

Report of the Johnson County Community College Sustainability Committee

Submitted to Dr. Terry Calaway

May 2009

Purpose:

This document is JCCC's second campus-wide, fully participatory sustainability assessment and contains recommendations for further action as compiled by members of the college's Sustainability Committee. Subcommittees of this larger group created this report and its recommendations. This report should not be seen as the final word on these issues, but rather should be compared to the first report as an assessment of progress.

Why Sustainability? Why JCCC?

At its heart, sustainability as a concept is a politically-neutral way of describing a more ecologically sensitive way of thinking and acting as individuals and as a campus community. Whether we are talking about increasing recycling of waste materials, offering new courses in water conservation, creating new certificate programs in green technology, or planting native grasses on campus, we are indeed now in the realm of sustainability. Sustainability (philosophically and in practice) offers a rare opportunity for economics and ecology to unite rather than clash. The benefits to the environment are many; the economic benefits to the campus are substantial. President Terry Calaway's March 2008 signing of the College and University Presidents Climate Commitment demonstrates JCCC's belief in these ideas.

Community colleges like JCCC are particularly well-suited to lead this effort. Not only can community colleges green their facilities, but their traditional foci on vocational and community-based education make them ideal for green workforce training and teaching homeowners how to save energy during a one-day workshop. JCCC can and should indeed become a leader in promoting sustainability, not only among our peer institutions but in our local community. Whether one credits Al Gore or high gas prices, some sort of tipping point about environmental/energy issues has clearly been reached in the United States over the last two years. JCCC is responding to this new calling, and time is of the essence. The public is interested in green issues, as are businesses. This attempt to shift campus culture cannot be implemented top-down. While administrative leadership will be needed to remove obstacles, this effort needs to be holistic, organic, and bottom-up. Different aspects of this initiative (cost-savings, catering to business constituencies, ethics, stewardship) will appeal to different members of the JCCC community, including students, and that is all to the good. JCCC should model sustainability in the curriculum, in the institutional mission, and in the daily operations on campus.

Summary:

While this report contains a variety of conclusions and recommendations, several broad categories of conclusions and recommendations can be noted. These remain unchanged from the 2008 report.

1. Efforts to green the campus need systematic support and planning. Whether the issue is recycling, pursuing potential renewable energy installations, or planting more of the campus to buffalo grass, resources must be allocated to ensure that the signing of the Presidents Climate Commitment does not become another example of greenwashing. In particular, recycling at JCCC needs sustained attention.
2. A variety of new technologies/design elements can be used to reduce JCCC's environmental impact. Many of these will pay for themselves over time through increased efficiency. LEED certification for new/retrofit buildings, energy management systems, and water control systems are a few examples with quantifiable cost savings over time.
3. Curriculum initiatives must be aggressively supported. New environmental science programs, a sustainability certificate, and various green workforce training programs should be at the core of any community college in the 21st century.



Administrative

While many of the recommendations in this report are administrative, there are several that deserve special attention with substantial progress made.

Accomplished:

- JCCC should create a sustainability coordinator position. Many campuses across the country (including community colleges) have created such positions to shepherd sustainability efforts. Exact responsibilities would be negotiated by JCCC stakeholders. *Jay Antle assumed the office of Executive Director, Center for Sustainability, in January, 2009.*
- JCCC should create a budget for sustainability. While administrative support for this initiative has been exemplary thus far, funds will be required for release time, conference attendance, etc., to say nothing of many of the recommendations to follow in this report. While many sustainability programs will ultimately pay for themselves, the institution must be prepared to back up words like the Presidents Climate Commitment with actions and funds. *This budget will include both institutional funds and a \$712,000 federal earmark secured through Senator Sam Brownback's support. A student green fee is under consideration and would provide potentially \$300,000 a year for students to use to support greening JCCC.*
- JCCC's mission statement should be amended to include sustainability as a key value. *The final revisions of the JCCC mission and values statement have been made, and sustainability is included as a key institutional value.*

Dining Services

The mission of JCCC Dining Services is to provide our students, the entire campus community, and guests with progressive, diverse food services of high quality and exceptional value in a friendly and supportive environment while upholding the educational mission of the college.

Dining Services Vision Statement

- Measurably enhance customer satisfaction and the department's image by providing excellent services and communicating effectively.
- Maintain an unwavering commitment to high-quality food by offering a variety of food and beverage choices that take care of the customer's needs.
- Explore opportunities (branding, etc.) that will help expand retail, vending, and catering sales.
- Upgrade the appearance, accessibility, and functionality of the facilities.
- Ensure a safe work area for employees and promote food safety.
- As part of the JCCC sustainability effort, make decisions that preserve the values of environmental, economic, and social responsibility.

