance
- recycled content and regional materials
- low emitting (VOC) adhesives, paints, carpets, and furnishings for improved air quality

Occupants are sure to enjoy working and learning in their beautiful new space and the Gary A. Ransdell College of Education is a building that all of us can be proud of. Our first LEED building will certainly not be the last. At WKU, we have committed to building to LEED standards in all new campus construction and renovations to ensure all new spaces are efficient, healthy, and comfortable places to work and learn.



The WKU Regents toured the new building during their quarterly meeting in October.



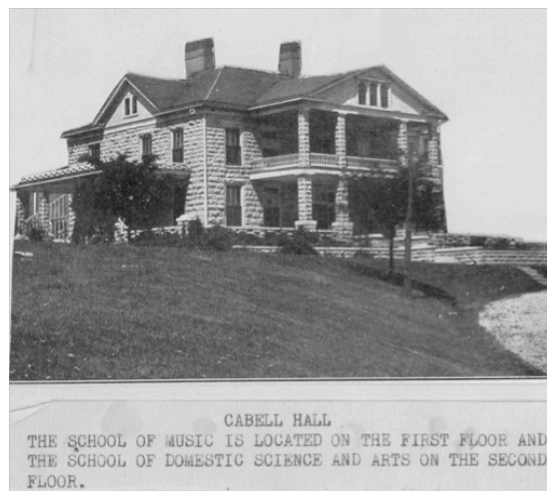
Recycling bins are part of the design.

LEED before LEED...

LEED buildings earn credit for re-using materials from demolished or renovated buildings and using locally sourced building materials. WKU has a history of using these practices. Schneider Hall and the Colonnade were both constructed with limestone quarried where the Colonnade is now located.

Cabell Hall, known as Music Hall from approximately 1911-1926 housed The School of Music and The School of Domestic Science and Arts. In 1926, the Cabell house was taken down stone by stone to make room for the new library building. The materials from the Cabell house were used in constructing the Home Economics building. The reconstruction of this building was done by the Industrial Arts Department and was redesigned by Capt. Brinton B. Davis and Miss Charlotta Day.

The Home Economics Building was razed in 1982 and now is the current location of the Gated Parking Lot beside Industrial Education Building.



CABELL HALL
THE SCHOOL OF MUSIC IS LOCATED ON THE FIRST FLOOR AND
THE SCHOOL OF DOMESTIC SCIENCE AND ARTS ON THE SECOND
FLOOR.

Source: Hilltopper Heritage, WKU Libraries.

PRESTON POOL GOES SOLAR

As part of WKU's ESPC, a solar thermal array has been installed on the Preston Health and Activities Center roof that will use the sun's radiant energy to heat the swimming pool. Eighty-eight solar thermal collectors have been installed. Each collector contains 3.7 gallons of fluid that will transfer heat from the sun to the pool water in a heat exchanger, keeping the pool a consistent 80-83 degrees Fahrenheit.

The collectors are expected to perform 10 months per year, as measured by Solar British Thermal Unit (BTU) output. BTU output calculations are estimates based on low wind conditions and historical averages of daytime air temperatures and solar insulation levels for our region.

WKU is guaranteed to save at least \$10,963 annually by reducing the amount of natural gas required for heating as a result of this installation. With an initial project investment of \$96,410, these annual savings result in a project payback of 8.8 years.

The collectors are manufactured by Heliocol and are distributed and installed by SunQuest Energy, LLC. The same collectors were used to heat the swimming pool facilities for the Summer Olympic Games in 1996 Atlanta and 2004 Athens.

Thermal solar collectors on the Preston roof will heat the indoor swimming pool.



Solar heating for the pool isn't the only way the Raymond B. Preston Activities Center is going green. Other sustainability features of the Center include:

- Bicycle racks just outside the main entrance
- Green Seal Certified cleaning chemicals and hand soap
- Energy efficient lighting fixtures throughout the building
- Light-Emitting Diode (LED) Exit Signs
- Low-flow faucets and showerheads in the locker rooms
- Occupancy sensed lighting controls throughout the building
- Recycling containers for paper, plastic, and cardboard
- Sensed toilet flushing in the locker rooms
- Weather-stripping on exterior doors

Measuring Big Red's Carbon Footprint

A carbon footprint is a measure of the impacts that our activities have on the environment, and in particular, climate change. We can measure our personal carbon footprint fairly easily, using an on-line calculator or carbon footprint tool. Our personal carbon footprint is impacted by the many choices we make in our daily lives, like the method of transportation we use, how much and what kind of energy we use in our homes, the foods we eat, and what we buy and throw away.

Specifically, a carbon footprint is a measurement of all greenhouse gases we produce, expressed as metric tons of carbon dioxide equivalent (MT eCO₂). A carbon footprint can be assessed by performing a greenhouse gas emissions inventory. For an organization such as a university, it is much the same as for an individual; WKU's carbon footprint is influenced by the type and amount of energy we use, the things we buy, our transportation uses, and what we throw away. Once our emissions inventory is determined, we can develop a strategy for reducing our carbon footprint.

Conducting a comprehensive greenhouse gas emissions inventory for a university campus is a big endeavor. Data must be collected and interpreted for everything from energy use to air miles traveled for university business to type and amount of paper purchased to how many cows and horses we have!

Presently, we have completed the university greenhouse gas emission inventory for Scope 1 sources, which include on-site combustion of fossil fuels, such as the coal and natural gas burned for

heat and fuel used in vehicle motors, and for Scope 2 sources, which include purchased electricity. The inventory for Scope 3 sources is in progress. Scope 3 includes: faculty, staff and student commuting and air travel emissions and emissions associated with solid waste and waste water treatment, among many other things.

The Office of Sustainability is pleased to report the preliminary results of our campus carbon footprint. Please note that these are preliminary estimates based on imperfect and limited data. The results are for the 2009 calendar year and are limited to the main campus and WKU Farm.

Overall, we estimate that our 2009 emissions total for Scope 1 and 2 sources: energy (heat, cooling, and electricity), agricultural practices (livestock and fertilizer use) and campus transportation fleet to be just under 65,000 MT eCO₂.

Scope 3 emissions thus far measured include faculty, staff, and student commuting, as determined by a commuting trends survey conducted last spring, and solid waste. For campus commuters, emissions are estimated to be 15,342 MT eCO₂. Emissions resulting from solid waste are estimated 2,145 MT eCO₂.

These results reveal some interesting results. First, purchased electricity (scope 2) comprises 72% of our carbon footprint (see chart below). Electricity use is to a large extent controllable, with huge potential for conservation and efficiency improvements, so reducing this part of our carbon footprint is something we can all work on.

Secondly, commuting to and from campus is a large component of our overall

footprint. This too is something that we can improve by making choices such as using Parking and Transportation Services Ridesharing program or riding a bike to campus. We are working on many other ways to reduce our campus carbon footprint, such as reducing solid waste (reduce, reuse, recycle!) and converting the Central Steam Plant heating fuel from coal to natural gas.

As we continue to study our campus carbon footprint, we will better learn which actions and choices make the most sense and gain insight as to how to be a more sustainable WKU. We encourage you to measure your own carbon footprint to learn how you can live more sustainably too.

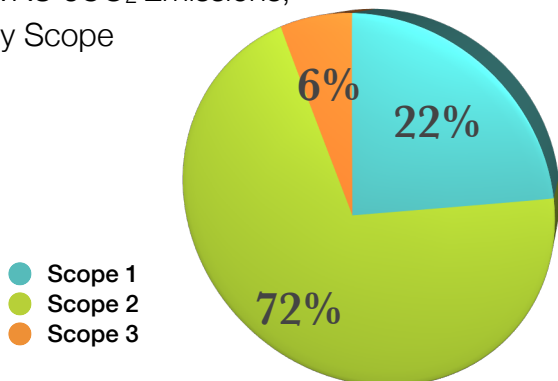
For more information, contact WKU Sustainability Coordinator, Christian Ryan-Downing

EPA Greenhouse Gas Reporting Rule

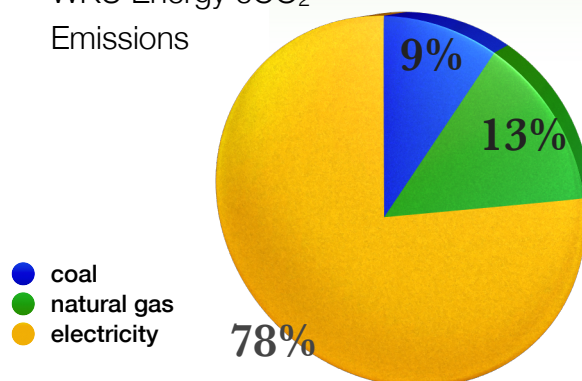
In October 2009, the EPA issued a Mandatory Greenhouse Gas Reporting Rule that requires reporting of greenhouse gas emissions from large sources and suppliers in the US. It is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of Scope 1 GHG emissions are required to submit annual reports to the EPA.

-For more information visit: <http://www.epa.gov/climatechange/emissions/index.html>

WKU eCO₂ Emissions, by Scope



WKU Energy eCO₂ Emissions



Studio 1 LED Lighting Renovation

WKYU-PBS

One of the most exciting projects of 2010 was the renovation of the television studio at WKYU. The new LED (light emitting diode) lighting system replaced an aging, 40 year old incandescent system that regularly malfunctioned, required expensive specialized bulb replacement, wasted energy, and generated a lot of unnecessary heat. When the time came for replacement of the system, Senior Producer/Director David Brinkley did much research to make sure this new technology was the right choice for WKYU-PBS, and the results speak for themselves.

The LEDs will reduce energy consumption by 97% and last tens of thousands of hours. The bulbs will never need replacement and produce only a very small amount of heat. Most importantly, WKU broadcast production students have the opportunity to use the most innovative lighting technology found in a university television studio.

"We are leading the charge for energy efficiency in television production. Our studio is the only one of its kind at any university campus in the world. It serves as a model for the future generation of media professionals that are educated here," said David Brinkley in the WKU news release. "Students at WKU now have the opportunity to use and study lights that were prototypes just a few months ago. WKYU-PBS is on the cutting edge of this emerging technology and we plan to showcase this studio model to all facets of the television industry. "

The television studio renovation is one of two initiatives for improving energy efficiency at WKYU in 2010. A switch to a digital transmitter earlier in the year has reduced transmission power consumption by two-thirds, reports Jack Hanes, WKYU's General Manager.

Tours of WKYU-PBS Studio One and the new LED lighting system may be arranged by contacting David Brinkley.



Barbara Deeb interviews Governor Steve Beshear for Outlook on June 2. The Governor was the first guest to be interviewed under the cool new lights of the WKYU-PBS studio.



WKYU is the first PBS station in the country to use a new all LED lighting system, and only the second television station in the U.S. to use this technology. The system will reduce energy consumption by 97%.



Special thanks to David Brinkley, WKYU Senior Producer/Director, for his contribution to this section

Greener Grounds...

WKU Campus Services Manager Greg Fear, LEED AP, has been making efforts to demonstrate best practices in sustainable grounds management for a long time. Only organic fertilizers are used on the campus lawns, leaves are mulch-mowed for soil health, and Integrated Pest Control is used for minimal chemical application. More than 300 trees were planted in 2010 to replace trees lost to old age, drought, or disturbance.

Maintaining our gorgeous green spaces takes a lot of work. Greg's Grounds Crew of 23 people makes sure our lawns are lush and green. The Garden Crew of 7 students design and maintain our campus gardens, supervised by Gardener Josh Twardowski and Assistant Andrew Meffert.

The newest initiative in greening our campus grounds is a "smart" irrigation system installed on the main campus, athletic fields and intramural fields. Part of the Energy Savings Performance Contract, the new irrigation control system and low flow irrigation heads will significantly reduce campus water consumption.

The system uses state-of-the-art control modules, climate interpretation devices and a real-time alert system. One of the most unique features is the ET gauge and rain bucket. The ET gauge measures the current evapo-transpiration (ET) rate and compares that to historical ET rates, dispensing water accordingly based on the soil and plant demand at that particular time in the growing season. The rain bucket is like most rain gauges except this one will shut the irrigation systems down in the event of precipitation.



This 550 gallon cistern collects rainwater from the parking structure top level and is connected to the irrigation system serving the garden seen below.



The new system also integrates a cycling system which will rotate the irrigation run times to accommodate for percolation into the soil. This unique feature minimizes the amount of surface runoff due to soil saturation.

Additionally, several rainwater harvesting systems have been installed. At two sites on the main campus, and at one site at the WKU Farm, rainwater is collected from rooftops into large cisterns. On campus, one of the 550 gallon cisterns is located near the Department of Facilities Management and the other is at the Health Services building. The water from these cisterns is dispensed to

drip lines that irrigate local gardens. On the Farm, two 1300 gallon cisterns collect water from the livestock barn roof. This water is for many uses, including spraying down the Expo Center arena floor to reduce dust.

Special thanks to Joshua Twardowski, Gardener, for his contribution to this section.

Clean Green

The WKU Department of Facilities Management Building Services cleans green. Products, equipment, and processes used every day in cleaning our campus buildings are better for people and better for the planet.

Cleaners, floor finishes, toilet paper, paper towels and hand soap are all third-party certified as eco-friendly, and all cleaning chemicals used by our Building Service Attendants are diluted at low, safe levels and require only cold water, reducing energy use associated with heating water.

FaST® Auto Scrubbers with Echo Technology eliminate the need for any chemicals; only water is used to clean the floors. "BOOST" floor scrubbers are used to remove wax from floors without the use of harsh stripper chemicals; only water is used.

All vacuums used in our facilities provide HEPA filtration to promote cleaner air, and for the new Gary Ransdell College of Education and Behavioral Sciences building, vacuums contribute to LEED certification for the building.

Never satisfied, the Building Services team will continue to seek further opportunities to implement new products, equipment, and procedures to clean green.

...And Parking Lots Too!

WKU Parking and Transportation Services and Planning, Design and Construction Department incorporated sustainable features into parking lot designs at WKU to reduce storm water run-off, the heat island effect, and energy consumption.

In 2009, the Chestnut Street North Lot underwent a complete renovation. In the new design, greenspace was expanded, which reduced the surface area of asphalt from 1.3 acres to 1.1 acres.