Dining Services includes:

- The Food Court which includes Pizza Hut, Chick-fil-A, Boulevard Burger, Quivira's, AFC Sushi, Salad Bar and Hot Bar. The Food Court averages between 1500 - 2500 transactions daily.
- Espresso Bars which includes Encore! Espresso and Java Jazz. The Espresso Bars average between 800 - 1200 transactions on a daily basis.
- Dining Down Under which includes The Main Fare, Deli and Salad Bar. Dining Down Under averages between 400 - 800 transactions daily.
- JCCC Catering caters refreshment orders, receptions, breakfast, lunch and dinner at different venues on campus. Catering does over 3000 events a year.
- Vending includes 65 soft drink, coffee and snack machines throughout campus.
- Café Tempo is a sit-down restaurant located in the Nerman Museum of Contemporary Art. Café Tempo averages between 150 - 200 transactions daily.



Sustainability efforts are ongoing in dining services at JCCC under the direction of Jay Glatz with input from the Sustainability Committee. Such efforts include:

Accomplished:

- Initiated a refillable mug program in April 2008.
- Hosting a series of Sustainability Dinners stressing locally produced food. The first was held in fall 2008.
- Held several on-campus exhibition cooking sessions involving locally produced food (like grass-fed beef).
- Established and supports CSA (Community Sponsored Agriculture) programs on campus. A JCCC Dining Services CSA joined the Rolling Prairie CSA on campus in late spring 2009.

Ongoing:

- A commitment to 1) reduce styrofoam where possible, replacing it with hard plastic products and/or biodegradable paper products and 2) replace disposable plates/bowls with rewashable hard plastic plates/bowls during summer 2008 with some replacement of plastic dining ware with rewashable silverware in spring 2009. *The above efforts have contributed to a decline in 25% of paper usage in Dining Services as measured by spring 2009 with savings not only in purchase costs, but also in landfill costs.*
- A commitment to integrate locally produced food into all aspects of operations where possible and allowed under the current Sysco contract beginning in May 2008. Integration of locally-produced food will be paired with education about the importance of considering food miles when making dining choices.
- Continue ongoing efforts and expand them where possible.
- Ensure proper staffing in order to bus the Food Court and shuttle bowls/plates to/from the downstairs dishwasher.
- Revisit existing contracts to ensure that vendors supply more locally produced products and ecofriendly packaging. *Dining Services is bringing more locally produced food in from sources like the Kansas State University Farm in DeSoto.*
- Create an educational television show for JCCC TV tracing the connections from field to fork. *Planning for this show is currently underway.*
- Support the Edible Schoolyard Project at the Hiersteiner Child Development Center.
- Utilize data from the recent Energy Audit of campus to better utilize energy in Dining Services.

Not Met:

- Consider adopting ecofriendly takeout containers that can be exchanged for clean ones, washed, and then reused. While campus faculty/staff are envisioned as the market here, students might be able to put down a deposit on such an item through their campus accounts. This may begin as a pilot in summer 2009.
- Integrate prep food waste into a campus-wide composting system. Such a system would take prep food waste from Dining Services and Culinary Arts and lead to a supply of compost for Grounds to use on campus. Savings here can be gained both by reducing waste being hauled to the landfill as well as reducing cost for fertilizer/soil improvement. *Given the award of a federal grant, the imminent hire of a recycling/composting coordinator, and the high potential of a student green fee, this should become a reality in the 2009-2010 school year.*

Recycling and Waste Minimization

Recycling, reuse, and waste minimization are key elements in any organizational sustainability effort.

Waste removal at JCCC continues to be contracted through Deffenbaugh Industries (no recycling services are included in this contract). For waste removal, the college has compactors at the Carlsen Center, the Commons, the Office and Classroom Building, a compound on the south side of the campus, and the Nerman Museum. Front pickup solid waste containers are at the Hiersteiner Child Development Center, the Industrial Technology Center, West Park Center and Olathe Center. Open-top roll-off containers are at the Campus Services Building, the Student Center, and the south compound.



Batliner Paper Co. continues contracts with JCCC to collect recyclable paper, cardboard, plastic bottles, and aluminum cans. The recyclables are purchased from the college at current rates; in November 2008, however, rates dropped drastically. Proceeds from all forms of recycling go to the Foundation to support scholarships at JCCC. Since 1992, \$45,562.31 has been raised for scholarships from all of the college's recycling efforts, with \$3,139.18 contributed in 2008. Custodial staff is responsible for taking the collected recycled materials to the Batliner containers at the Warehouse.

Domed containers remain in hallways for the collection of plastic bottles and aluminum cans. Custodians continue to empty these as needed and take the contents to a large container in the Warehouse. Plastic bottles are not sorted from aluminum cans because of the labor costs; however, the college earns less money because the two are combined. New containers for recycling paper and drink containers have been placed in the Regnier Center and other areas around campus. Beginning in fall 2008, the college also recycles plastic milk jugs from the two campus coffee bars and hand soap bags from campus restrooms. In December 2008 the bookstore initiated a program to collect and recycle plastic bags.

For paper recycling, pairs of gray containers remain in the hallways; one is for white computer and copier paper; the other is for colored paper, encompassing printed material such as fliers and postcards, magazines, mail, phone books, newsprint, NCR forms, manila folders, and binder covers. Each container is labeled as to the type of paper to be deposited there. Faculty, staff, and students are responsible for recycling the paper they collect in their offices; custodial staff does not remove paper from the offices and place it in the bins. If anything other than recyclable paper is placed in the bins (such as trash or food waste), the contents will not be recycled. If colored paper is placed in with white paper, all of it is recycled as colored paper, for which the college earns less. Shredded paper (in plastic bags) can also be placed in the appropriate gray recycling bins. Shredded paper collected in Document Services (which provides shredding services for the campus) is also recycled.