In addition, permeable concrete was utilized in the lowest section of the parking lot. These two features reduced storm water run-off by 47% from this parking lot.

Also in 2009, the Adams Street and University Boulevard parking lots also got makeovers, using rain gardens with native plants and permeable concrete to reduce stormwater run-off. This year, the Mimosa and Minton Lots were improved, with use of pervious concrete to reduce stormwater run-off and reflective coating to reduce the “heat island” effect.

The structural parking lots have been improved too. PS1 and PS2 are more energy efficient with new high efficiency fluorescent and LED lighting systems installed as part of WKU’s Energy Savings Performance Contract.

Special thanks to Parking and Transportation Director Dr. Jennifer Tougas for her contribution to this section.

Did you know...WKU Transit ridership exceeded 500,000 last year for the first time?

Eco Facts

Reduce Storm Water Run Off

Efforts to reduce storm water run-off also reduce the amount of oils and other contaminants that wash off the parking lots and into our streams. By reducing surface water run-off, we also reduce the amount of erosion that occurs in urban streams created by the volume and speed of run-off.

Design features which reduce storm water run-off include: permeable concrete (water infiltrates concrete and is stored below the parking lot until it seeps into the groundwater), landscaping islands (which reduce impermeable surface area), rain gardens (landscaped areas which collect rain water and feature native plants).

Reduce Heat Island Effect

Heat island effect is caused by asphalt absorbing heat of the sun during the day and releasing it at night. In urban areas, heat island effect changes micro-climates. In large urban areas, it actually changes weather patterns. To reduce the heat island effect, a highly reflective coating is applied to the asphalt. The coating reflects the sun and heat energy so that it is not absorbed by the asphalt.

Reduce Energy Consumption

High efficiency fluorescent and LED lighting systems reduce energy use in parking lots.



The Chestnut Street Parking Lot improvements are eco-friendly.



impervious vs. pervious



The Chestnut Street Parking Lot received the 2010 Concrete Design Award from the Kentucky Ready Mixed Concrete Association for “Excellence in the Design and Use” of pervious concrete.

WKU Recycling

2010 has been another wildly successful year for WKU recycling. We're engaged, committed, staffed, and ready to divert waste! Along with our veteran full-time Coordinator and Group Leader, we've got a strong crew of 8 wonderful student workers, new trucks, and even more new bins. Opportunities to recycle abound! We have been supported by some wonderful folks from all over the campus community. You know who you are, and we thank you!

We're always here to help, so remember that we are only an email away. If you have questions, suggestions, or requests, simply email recycling@wku.edu and we'll do our best to help you handle your waste appropriately.

To highlight a few of the initiatives we have taken on this year, we have invited members of our crew to give details and perspective. These submissions are written by the very folks who did the work, in trucks or on foot, rain or shine, wading through shredded paper and sorting through beer cans. It is hard work and we

love every minute of it. It's the least we can do for our planet and to make sure that WKU sets an example as a good steward of this wonderful world we call home.



Chris Radus, Recycling Crew, Group Leader

Tailgate Recycling

improved noticeably for 2010. More volunteers, additional containers, greater student interest, and increased cooperative spirit added to the success of the program in its third season. Organizations providing assistance included DFM Grounds Crew, Hilltopper Athletics, WKU ROTC, and the Roller Derby gals – Vette City Vixens and Bowling Green Hot Broads.

Volunteers and partner organizations worked hard to put a blue bag for recyclables at every tent, car, or tailgate spot. This year we also had aluminum tins for charcoal, and haven't had any lawns or gardens damaged by dumped coals. In order to make sure that we do not discourage recycling of any recyclable

material, we collected single-stream in the blue bags. This means that the recycling crew comes in Monday mornings after the party to sort the cans from the bottles, making sure that each type of material is dealt with responsibly.

Keep an eye out for blue bags at Tailgating next year, and tailgate responsibly in the new WKU Tradition. Go Tops!



Will Simpson, Recycling Crew, Student

In addition to more conventional forms of recycling such as paper, plastic and cardboard, WKU Recycling is also promoting **writing instrument recycling**. By placing small receptacles at many of the heavily trafficked areas on WKU's campus, we are giving students, faculty and staff the opportunity to recycle their used pens, mechanical pencils and highlighters rather than throwing them away. Once the writing instruments are collected they are sent to Terracycle, a small business out of New Jersey that

2009 Recycling Review

During the 2009 calendar year, we have seen many improvements in our program that have resulted in increased recycling opportunities and participation.

Thanks to everyone who took the time and initiative to find a bottle bin, break down a box, or use their desk side paper bin! And special thanks to our Building Service Attendants – our program could not be successful without you!

Our recycling rate (as a percentage of Total Solid Waste) is over 11% for 2009 (up from 9% in 2008 and 4% in 2007).

We recycled over 565,000 pounds of paper, plastic, aluminum, cardboard, scrap metal, glass, newspaper, books, electronics, and pre-consumer food scraps.

Our recycling efforts have many positive outcomes:

* We reduced our University's carbon footprint by 188 metric tons (source: EPA WARM model calculator):

- Equivalent to the annual emissions of 120 passenger cars.
- Equivalent to 70,343 gallons of gasoline combusted.

* From our 66 tons of paper recycling alone, we saved (source: all-recycling-facts.com):

- 1,122 trees (to put this into perspective, we have about 2500 trees on the main campus)
- Nearly 4 million gallons of water
- Over 25,000 gallons of oil
- The energy used to recycle paper is nearly 70% less than manufacturing paper from virgin pulp
- Please think before you print, and don't let recyclable paper get wasted by putting it in the trash!

* We collected and recycled almost 8500 pounds of plastic (source: all-recycling-facts.com):

- It may not sound like a lot, but bottles don't weigh very much. It takes about 12 bottles to make one pound, so we actually recycled over 100,000 bottles, and that is a lot!
- 250,000 plastic bottles are trashed every hour in the U.S., and constitute more than half of the recyclable waste in our landfills.
- Plastics #1 and #2 are made from OIL.
- Please don't buy bottles if you don't have to, and please find a bottle bin when you are done.

* The 132 tons of cardboard that we recycled last year are the equivalent of saving (source: earth911.com):

- 2,244 trees (almost as many trees as we have on our campus)
- Nearly 1 million gallons of water
- Over 6,000 gallons of oil
- Recycled cardboard only requires 75% of the energy needed to make new cardboard and reduces the emission of the sulfur dioxide produced when making pulp from trees.
- Please do your part by emptying and flattening your box. Your cooperation makes all the difference!

* 1,709 pounds of aluminum were collected by WKU recycling in 2009:

- This includes tailgating events, in-building collection, and other sources of cans given to the Cans for Habitat trailer.
- Again, this doesn't sound like a lot, but it is. As of 2002, 1 pound of aluminum cans is equivalent to about 34 empty cans. So, we recycled over 58,000 cans, and that is a lot!
- Tossing away an aluminum can wastes as much energy as pouring out half of that can's volume of gasoline.
- And, twenty recycled cans can be made with the energy needed to produce one can using virgin ore.
- Please drink responsibly -- recycle your cans!

partners with organizations to make products from post-consumer material. [Terracycle](#) provides WKU Recycling with 2.5 cents per writing instrument. The money that is acquired is donated to the WKU Foundation Green Fund, which supports sustainability initiatives on campus. Innovative opportunities such as this allow students, staff and faculty to cut down on their overall waste in areas that conventional recycling cannot address.