Cardboard is now recycled across campus. Faculty and staff are asked to break down cardboard boxes and place them beside the paper recycling bins or other designated spots. Cardboard can be picked up for recycling by submitting service requests to Campus Services. Both the Bookstore and Document Services regularly submit service requests for pickup of cardboard for recycling. Bookstore staff reuses shipping boxes and packing materials for vendor returns, online student textbook reservations, and e-commerce shipping.

In December 2008, the bookstore initiated a program to collect and recycle plastic bags from retail and grocery stores, newspaper delivery and dry cleaning. By April 2009, approximately 4,000 plastic shopping bags had been recycled. The Bookstore also reduced the number of plastic shopping bags used in its retail operations by about 15 percent. For some purchases, reusable tote bags are substituted. The shopping bags contain at least 25 percent post-consumer recycled materials (PCR), as do the retail products the store stocks. The Bookstore is also stocking a growing number of eco-friendly products (both the products and packaging contain up to 100 percent of PCR).

The college also recycles these hazardous materials: light bulbs, solvents, recovered silver, tires, used motor and lubricant oils, used vegetable oils, lead, and mercury. Spent lead, nickel, and lithium-based batteries that are purchased with college funds are also recycled. Regulatory requirements preclude the college from taking spent batteries from students or that were otherwise used outside the college. However, the Bookstore is planning to collect and recycle spent batteries from students and other consumers.

Currently, college copiers and printers use paper that has no recycled (pre- or post-consumer) waste content or that is from managed or sustainable forest sources. A small percentage of paper used in Document Services has recycled content and/or is from Forest Stewardship Council or comparable certified sources. The presses have difficulty handling paper with a high recycled content; color coverage and paper feed can be affected.

Office Max, the college's supplier, has a program to take back packaging used in shipping; the college is not yet using this program. The Warehouse also recycles wooden pallets they use. When too many accumulate, the Warehouse staff contact companies that will collect the pallets for re-use.

Purchasing uses some digital imaging to reduce the number of paper records and advertises bids on the web to reduce paper and printing costs. Plans for becoming completely paperless include offering bids online and using imaging.



The Billington Library now charges students for making copies, reducing the number of sheets used. Additional recycling containers have been placed there to encourage recycling.

Because of new printing technology, Document Services does not use chemistry to produce printing plates. The aluminum plates used in printing are recycled.

The computers the college purchases from Dell are up to Energy Star standards. The college markets or recycles its surplus IT equipment through Dell; for any equipment resold by Dell Marketing, the college receives 90 percent of the sale price. Equipment that cannot be resold is recycled, and Dell provides the college with a certificate of destruction. Printer and copier toner cartridges are sent to the warehouse for recycling, although Purchasing has had difficulty finding a company that will consistently accept toner. By June 2009, Purchasing will be re-using re-manufactured toner cartridges, although there are issues with quality and company warranties. There is no toner cartridge recycling program for the Kyocera copiers.

Accomplished:

- Provide recycling bins inside the seminar rooms in the Regnier Center. Label these containers so visitors to campus know what to do.
- Update with departments the number of college publications needed for college distribution so fewer copies are printed and wasted. Cut the quantity of publications printed and distributed on campus by more than 1,000. People are instead directed to online pdfs.
- Have the Bookstore become a collection point for recycling plastic shopping bags.
- Provide recycling bins (paper and cans/bottles) to the Bookstore and Convenience Store.
- Copiers on campus are set to default to double-sided printing.
- Provide waste minimization/recycling education for faculty, staff and students, encouraging them to dispose of recyclables appropriately. This can be done through "eco-tips" on infolist.
- Participate in RecycleMania (<http://www.recyclemaniacs.org/Index.htm>).
- Institute a student green fee to cover the costs of sustainability efforts on campus.

Ongoing:

- Set all campus printers to double-sided printing.
- In the Bookstore, explore a print cartridge refilling system for personal consumer print ink cartridges.
- In the Bookstore, explore consumer technology recycling opportunities with technology vendors (such as cell phones and computers).
- Hire additional staff in Campus Services to coordinate the college's recycling efforts. A minimum of two additional staff members would be needed to support collection and sorting. As an alternative, volunteers could sort plastic bottles and aluminum cans and perform other recycling tasks. *This may happen by fall 2009, including a recycling coordinator position.*
- Explore new promotional avenues for college programming other than mass mailing of paper documents.
- Require all paper to have post-consumer content and/or come from FSC or comparable certified sources.
- Continue discussions among the chemistry and automotive technology programs, Dining Services, and the motor pool regarding JCCC students turning waste vegetable oil into biodiesel fuel for college vehicles. *Early discussions have taken place that suggest that large scale of biodiesel on campus may not be practical. Curricular use however, is possible.*
- Implement consistent placement of recycling containers across campus.