Lisa Yeager, Recycling Crew, Student

Summer is typically reserved for time off and relaxing by the pool, but this year it was busy for WKU Recycling. In June we received a large shipment of nearly 100 new blue recycling bins in all shapes and sizes. In order to make the best of our investment, we set out to find perfect places for them. First, we ensured that every building on WKU's Main Campus, South Campus, and Farm was provided with at least one receptacle for each commodity in their recycling area. These bins are primary pick-up points on our recycling route and are a shared responsibility area between our department and Building Services.

Our Building Service Attendants are an integral part of our efforts to reduce waste and increase recycling at WKU because they are responsible for removing bags of recyclable materials from the classrooms, hallways, lobbies, and lounges used by students, faculty, and staff. We couldn't do it without them!

Along with the large outside bins that service each building, we provide ClearStreams for plastic bottles and aluminum cans, plaza bins for mixed paper and plastic bottles, and gluttons that can hold four different types of recyclable materials.

While planning for the placement of many new common-area bins, we had to consider student flow between classes, at special events, and through general assembly areas. We now provide most services in the ground floor lobby of every building, and in many hallways and lounges. Outside there is a plastic bottle plaza bin for almost every trash can and we hope to one day say that we have more recycling bins than trash cans on campus!

In order to alleviate mixing of recyclable materials or contamination from food waste, we also worked hard this summer to make sure all of our bins were clean and properly labeled in order to reduce confusion about what can and cannot be put into them. Some bins that

had frequent problems were given larger, more detailed labels, and some bins were removed altogether if there wasn't access to a trashcan nearby. Overall, this summer was a huge success!



Quinna Sydnor, Recycling Crew, Student

WKU's **compost** facility is a new development within the Office of Sustainability. Located across the railroad tracks, the compost facility comprises four to five vermiculture (worm compost) beds and one large heat-compost pile. The compostable materials that we incorporate are things such as raw, pre-consumer food scraps from the kitchen at Fresh Foods, shredded paper, grass clippings, compostable dinnerware, leaves, excavated soil, cardboard, and plant debris. The worm compost bins contain a number of colonies of worms. These worms eat and digest the food bits and paper that are put into the bins as well as the soil and aerate the bins making the compost process faster.

Compost is rich in nutrients and is used in both horticulture and agriculture. It is beneficial for the land in many ways, as it acts as a soil conditioner and a fertilizer. The finished product of our compost here at WKU is feeding our Student Garden at the Farm. This winter, it will top dress our asparagus crop, backfill and fertilize our orchard trees, and trickle through the roots of our blueberry bushes. And the best part is that the benefits are free, and we're saving valuable materials from the landfill.

As you can see, a lot of time, hard work, and committed people have contributed to our success here at WKU Recycling. We want to thank all the students, faculty, and staff for doing their part in reducing waste on campus. Recycling is just a small part of making our community more sustainable; together we can make WKU a greener place to learn, work, and visit!



Lesley Heck, Recycling Crew, Student

The **move-in cardboard drive** was outstanding again this year. Thanks to a partnership coordinated by the Office of Sustainability between

WKU Recycling and Housing and Residence Life, 20,540 pounds of cardboard were diverted from the landfill.

Bins for cardboard are placed near dumpsters for incoming freshmen and their parents to place their cardboard to be recycled. The diligence and determination of these partners in actively monitoring dumpsters, removing cardboard, and engaging new students and parents in our recycling efforts are to credit for near 40% increase over last year.

Move-out in May is another big time of the year for the WKU Recycling crew. For the **"Lighten your Load"** Collection drive, boxes are placed in each of the residence halls for students to place their unwanted, gently used objects. 2010 was our best year yet, with collection of more than 4000 items of clothing, two truckloads of food, and more than 1000 miscellaneous items such as small appliances and school supplies. These items were sorted then donated to flood victims, the International Center, Goodwill, and other donation centers in Bowling Green. Truckloads of clothing, household goods, food, and random stuff were diverted from the landfill and are being appreciated by someone in need.

Happy Birthday Earth Day!

Festival 2010

The 2010 WKU Earth Day celebration was positively smashing. In celebration of Earth Day's 40th Birthday, we pulled out all the stops and presented the campus community with a fun-filled, educational opportunity to come together and celebrate our shared vision – the preservation of our planet.

Earth Day was kicked off at the University farm with tours of the Biodiesel Facility and Organic Alchemy's Methane Digester. On campus, the festival featured informational booths, giveaways, workshops, speakers, musicians, food, and demonstrations.

Students from the Public Health Program performed a Garbology dumpster audit, examining the contents of four campus dumpsters to determine and raise awareness about how much of the stuff we throw away could be recycled.

The climax of the celebration was the "Sustain Your Style" recycled materials fashion show, a stunning event put on by the Department of Design, Textiles and Merchandising. Students from classes in the department designed and created ensembles from recycled materials -- everything from newspaper to neckties -- and orchestrated the fashion show, complete with music, an announcer, advertising, and stage decorations made from recycled materials.

The inaugural presentation of the Warren County Environmental Stewardship Award was another highlight of the day. The stewardship award is named for its first recipient – Dr. Dero Downing, president emeritus of WKU. The following is an excerpt from the WKU News release on the presentation:

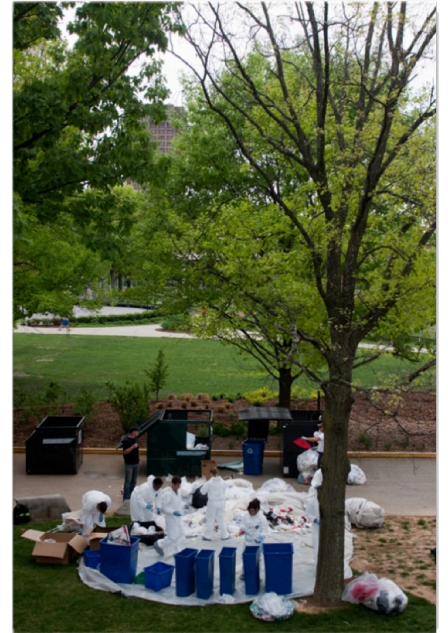


Alex Downing accepts the inaugural Warren County Environmental Stewardship Award on behalf of his father, Dr. Dero Downing, for whom the award will be named.

Alex Downing accepted the award on his father's behalf. "It is truly an honor for my siblings and me to accept this award," he said. "Our father is quite proud of this award and very humbled." Since arriving at WKU as a student in 1939, Dr. Downing has taken pride in the beauty of the campus. "He has set a wonderful example for his children and our children," Alex Downing said, adding that the Downing family spent many weekend afternoons picking up litter around the Hill. The award, sponsored by Warren County's Divisions for Stormwater Management and Environmental Planning and Assistance, has been created to raise awareness in Warren County of the importance of our environment.

"We are proud of what Dr. Downing has meant to Western Kentucky University, our environment and our community," Warren County Judge-Executive Mike Buchanon said.

The annual WKU Earth Day Festival would not be possible without the support and involvement of many members of the campus and greater community. A sincere thank you to all those that joined us to educate, entertain, inspire, and celebrate Earth Day!



Student Garbologists examine our campus waste on Earth Day, 2010.



"Sustain Your Style" recycled materials Fashion Show participants and coordinators.



Doing what comes naturally.

WKU Restaurant & Catering Group

Campus-wide

- Earth Day Festival
- Recyclemania
- Big Red's Bike Program & One Group
- Sustainability committee member
- Sustainability Purchases committee member
- Fair Trade University Steering committee member

Fresh Food Company

- Tray-less dining
- Use of WKU Gardening Crew herb garden
- Pre-consumer organic composting

Java City

- EcoGrounds coffees are Fair Trade or Rain Forest Alliance certified coffees
- Reusable mugs
- Coffee grounds are composted by the WKU Gardening Crew in campus gardens
- Recycles plastic milk containers
- All Bewley's hot teas are Fair Trade including Chai Tea

Freshens

- Uses 100% compostable cups for smoothies and ice cream
- Recycles plastic smoothie containers
- Offers natural and organic snacks

Einstein Bros. Bagels

- Fair Trade Tribeca Blend coffee

Convenience Stores

- Organic and natural foods
- Eco-friendly cleaning supplies
- Divine Brand Fair Trade chocolate
- Adina Holistics Fair Trade all natural drinks

All Locations

- Recycle used cooking oil
- Use eco-cleaning products
- Use eco-friendly napkins

Business & Marketing Offices

- Use a local "green printer" using recycled paper and soy inks for printing promotional materials
- Use recycled copy paper
- Recycle printer cartridges
- Use "green seal certified" cleaning products

ARAMARK Corp.

- Sustainable food practices
- Buying locally
- Green cleaning
- Energy & water management programs
- Waste stream management
- Waste reduction
- Responsible procurement - purchasing from other eco-conscious businesses
- Green buildings - integrating energy efficient and environmentally friendly construction in new building projects
- Transportation - in 2007 35% of fleet vehicles were hybrid or flex fuel



Sustainable Communities & Free Spaces

Institute for Citizenship and Social Responsibility

By Terry Shoemaker, Program Coordinator of ICSR



Harry Boyte speaks of “free spaces” in *The Citizen Solution: How You Can Make a Difference*. He defines free spaces as “settings where people meet as equals with others who are outside their immediate family and friendship circles, where people have a sense of comfort and ownership, and where people learn values and habits of public life, such as a regard for the common good.”* Boyte’s idea of free spaces is an important aspect for revitalizing civic knowledge, values, and participation.

Western Kentucky University’s Institute for Citizenship and Social Responsibility (ICSR) was developed for the purpose of helping educate students who are capable of addressing the challenges of the 21st century and creating positive change. One of the ways that ICSR accomplishes this goal is to offer a “free space” for WKU students across all our academic disciplines.



Over the course of the last year, students, faculty, and staff have met at the ICSR to participate in civil discourse on contemporary issues at *The New York Times* Student Forum and T3 (Third Tuesday Tea) events. These events allow students to think critically with engaged civil discourse on issues such as the Islamic controversies around the United States, the use of fear and manipulation in American politics, and an analysis of the 2010 midterm election.

The ICSR has become the headquarters for programs such as The \$100 Solution which builds students’ civic agency by sustainably solving public problems with only \$100, thereby pushing students to think beyond economic solutions. Also, the ICSR will launch Kentucky’s first Public Achievement program this Spring, which gives WKU students the opportunity to coach local high school and elementary school students, empowering them to be co-creators of our communities.

In essence, the ICSR fosters the kind of community on campus that we hope for all across America. Indeed, it is the ICSR’s free space that is creating a sustainable community of productive citizens on WKU’s campus and in the Bowling Green community.

**Harry Boyte, The Citizen Solution: How You Can Make a Difference (Saint Paul: Minnesota Historical Society, 2008), 75-76.*

Upper Green River Biological Preserve

Progress at the Upper Green River Biological Preserve never stops. Here’s what’s been going on in 2010: An on-demand water heater has been installed to save energy compared to a standard water tank. Tree plantings and exotic plant removal are ongoing. Five additional acres of native barrens have been recreated and several areas of forest understory have been restored. Trash and potentially reusable waste material has been taken off the land (60 cubic yards of trash, 100 tires and 15,000 pounds of scrap metal). Water quality is being monitored and an oil well that may not have been properly

plugged is being inspected. WKU, in collaboration with Mammoth Cave National Park, operates a mussel-rearing facility that helps restore state and federally endangered mussels to the Green River. The 1200 acres of preserve provide a carbon-offset equivalent to the carbon release of the Glasgow campus.



The WKU Biology Department has made a concerted effort to recycle and to reduce the use of paper and other resources. They scan documents in favor of photocopying whenever possible and are strong advocates of electronic forms and submission of documents as well as avid users of Blackboard and other electronic technology. While the department resides in an old and inefficient building - Thompson Complex North Wing - they are doing their utmost to be responsible global citizens. For example, they are replacing antiquated appliances such as refrigerators and freezers with Energy Star rated units.

Housing & Residence Life

Housing and Residence Life (HRL) continued our commitment to sustainability during the past year in the residence halls. HRL sustainability highlights and achievements include:

The **fourth annual move-in cardboard drive**, which was a great success! During the 2010 M.A.S.T.E.R. Plan weekend and throughout the following week, approximately 20,000 pounds of move-in cardboard was collected, beating last year's record of 14,000 pounds. Such success would not have been possible without the hard work and dedication of WKU Recycling, many volunteers, and the students and parents who took effort to recycle their boxes.

In May, 2010 HRL and WKU Recycling partnered to make the annual **"Lighten Your Load"** event better than ever. More than 5000 items, including gently used clothing, household items, and nonperishable food were collected during move-out and donated to local charities.

During October 2010, the residence halls competed in the annual **Reduce Your Use!** competition to see which hall could conserve the most energy. The competition was a nail biter, with several halls competing closely for first place. In the end, Gilbert Hall prevailed, reducing their energy use by 26% in October! Gilbert Hall now holds the Reduce Your Use! trophy and celebrated in grand style with a Big Red Rumble ice cream party attended by President Ransdell.

Gilbert Hall wasn't the only winner of Reduce Your Use!. Craig Lonas of McCormack Hall won the Reduce Your Use! bulletin board competition

(out of 20 entries), with his "Reduce Your Use or Things Will Get Scary!" bulletin board.

The 2010 competition resulted in conserving 90,442 Kilowatt hours and 136,567 pounds of CO₂, so this is a competition where everyone wins!

2008 Reduce Your Use! winner - Minton Hall

2009 Reduce Your Use! winner - Zacharias Hall

2010 Reduce Your Use! winner - Gilbert Hall



Gilbert Hall Resident Assistants get the high-five, and Reduce Your Use! trophy, from President Ransdell.



It's becoming easier and easier to Reduce Your Use! in residence halls. In 2010, motion sensors were installed in the hallways and common areas of Zacharias and Meredith Halls and interior lights were upgraded to higher efficiency lighting. In Bemis Lawrence and Barnes Campbell Halls, motion sensors were installed in the community bathrooms on each floor.