Not met:

- Provide recycling bins in the BNSF portion of ITC.
- Purchase new containers for recycling paper. Improve the labeling on the containers to more clearly and consistently identify what should be placed therein and communicate that recycling contributes to scholarships.
- For all classes, have Document Services compile and print packets of class handouts to be sold through the Bookstore instead of having students download files in computer labs. This allows double-sided printing, saves toner, and is half as expensive to produce.



- Begin purchasing printers with double-sided capabilities and ask IS to set up a driver on these computers to duplex copies.
- Hold a student art contest to help make the recycling containers more attractive and noticeable.
- Prevent campus fax machines from printing a paper completion record when a fax is sent.
- When remodeling, recycle items that are removed, such as carpet, and track its disposal.
- Provide recycling bins for other forms of plastic.
- Recycle small, personal consumer electronic batteries through the Bookstore.
- Create a centralized recycling location where the campus community can take packing materials, cardboard, boxes, batteries, etc. (The college can't offer this to the community as a whole because of liability issues.) Such a location might be combined with the warehouse/surplus property.
- Develop a process for campus-wide recycling of cardboard. Purchase a cardboard recycling compactor or binder to handle cardboard recycling on campus.
- Consider the issues in becoming a community recycling center for compact fluorescent light bulbs.
- Investigate the do-not-mail list for catalogs coming into the college (remembering that some people may still want these catalogs).
- Investigate whether the use of Kyocera equipment instead of laser printers reduces costs per page and whether the need to replace expensive laser toner cartridges outweighs the lack of a toner cartridge recycling program.
- Provide all forms online in such a way that they can be completed and submitted electronically, eliminating the need for paper copies.

Grounds and Water Report

Ongoing:

- Measure concentration of nitrates and salts, and eventually other pollutants, in the creeks draining campus. This will be done repeatedly through student lab exercises and honors projects in geoscience and bioscience classes to establish and maintain a chemical profile of our runoff. The first measurements for the creek on the south side of campus took place during spring 2008. Preliminary results obtained in an environmental science lab indicate that our phosphate measurements taken from pipes draining into the creek = 2.52 mg/L; for drainage from the parking garage and faculty lot = 0.84 mg/L and for the downstream portion of the creek = 0.22 mg/L. These values are above EPA recommendations for drainage from parking lots. Phosphate was chosen because of the implications to eutrophication of water sources such as creeks and ponds downstream. Nitrate and other measurements will also be included. Long-term measurement sites need to be determined using GPS so that monitoring can take place at the same sites throughout the year. This project would benefit from release time or summer stipends to complete the GPS location and mapping. *This goal has been partially met and is ongoing. Phosphate levels were measured in spring 2008 (see results above) and will be measured again before the end of the semester. In addition, nitrate levels in the creeks will be determined. Although originally unstated, the primary goal should be to meet the standards set by the EPA.*
- In landscaping for all new buildings, emphasize native plants and drought tolerant plants (xeriscaping) that do not need irrigation systems. *A recent landscaping project around one of our buildings has a drip irrigation system irrigating ornamental grasses. Grasses are commonly used in xeriscaping and need not be irrigated. We suggest that the coordinators of future landscaping projects (Campus Services?) consult the sustainability office.*
- Re-establish the Tree Trail with species identification and map. Lynne Beatty and Lekha Sreedhar have located and identified about 160 species and cultivars. Mark LaBarge will also assist with the Tree Trail. The benefit will be in knowing what species we have and providing a nature trail guide that could be used by classes and the community. Purchase Malaise Traps to determine insect biodiversity and include planting choices that are appropriate to encourage wanted insects. Paul Decelles and other bioscience professors would use these in classes. Malaise traps are 24-hour collectors of insects that fly. These would be installed on campus at various locations. Traps cost \$260 each; six traps would cover the various habitats on campus. In addition to determining biodiversity for sustainability planning purposes, these projects could also be used as lab exercises for students in environmental science and other biology courses. These projects would benefit from release time or summer stipends to complete the GPS location, identification, mapping, and installation of traps. *This goal is partially met and is ongoing. Continued work on the tree trail and insect census will occur throughout summer 2009.*