2010 winning Reduce Your Use! bulletin board, created by McCormack Hall's Craig Lonas.

Did you know... In all 15 residence halls, you can recycle paper, #1 and #2 plastics, aluminum, batteries, and USA Today newspapers.

Special thanks to David Baskett, Coordinator for Facilities, Housing and Residence Life, for his contribution to this section.

M.A.S.T.E.R. Plan 2010

By Blair Silliman, Coordinator of First Year Student Programs and Residential Education, Housing and Residence Life



During this year's M.A.S.T.E.R. Plan program, new students learned all about Big Red and "Going Green!". All 2,200 M.A.S.T.E.R. Plan program participants received white travel mugs in their registration packs. The biodegradable travel mugs, manufactured in the U.S.A. and BPA free, were purchased with funds generously provided by the Institute for Citizenship and Social Responsibility, WKU Office of Sustainability, and M.A.S.T.E.R.

Plan. Inside the mugs, each program participant found an informational flier about paper and Styrofoam cup waste, as well as helpful tips about "re-using"

their mugs to positively impact the Earth. Also found inside the mugs were an informational flier about WKU Restaurant and Catering Group's Sustainability initiatives (i.e. tray-less dining, WKU Community Herb Garden, and Fair Trade coffee), and a coffee punch card. Students who present their punch cards at campus dining locations and purchase six beverages (coffee or fountain drink) with their travel mugs receive their seventh beverage free of charge.

M.A.S.T.E.R. Plan, Parking and Transportation Services, and Office of Sustainability also collaborated to provide new students with an opportunity to explore the back roads, side alleys, and shortcuts of the city during the Big Red Bikes Downtown

Bowling Green Bike Tour. M.A.S.T.E.R. Plan program participants were encouraged to grab their helmets and "hit the road" with guides Jennifer Tougas, Helen Siewers, and Nick Asher. New students congregated at the Department of Facilities Management on Monday, August 23rd, to join the Bike Tour. After learning about "Big Red Bikes," WKU's free bicycle rental program, the students

pedaled off to discover downtown Bowling Green. Ten M.A.S.T.E.R. Plan students participated in the tour; many more students were interested in participating, but were

unable due to the number of bikes available. Since the Tour, awareness of the Big Red Bikes program has increased dramatically. The Office of Sustainability reports that the bikes are consistently being checked out and that they are working hard to increase the fleet to meet the demand! One thing's for sure...the Downtown Bowling Green Big Red Bikes Tour was a HUGE hit with WKU's newest Hilltoppers!

On Thursday, August 26th, "Blitzers" rushed the city of Bowling Green! The 300+ student volunteers participating in Big Red's Blitz, M.A.S.T.E.R. Plan's community service event, completed over 1200 hours of community service at various local non-profit agencies

including the Salvation Army, Bowling Green Public Works, Habitat for Humanity, Lost River Cave, and Potter Children's Home. In addition, WKU Sustainability and WKU Recycling provided service opportunities for the Blitzers volunteers cleaning and repairing bikes in the Big Red Bikes Shop, and weeding and mulching the WKU Community Herb Garden. All Big Red Blitz volunteers were provided



with lunch, water, and transportation to project sites outside a one-mile radius of the campus, in addition to "I'm a Blitzer!" T-shirts which they received after completing their service projects. Serving at the various project sites provided the student volunteers with opportunities to form connections with campus and community leaders,

identify opportunities for continued service, and develop lasting friendships while serving alongside new and current WKU students. Even Big Red couldn't risk missing out on the fun!

The Department of Housing and Residence Life, in partnership with the Office of Sustainability, hosts an annual energy consumption competition between the residence halls. Since its inception in 2007, the "Reduce your Use" competition has been serving as a vehicle for water and energy consumption education. This year, a small promotional flier for the "Reduce your Use" competition was included in the M.A.S.T.E.R. Plan participant registration packs. In addition to sharing information about the competition, the flier highlighted other ways in which Housing and Residence Life "lives red, and goes green," including:

- Providing recycling bins in every residence hall room;
- Placing plastic, paper, aluminum, and battery recycling bins in hall lobbies;
- Purchasing the Dashboard Electricity Monitor System;
- Installing low flow shower heads and toilets in recently renovated residence halls; and
- Replacing standard light switches with motion sensors in some residence halls.

By including the flier in the M.A.S.T.E.R. Plan participant registration packs, Housing and Residence Life not only educated students on "green" initiatives within in the department, but also communicated to the new students the value of sustainability in the campus culture. Hopefully, M.A.S.T.E.R. Plan students adopted some of the sustainable practices included on the flier and will lead more sustainable lives as a result.

Sustainability is often described as having a triple bottom line: healthy environments, social justice, and strong economies (American College Personnel Association Taskforce on Sustainability, 2008, p. 8). Many of our initial efforts to educate students on the topic of sustainability focus on the more tangible implications of recycling, energy and water consumption, and waste reduction. However, sustainability requires more and means more than the number of kilowatt hours saved or pounds of plastic bottles recycled. Sustainability is about making a commitment to bettering the quality of life for all (p. 8), a commitment the



Department of Housing and Residence Life and M.A.S.T.E.R. Plan take seriously:

Purchasing and providing sustainable products like the M.A.S.T.E.R. Plan travel mugs introduces students to sustainable life practices and shows cross-campus commitment to bettering the environment. Offering opportunities for students to learn more about reducing their carbon footprints and alternative forms of transportation challenges them to identify other easy substitutions they can make to lead more sustainable lives. Providing service learning and volunteer opportunities like Big Red's Blitz helps students learn to act on their commitment to sustainability (p. 16) and build self-concepts that include being a compassionate and effective change agent for a sustainable future (p. 13). Educating students about the institution's commitment to sustainability via fliers and promotional inserts helps them see sustainability as a way of life at WKU and leads them to seek out opportunities to positively affect the environment, fight injustice, and build stronger economies.

In educating students about sustainability, WKU is preparing global citizens better prepared to address global issues and lead us to a more sustainable future...and that's something we can ALL be proud to be a part of!

References:

American College Personnel Association Taskforce on Sustainability (2008). Toward a sustainable future: The role of student affairs in creating healthy environments, social justice, and strong economies [Monograph]. Washington, DC: American College Personnel Association, National Center for Higher Education.

Big Red Bikes

2010 was a great year for Big Red Bikes. The program has grown and demand for bikes is unprecedented, as more students learn that they can borrow a bike anytime for free! A *M.A.S.T.E.R. Plan* bike ride, guided by WKU Landscape Architect Helen Siewers and Parking and Transportation Director Jennifer Tougas was a great success, and was even featured on the front page of the Bowling Green Daily News.

Our bike fleet has grown, helped by the donation of two brand new bikes by Sodexo, but we still cannot always meet the demand for bikes, which is the kind of problem we like to have. Big Red Bikes Coordinator and mechanic Nick Asher works hard to refurbish the abandoned bikes to add to the fleet, but that's not all he's been working on. This fall, Nick wrote a grant proposal and we have been granted funding totaling \$9866.00 from ***The Kentucky Bicycle and Bikeway Commission's Paula Nye Memorial Bicyclist and Pedestrian Education Grant***. This funding will be used for tools, parts, and outreach and will expand and improve our program significantly.

With all this expansion, Big Red Bikes has never been more ready for volunteer help. If you don't know much about bike maintenance, don't worry, we can teach you everything you need to know. In the coming year, we hope to increase our number of volunteers to get as many people involved in the program as possible.

We welcome donations of bikes, parts, and funding support, and must note that the program would not be possible without continued funding support from WKU Parking and Transportation Services. BRB also owes a special thanks to the Department of

Environment, Health and Safety for providing helmets for the program.

If you want to volunteer with the program, donate a bike, or just want to know more about what we do, don't hesitate to send us an email at nicholas.asher382@wku.edu.

Special thanks to Nick Asher, Big Red Bikes Coordinator, for his contribution to this section.



The 2010 M.A.S.T.E.R. Plan guided bike ride departs.

WKU Educational Opportunity Centers

The WKU Educational Opportunity Centers Project is funded through the US Department of Education. Federal regulations call for documentation of project activities, participant information and project progress. In the past data has been stored for retrieval in paper files. Currently the project has over 7000 files and has used all available storage space for file cabinets. Project files must be stored for three years after the close of each five year grant.

It became necessary to develop a solution that could meet the government's regulation for documentation of all activities and services provided to participants, as well as reducing the need for additional space. FileMaker Pro had been used from the project beginning to store some participant information. A decision was made to increase the amount of data collected on participants and store all data digitally.

In the past we had stored all participant information in paper files. With this change the project will no longer have participant paper files and no need to increase the amount of storage space or the number of file cabinets needed. This change was started September 1, 2010 and the project proposes to reduce the amount of paper used in its office by over 70%. Because participant data is collected and stored electronically our need to print copies for files has changed. In fact no files are made for participants, thus saving the purchase of 1000 paper file folders at the cost of \$320 per year as well as saving over 20 reams of paper at a cost of \$64. Additional savings will be made due to decrease in the number of photocopies and ink cartridges, as well as the amount of electricity used.

For more information on the Educational Opportunity Centers Project, please contact Director Charlene Manco.

Educational Opportunity Centers



Giving you the TOOLS to find your way to a BETTER FUTURE!

Student Organizations

Students Drive our Commitment to Sustainability

Student Government

by Colton Jessie, SGA President

This year, the Student Government Association has made a big stride in sustainable practices. Since last year, SGA has been providing free test materials such as Scantrons and Blue Books to students. This year, SGA found test materials that are made of 100% recycled material. Although these recycled test materials are not Scantron brand, they are completely compatible with the grading machines here on campus. Not only are they much more sustainable than the Scantron forms previously provided, but they are also much cheaper. **Therefore, SGA has been able to provide more test materials for students at a cheaper cost, thus disproving the myth that going green costs more.** This change has proven to be successful in all departments on campus.

Invisible Children

by Erica Ashley, Student

Invisible Children is an organization based in San Diego, California that thrives on the support of chapters across the country and around the globe. Invisible Children's main focus is to inspire people to take a stand against Africa's longest running war-- one that has lasted over 2 decades in Northern Uganda.

The WKU chapter of Invisible Children works closely with the national organization in its efforts to raise money and supplies to help rebuild ravished, war-torn Northern Uganda and raise awareness about the situation there. Invisible Children hosts several different

projects throughout the year, one of which is an annual book drive. The book drive is an effort through the Schools for Schools program to donate used books to the Ugandan school system.

Each year, bins are set up across campus and thousands of books are donated. Each book is screened and sent to Uganda. The ones that cannot be sent are sold in our book sale or donated to another worthy cause. The club also hosts documentary showings to spread the word about the situation in Uganda.

This semester, in an effort to support sustainability, the organization was given an opportunity to purchase organic, Fair Trade t-shirts in partnership with WKU AID.

Invisible Children also supports sustainability through the MEND program which is aimed at promoting higher education for the Ugandan people. The MEND program offers individuals the opportunity to work at a fair salary while also receiving lessons in literacy, numeracy, budgeting, and developing sustainable income.

Invisible Children is a completely non-profit organization. All donations are sent to Uganda and used in supporting our efforts there.

Getting involved with WKU Invisible Children is as simple as showing up to a meeting. We hold weekly meetings in DUC and encourage everyone to attend. It's absolutely free to become a member. Anyone interested is also encouraged to join our facebook group, Invisible Children: WKU Chapter, to receive updates and event notifications. For more information you can email Bella Mukonyora at bella.mukonyora@wku.edu or Erica Ashley at erica.ashley367@wku.edu.

GreenToppers

by Quinna Syndor, Student

This year on campus GreenToppers is actively trying to spread the word about energy savings and consumptions. As WKU makes strides toward being a more energy efficient and conservative campus we, GreenToppers, want to help educate our students on how to take advantage of these new developments.

That is why GreenToppers developed the Green Initiatives guide named *Go Red, Live Green: A Comprehensive Guide to Living and Learning Sustainably at WKU*. This guide informs students, faculty, and staff on the many ways to live green on and off campus. Information about recycling and where to find recycling bins is provided as well as information about where to take old items that are still use-able. It gives tips on how to save energy by turning lights out, strip down/ power up, and using energy efficient appliances. It also encompasses ways to reduce your carbon footprint such as eating less meat, walking or riding instead of driving, using less paper, and buying local foods rather than buying food that has been shipped in.

GreenToppers is also working toward a brighter future in sustainability here on campus. We strive for initiatives such as Meat-less Mondays and re-usable to-go containers, which have not yet been implemented in campus dining services. You can find a guide to the foods grown per season locally in the Green Guide as well as different community gardens, locally owned and operated places to eat, and facts about the production of water bottles and the meat industry.

Live Red, Go Green has a plethora of information to help guide you into being a more sustainable student/ faculty/ staff, or family member, but most importantly a sustainable human being. *Live Red, Go Green* can be found on the WKU Sustainability website.

WKU is a proud member of the Association for the Advancement of Sustainability in Higher Education (AASHE). An institutional membership provides benefits to the entire campus community. It allows WKU students, faculty, and staff access to sustainability resources, connections to other institutions and a forum for discussion and sharing campus sustainability efforts.



Gatton Green Club

by Tejas Sangoi, Gatton Academy Senior, and Green Club Co-President

The Gatton Academy Green Club is an organization of academy students working together to make our community a more sustainable place. Our projects vary from recycled fashion shows at the academy to free sinkhole cleanups in the Bowling Green area. Other ways we've increased public awareness are by presenting a "Green Tip of the Week" and hosting a recycling competition between residential wings. For more information or ways you can get involved, please email our advisor Ian Oliver at ian.oliver@wku.edu.

WKU AID

by Matt Vaughan, Student

In Fall 2007, a group of incoming Honors students came together around the idea that Hilltoppers really can change the world. They founded the WKU Chapter of Americans for Informed Democracy (AID), a national, non-partisan organization that inspires youth to rally around an array of global issues ranging from climate change to global poverty. Over the course of their first year, WKUAID united the campus community as ONE to take on global poverty, and in doing so WKU won the national ONE Campus Challenge and the title of "Most Globally Aware Campus" in the nation.