**Not Met:**

- Reduce fertilizer, herbicide, and pesticide use. Replace with more person hours. *This goal was not met and is ongoing. Because herbicides are used to control weeds in the buffalo grass areas, herbicide usage most likely increased. The quantity and type of pesticides used on a yearly basis should be determined to allow year-to-year comparisons. We request the involvement of the grounds foreman or other individuals who actually track the purchasing and application of pesticides.*
- Eliminate use of sodium chloride as a deicer and reduce use of calcium chloride as a deicer. Switch to environmentally acceptable snow and ice removal products to reduce contamination of local surface water and groundwater. MDOT and many cities had good results with beet juice additive on roads this winter. It costs \$2.60 per gallon, which is more expensive than salt brine but it is less harmful to the environment, pavement, and vehicles and does not stain. It does require a tanker truck with a cost of about \$180,000, but as more cities start to use it, perhaps we could contract the application of the beet juice mixture. Use alternatives for sidewalk deicers such as Calcium magnesium acetate. This is made from a dolomite-rich limestone and acetic acid. It is less harmful to vegetation, does not damage concrete and brick as much, and does not stain carpeting as sodium chloride or calcium chloride do. Two alternatives to investigate for sidewalk deicers are products called Bare Ground and Storm Team. Testing on the use of sugar/corn carbohydrates for sidewalk deicers is also being done by the departments of transportation of various states. One concern for this method on sidewalks is that it is most effective at temperatures below 35° F. The calcium chloride is stored in plastic bags. The current pile of sodium chloride and sand is uncovered and out in the open. The sodium chloride must have impermeable ground cloth and tarp covering as the concrete pad it is stored on is right next to a creek. *This goal was not met and is ongoing. Salts, such as sodium chloride are still used as the primary deicer. We request the use of more environmentally friendly alternatives. Again, this will require support from Campus Services.*
- Reduce use of fescue for the lawn and replace it with buffalo grass and/or other native prairie grasses in appropriate areas. Cost will include drilling the seed in during June at the latest so that it can get rooted before fall dormancy. Addition of buffalo grass will reduce mowing costs and fuel usage for the mowers. *This goal is not met. No new fescue replacement with buffalo grass has occurred in recent months. Broadleaf weed problems in existing stands of buffalo grass have required periodic herbicide control measures. Although the mowing has been reduced, herbicide application has increased. As an alternative to a "short grass" prairie, some have suggested that certain fescue lawn areas be replaced with species of native grasses that are found in a "mixed grass" prairie ecosystem. Such species include little bluestem, blue grama, sideoats grama, and hairy grama. Native wildflowers could also be added to increase species diversity. JCCC should investigate the funding of such conversion through obtaining grants from organizations concerned with protecting the watershed.*
- Spot spray rather than blanket spraying the "JCCC prairie" to decrease invasive lespedeza. This goes against our use of herbicides goal, but the lespedeza has to be knocked back to allow native prairie plants to have a chance at competition. Seek permission, once again from Overland Park, to burn the prairie as this will also cut back on invasive species. *This goal is not yet met and is ongoing. Pre and post-emergent herbicides have been used to help control the invasive and non-native serecia lespedeza, but this practice is not sustainable. We believe that high-level JCCC administrators should contact Overland Park city officials to once again seek permission to burn. This spring-time burning can take place in the form of an educational demonstration to both students and the general public.*
- Re-sign the "JCCC marsh" area as it is not a marsh. Paul Decelles will investigate the renaming of this as a "Riparian Habitat". *This goal is not met. Paul Decelles is currently on sabbatical and will resume work on this when he returns.*
- Switch to automatic irrigation systems with a central control and access through a computer system that can be turned off remotely to avoid unnecessary watering when a rainfall occurs. The approximate cost is \$40,000. Currently, the irrigation systems have to be turned off manually at 24 locations. This is not practical during evening or weekend storm events. *This goal is not met. The status as to the availability of funding for this automated system is unknown.*
- In addition to identifying what we have, the lead professor of the horticulture program has suggested that we plant many more species of trees for use in the horticulture program. The new species will come from a list of trees found on the K-State University campus. This will not only increase biodiversity, but will allow JCCC horticultural students to receive the same training as their counterparts at K-State.
- Reforestation as a border along the boundary with the neighborhood to the south. This could be a student project with approximately a two-year payback from the costs of the planting to reduced mowing. *This goal has not been met. Future funding will dictate the planting of more trees.*



- New goal: Investigate and pursue grant money through the WaterLink organization. WaterLink is a source of funding that is related to Service Learning and would be applicable to any horticulture, environmental science, geoscience, or ecology type of course. The funding awarded can be used to plant trees and native grasses, install monitoring wells, and implement a variety of other projects mentioned above. The main criteria are that the students must somehow be involved in the project. Faculty interested will need to write a grant proposal for such funding. The deadline for the next grant is August 1. Marcia Shideler has agreed to investigate this and to help faculty write the grant proposal.

Energy/Buildings

The JCCC campus occupies 234 acres and includes 20 buildings with 1.7 million square feet of conditioned space. The cooling needs are provided by two separate chiller plants. In 2008 the main campus energy bills totaled \$2.0 million for electricity and \$111,000 for 30 million gallons of water.

The buildings possess many of the design characteristics that result in good overall energy performance. However, there are significant opportunities to further increase the energy and water efficiency of campus operations which, if implemented, will result in lower operating costs, and provide a hedge against future energy rate increases. Reducing the environmental footprint of JCCC operations will involve cutting consumption and greenhouse gas emissions, increasing energy efficiency and energy conservation, and adding on-site alternative power generation.