Since then, WKUAID members have stayed busy raising funds for and delivering famine assistance to WKU's partner community in Kasigau, Kenya.

WKUAID has also successfully lobbied US Congress Members to support legislation to update America's foreign assistance plan and has engaged hundreds of students to participate in various endeavors from living on less than \$2 for a day to registering to vote.

In Fall 2010, WKUAID launched a new campaign to make WKU the next Fair Trade University in America. This effort is focused on building on WKU's



commitment to sustainability by ensuring farmers in the developing world who produce commodities like coffee and cocoa a fair price for their labor. With this fair price, these farmers are able to produce the goods consumers in America like but with a much lower impact on the environment.

For more information on WKUAID, you can visit their website at www.wkuaid.org or follow them on [twitter@wkuaid](https://twitter.com/wkuaid).

Fair Trade WKU

by Matt Vaughan, Student

In Fall 2010, the students behind WKU's successful win in the ONE Campaign's Campus Challenge to fight global poverty launched a new campaign to make WKU a Fair Trade University. Fair Trade is a label (similar to certified organic) for products from developing countries. Fair Trade guarantees farmers in these countries a fair price for their work. The label also ensures environmental sustainability, empowers women, and eliminates child slavery. The Fair Trade University movement began

in 2003 in the United Kingdom with Oxford Brookes University. There are now over 100 Fair Trade Universities around the world and the program is now underway in the US.

WKU kicked off its Fair Trade University Campaign in October with a celebration of Fair Trade Month. Student groups partnered with the WKU Store and WKU Restaurant and Catering Group to organize "Fair Trade Fridays," a special promotion for Fair Trade products across campus. WKU Restaurant and Catering Group worked with students to add two new tasty Fair Trade options to the campus convenience stores, Divine Chocolate bars (in Milk or Dark varieties) from Ghana. Divine Chocolate is even sweeter because the farmers in Ghana actually own 45% of the company. But the real star of this Fair Trade Month at WKU certainly was Francisco Ferreira. Francisco is a Fair Trade, organic sugar farmer from Paraguay and he shared his experiences as such with nearly 100 students, staff, and faculty at WKU in October.



Francisco Ferreira visited WKU in October to talk about Fair Trade and became an instant Hilltopper!



October also held WKU's third annual "STAND UP Against Poverty" event, this year focusing on Fair Trade. The Student Government Association (SGA), Campus Activities Board (CAB), and Office of International Programs (OIP) sponsored the event which asked students, faculty, and staff to donate their old clothes to Bowling Green's refugee community. In return, participants received a Fair Trade, Organic T-Shirt from India. This year's STAND UP event was a huge success with over 300 members of the campus community participating.

October also saw many campus



organizations and events start to "Go Fair Trade" to support the movement. The Wesley Foundation swapped out their usual sweets for Fair Trade Chocolate from Ghana for their annual "Trunk or Treat" campus event. The Institute for Citizenship and Social Responsibility



(ICSR) started serving only Fair Trade tea at their monthly "Third Tuesday Tea" events. The Kentucky Museum proudly featured Fair Trade Coffee from Java City at their annual WKU Student Holiday Ornament Contest. WKU's Invisible Children Chapter also decided to "Go Fair Trade" by swapping out their usual club shirts with a Fair Trade, sustainable alternative from India. Other student organizations supporting Fair Trade WKU include the WKU Students in Free Enterprise (SIFE) team and the Student Government Association (SGA).

With the inaugural meeting of the new Fair Trade WKU Steering Group, WKU now meets 4 of the 5 goals necessary to become the next Fair Trade University in America. The Steering Group is currently working on the Fair Trade Policy and hopes to have a draft open for public input by early Spring 2011. For more information on Fair Trade WKU you can visit www.wkuaid.org.

To be recognized as an official Fair Trade University WKU will need to meet 5 goals...

- I. Form a Fair Trade University Steering Group.
- II. Pass a Fair Trade Policy.
- III. Sell Fair Trade products in campus outlets.
- IV. Serve Fair Trade products at university meetings and events.
- V. Organize an educational campaign about Fair Trade on campus.

The 'Legit' Dinner

by Tony King, Student

On October 27, 2010 *WKU Americans for Informed Democracy* (WKU AID) hosted the Legit Dinner in Pearce Ford Tower that grossed over 70 participants. The Dinner not only showcased organic food from Bowling Green's own *O'Daniels Farm* but also helped spread the word about Fair Trade.

Fair Trade guarantees consumers that strict economic, social and environmental criteria were met in the production and trade of an agricultural product such as coffee, sugar and chocolate, from a developing country.

WKU AID also partnered with Greener Groundz Coffee and Café, WKU's Residence Housing Association (RHA), and the Institute for Citizenship and Social Responsibility (ICSR) to make the event a reality.

The food served included baked chicken, mashed sweet potatoes, sweet potatoes fries, Swiss chard, steamed broccoli and cauliflower.

The dinner also featured homemade ice cream from *Chaney's Dairy Farm* and a chocolate sauce created from *Divine Chocolate*, a Fair Trade chocolate from Ghana.

All silverware, cups, and plates were either composted or recycled after the dinner.

The Legit Dinner, of course, was a huge success and another step towards Western Kentucky University becoming a Fair Trade University.



WKU Green Gifts

By Matt Vaughan, Student

Are you the kind of person who would like to give your loved ones something more meaningful than a singing fish for a holiday or birthday? Well, good news for you, the WKU GreenTeam and the Office of Sustainability have now launched a new and exciting alternative-giving program called “WKU GreenGifts”.

The program was started as a creative way to help fundraise for WKU’s “Green Fund,” which allows alumni, faculty, staff, and students to contribute to WKU’s sustainability initiatives.

Contributions to the fund will go towards three principle areas including Green Campus, Curriculum Redesign, and Community Engagement and Research.

GreenGifts allow donors to give and

receive when they donate in someone’s name. So, how does it work?

First, you choose your gift from the available GreenGifts options online. For example you can donate \$20 for a can of worms for the campus compost.

Once you send in your order form, a free card with an image of your GreenGift will be sent to your designated recipient. You can even include a personal greeting on the inside of the card if you want.

Your loved one receives their GreenGift minus the wrapping paper and you can be assured that your gift will go towards making WKU a greener place to learn, work, and visit.

The current GreenGifts were designed by WKU student and GreenTopper Lisa Yeager. Lisa actually took the pictures of all of the

GreenGifts, including the can of worms!

All GreenGifts are also printed on recycled paper and produced in a factory powered completely by water! These gifts really are as green as they get.

GreenGifts were debuted for the 2010 Holiday Season but these gifts will be available soon for other occasions such as birthdays, Valentine’s Day and Mother’s Day.

You can find out more about WKU GreenGifts by visiting the Office of Sustainability’s Website:

www.wku.edu/sustainability



Every campus needs a conscience



Coming to WKU this Spring



Special thanks to Clinton Lewis for his amazing photographs and to other contributing photographers including Trish Sowell, Cristin Lanham, Quinna Sydnor, and Lisa Yeager.

The 2010 Sustainability Report was created by the WKU Office of Sustainability and designed by student Charlie Harris.

If any sustainability initiatives or practices were missed in this report, we would love to know about them. Please email sustainability@wku.edu with questions or comments.