Accomplished:

- Establish a policy that all new campus construction be LEED certified. *The architectural/engineering services agreement for the Health Services Education Center at the Olathe Medical Center campus includes fund allocation for design of the building to LEED silver standards.*
- Contract with an energy service group to conduct a campus energy audit and investigate potential for energy savings, including on-site renewable energy sources such as wind, photovoltaic, and geothermal. *An Energy Assessment Report by Burns & McDonnell Engineering has been completed. An energy program has been developed with the goal of improving building performance while reducing the environmental impact of the JCCC campus. Installation costs for the recommended measures are estimated at \$5.6 million, with estimated energy savings of \$423,700 per year and a simple payback of 13.2 years (avg). The estimated potential emission reduction is equivalent to taking 5,900 cars off the road each year. Approximately \$12 million in Energy Conservation Measures (ECM) identified in the report will be implemented, as budget allows, through the operations budget or accomplished through funding from the federal economic stimulus package.*

Ongoing:

- Establish a campus awareness campaign to encourage conservation of energy. Encourage personal responsibility for saving energy at work.
- Install auto cutoff switches for lights around campus. *Scheduling of lights has been fine-tuned to ensure energy efficiency. All new areas of remodeling/construction are specified with motion sensors. Motion sensors are being added to existing areas.*
- Reduce light levels as appropriate during non-business hours, in cooperation with Public Safety (to ensure safety/security of all on campus).
- Establish better coordination with Scheduling to more efficiently meet air handling, heating and cooling needs in rooms and other scheduled areas. *In the Carlsen Center air handling is now being scheduled per event/use.*
- Continue to take advantage of the energy savings provided by moving to more efficient fluorescent bulbs. *Change-out from F-12 to T8 type fluorescent bulbs is 70 percent complete.*
- Add room occupancy sensors whenever an area is remodeled, which turns lights on/off automatically.
- Continue adding power meters to buildings that allow tracking of real-time energy use, making it possible to identify and manage peak demand use. This makes it possible to know when to turn off non-critical areas to reduce demand.
- Upgrade building controls to allow better equipment monitoring. *This has been completed for ITC, CC, and GYM.*



- Partner with an energy provider to install a small wind turbine, photovoltaic, and other renewable energy sources that could be used as teaching aids in certificate programs. *Discussions are currently ongoing to possibly tap stimulus package funding for this endeavor.*
- Research feasibility of installing green roofs on existing/new campus buildings. In addition to energy savings, they could be linked to curriculum and students/faculty could assist with maintenance.
- Integrate sustainability in campus landscaping, using climate-appropriate plantings that require less water, more efficient/reduced irrigation, and less dependence on chemicals (for weed/insect control).
- Apply for energy efficiency/environmental grants from the government and other sources.
- Establish certificate programs in renewable energy fields such as one for servicing wind turbines and solar/PV.
- Pursue increasing on-campus power generation through renewable means. Such an initiative would require JCCC to become an advocate for net metering before the Kansas Legislature.

Not Met:

- Purchase a new building automation system, approximate cost \$1.5 million. A new system would provide significantly more efficient energy management of campus facilities that would eventually pay back the cost of installation. *A request for this system was included in the application for funds for "shovel ready" projects from the federal economic stimulus package.*
- Upgrade mechanical systems with energy efficient models. Use Energy Star compliant machinery.
- Turn off computers, peripheral equipment, and other electronics when not in use. Enable power management software that automatically puts computers in sleep mode after a period of inactivity. The savings anticipated is \$26 per computer per year.
- Identify and implement ways to reallocate energy savings back into energy management funding. In this way, this effort can be partially self-funding.
- Include sustainability policies/procedures in new staff orientation and in-service forums.
- Create reminders/signs to remind staff to turn off office/classroom lights when not in use.
- Pursue incentives offered at state/county/local levels associated with LEED certification.
- Analyze classroom usage, especially during the summer, and incorporate scheduling practices that would consolidate classes into as few buildings as reasonably possible.
- Create a dashboard that allows people to see campus energy use in real time. This information could be incorporated into existing campus information sharing systems.
- Participate in the KCPL MPower program. MPower provides an annual payment for agreeing to be "on call" to reduce our usage by a fixed amount if requested during peak summer demand. It also provides an additional payment every time we are asked to reduce our usage and successfully do so.

Removed goal:

- Consider performance contracting to identify and evaluate energy-saving opportunities and then recommend improvements to be paid for through savings.

Curriculum

Needs Assessments and Curriculum Development:

The Sustainability Curriculum Committee, with the assistance of the office of Institutional Research, developed and implemented two needs assessments, which were comprised of a student interest survey and an employer survey. The first needs assessment was geared toward the possible development of an associate's degree in environmental science. The second survey explored the possible development of an interdisciplinary sustainability certificate. Student interest in environmental science and sustainability courses was significant. Employer response rates was low on both surveys, but returned promising information including anticipated job titles needed in the region with current and five-year projected salaries for graduates with environmental science and sustainability skills. The committee is using the data from both instruments to prioritize new course development.

**Center for Teaching and Learning Associate:**

A CTL sustainability associate position was created to serve as a faculty resource person for sustainability curriculum development for the 2008-2009 academic year. Deborah Williams, J.D., associate professor of environmental science, was granted six hours per semester of release time to serve in this role. A staff development budget proposal was presented and approved for \$4000, which was used to purchase books for green book discussion, provide snacks and beverages for CTL sponsored events and workshops, CTL associate professional development travel, and miscellaneous expenses associated with publicity for events. Three Sustainability Series were created and facilitated by the current CTL sustainability curriculum associate. A fourth series (Green Film Series with talkback) is being developed for the upcoming academic year.

1. **Sustainability Lecture Series** included the following guest speakers:
 - Robert de Vrind, Ph.D. "Sustainability and Environmental Education in the Netherlands"
 - Will Tuttle, Ph.D. "The World Peace Diet"
 - Don Lowenstein of D & R Farms Grass Farming/Grass Fed Beef in conjunction with Green Book Discussion of "Power Steer"
2. **Green Discussion Group with discussion of the following:**
 - "Power Steer" Michael Pollan
 - "Animal, Vegetable, Miracle," Barbara Kingsolver (2 sessions)
 - "The Great Turning," David Korten
 - "Cradle to Cradle," William McDonough
3. **Sustainability Tour Series:**
 - Green Architecture Tour: Olathe Sunset Building
 - Cedar Creek Wastewater Treatment Plant Tour

In addition to facilitating the above activities, the CTL associate's responsibilities included chairing the Sustainability curriculum committee, hosting a campus sustainability curriculum forum, offering workshops for full-time and adjunct faculty during Professional Development Days, responding to faculty questions and emails concerning sustainability curriculum development, promoting JCCC sustainability curriculum efforts to the League for Innovation Reaffirmation Team and promoting JCCC sustainability curriculum efforts as a co-presenter at the 2009 League for Innovation Conference in Reno, Nevada.

Curriculum Accomplishments:

The sustainable agriculture program is in its first year and is well-received, although like many new programs, aggressive marketing is needed to continue program growth. With the support of a grant from the Kansas Department of Commerce's Workforce Solutions Fund, a new program in energy performance and resource management was created with the first courses in energy auditing beginning in fall 2009. A second WSF grant will be utilized to develop a solar/PV installer program by the fall 2010. A strategic partnership agreement with the Metropolitan Energy Center signed in May 2009 will further these efforts.

Accomplished:

- Implemented student interest survey, which indicated strong interest in environmental science/sustainability courses.
- Implemented employer survey, which yielded anticipated environmental science/sustainability job titles needed in the region.
- Created a CTL sustainability associate position to serve as a faculty resource for sustainability.
- Staff Development funding of \$4,000 provided for books, travel expenses, Sustainability Series, etc.
- Hosted Sustainability Lecture Series.
- Hosted Green Discussion Groups.
- Hosted Sustainability Tour Series (Olathe Sunset Building and Cedar Creek Wastewater Plant).
- Established sustainable agriculture program.
- Created new grant-funded energy performance and resource management program.
- Signed strategic partnership agreement with the Metropolitan Energy Center.
- Secured funding for faculty to develop sustainability courses or sustainability modules that could be incorporated into existing courses.
- Promoted the inclusion of a sustainability clause in the JCCC mission statement.
- Secured grant funding for faculty development opportunities including workshop and conference attendance.

**Ongoing:**

- Develop a grant-funded solar/PV installer program by fall 2010.
- Explore the development of a sustainability advisory board.
- Further develop and expand sustainability-focused service learning opportunities.
- Seek corporate sponsors to fund speakers addressing the subject of sustainability.
- Strengthen collaborative relationships between credit faculty and the continuing education branch to ensure sustainability educational opportunities are available to noncredit students, which might include the following projects:
 - Offering weekend workshops in topics such as greening the home, sustainable gardening, weatherization, entrepreneurship, LEED exam preparation, permaculture, backyard gardening, recycling, and rainwater collection and use, as well as continuing education credit opportunities for K-12 educators (Project Wild, Project Wet, Project Learning Tree).
- Explore ways to continue to use outreach sites for credit or noncredit courses.
- Support other continuing education programs like 1) sustainability leadership certificate, 2) lean/green certificate: leadership, sustainable business practices, project management, 3) energy auditor/weatherization: fast-track version of energy auditor credit program, 4) green home certificate, and 5) LEED certification prep courses.
- Recognize faculty and staff for sustainability-related activities. (For example, interior design instructor Kristen Scott won the “Recycler of the Year” award by Habitat Restore.)

Not Met:

- Propose and promote an AS degree program in environmental science and an interdisciplinary sustainability certificate.
- Promote a sustainability course requirement for graduation.
- Secure a permanent CTL sustainability associate position.
- Secure funding to hire new part-time and full-time faculty to teach sustainability courses.
- Develop a “College on your Site” program which would take credit or noncredit courses into businesses to expand awareness and promote exposure to JCCC sustainability efforts.
- Recognize and enhance collaborative involvement between faculty, students, and student groups for sustainability awareness efforts:
 - Student Environmental Alliance – Earth Day, Blue River Clean Up, Recyclemania.
 - Interior Design Student Association – ecobags, techno-trash recycling effort, regular sustainability display in GEB 350, field trips to eco-friendly businesses, host movie “Trashed” with talkbacks with Jay Antle and Deborah Williams.

Transportation

Given that JCCC is a commuter campus, a substantial part of JCCC’s environmental impact comes from vehicle emissions. While JCCC can make substantial efforts to reduce vehicle traffic to campus, regional transportation solutions will have to be part of the equation here, and JCCC should encourage/participate in these solutions. A full subcommittee to investigate these issues was formed in spring 2009.

Ongoing:

- Find ways to make the campus more bike-friendly. Cooperation with Overland Park should be sought to connect JCCC to area bike paths. A campus survey should be conducted to see how many faculty/staff/students would ride bikes to campus if bike racks/bike boxes were available. *Conversations have taken place with Overland Park as well as Johnson County to include JCCC in future planning of bike paths. Follow-up is needed on this issue. A campus transportation survey was offered in spring 2009 with the data expected to be processed by the end of May. This survey will allow JCCC to gauge the impact of transportation on the carbon footprint of the campus as well as plan for bike racks.*
- JCCC should encourage/facilitate carpooling of faculty/staff. Preliminary discussions are underway to this effect with the eventual hope of creating a map interface program where prospective carpooling partners can find each



other in a JCCC-only online environment. Student inclusion may be problematic due to liability issues, but these should be investigated. *Several options here are being explored including MARC's Rideshare program.*

- Preferential parking spaces should be reserved by permit for carpoolers and those who drive hybrid vehicles. *No action has yet been taken here partially due to divisions about whether or not hybrid drivers should be rewarded as well as enforcement concerns. This will be revisited in 2009-2010.*
- JCCC should encourage work-from-home and flex-time where appropriate to reduce the need for all faculty/staff to come to campus every day. *Analysis of a possible four-day workweek was conducted by a subcommittee led by Janelle Vogler. Energy savings alone could not be used to justify a movement in that direction. Transportation was not a major consideration in that study. More conversations about campus policies on flex-time are needed.*
- Encourage and support mass transit including the K-10 Connector. *The JO has doubled the number of K-10 runs. Future student participation in JO planning should be encouraged and may be facilitated by the student green fee.*

Not Met:

- Purchase hybrid/electric vehicles for the college fleet. *No such vehicles have been purchased by the college despite opportunities to do so.*

Presidents Climate Commitment

The College and University Presidents Climate Commitment requires JCCC to take a variety of specific actions as numerated below:

Accomplished:

- Within one year of signing this document, complete a comprehensive inventory of all greenhouse gas emissions (including emissions from electricity, heating, commuting, and air travel) and update the inventory every other year thereafter. *JCCC's first inventory was completed by the end of May 2009.*
- Continue participating in the RecycleMania competition.

Ongoing:

- Within two years of signing this document, develop an institutional action plan for becoming climate neutral.
- As part of this process JCCC should use the new Sustainability Tracking, Assessment, and Rating System (STARS) developed by the Association for the Advancement of Sustainability in Higher Education (AASHE). Students could pursue service-learning credits while helping JCCC introduce this system. *No action has been taken on this issue; however, student interns may be helpful in this regard with the student green fee.*
- The commitment requires us to take at least short-term steps while the long-term plan is being implemented. JCCC has chosen to pursue three steps:
 - Purchase only Energy-Star certified appliances/computers.
 - Ensure that all new construction is LEED (Leadership in Energy and Environmental Design) certified. *Current plans have the Olathe Medical Center Health Education Building and the Library expansion to be at least LEED Silver.*
 - Make the rhetoric of the commitment and the actions in the institutional action plan reality.

Purchasing

Accomplished:

- Finalize a green purchasing code and revisit it frequently as technologies change. *This policy has been drafted and is going through the policy adoption process as of May 2009.*



Ongoing:

- A new contract with Dell specifies that discarded computers are to be refurbished or recycled rather than sent to landfills.
- Ensure that vendors are aware of the importance of sustainability to JCCC so that they can offer appropriate products to the institution. *Vendors are beginning to reference the sustainability committee report in proposals along with the President's Climate Commitment.*

Community Outreach

As a community college, JCCC has an obligation not only to serve students, but the larger community in which it resides. JCCC should develop a variety of programs dealing with sustainability for that community.

Accomplished:

- Assess community interest in continuing education programs in this area and offer programs accordingly. *CE has launched a Sustainability Committee and curriculum will appear in fall 2009.*
- Cooperate with local/regional entities (Mid-America Regional Council, the City of Overland Park, Burns and McDonnell, Climate and Energy Project, Sierra Club) that have made sustainability important to their organizations. *These strategic partnerships are well underway.*

Ongoing:

- Continue to offer public forums dealing with environmental/energy issues that not only inform but also offer chances for dialogue. *JCCC has offered several small-scale events but here is an area for substantial expansion.*
- Find ways to include service-learning options for JCCC students in community sustainability activities. Civic engagement is a JCCC goal, and here is an important realm for that engagement to happen.

Not Met:

- Be a host institution for an intensive survey of Kansans and their attitudes on sustainability-related issues. Such information would help focus JCCC's efforts as well as be useful for policy-makers and local businesses.
- Partner with a local community and assist them in achieving a certain community sustainability-related goal (like reducing energy usage by 2 percent over a year).

Submitted by the JCCC Sustainability Committee