

Examples of Sustainable Practices and Initiatives
The University of Iowa
April 7, 2008

Energy Efficiency and Renewable Energy Sources

- The Energy Conservation Advisory Council, created in 2004 and comprising faculty, staff and students, has made energy conservation and sustainable energy a campus-wide effort.
- The University adopted goals to sharply reduce its reliance on non-renewable energy sources 10% by 2013 and to increase reliance on renewable energy sources for up to 15% of its energy by 2013.
- The University joined the Chicago Climate Exchange in May 2004, which requires a 6% reduction from a 1998-2001 baseline greenhouse gas emissions by 2010. Currently, the UI is ahead in its pace toward this goal.
- The comprehensive Energy Conservation and Management Plan was adopted in February 2007. The fourteen strategies in the plan support using more renewable energy, increasing energy efficiencies, encouraging energy conservation, attaining energy security, and ensuring system reliability. Student participation, interdisciplinary partnerships, and innovative technology are the distinguishing characteristics of this plan.
- One coal-fired boiler at the main power plant was converted to burn biomass (oat hulls) delivered from nearby Quaker Oats, reducing the power plant's carbon emissions. In Fiscal Year 2007, biomass displaced 27,040 tons of coal.
- UI is pioneering adaptive technology learned from its fluidized bed boiler to retrofit its stoker boiler, Boiler 10, to burn oat hulls.
- The University of Iowa biomass project and its energy conservation campaign are featured as best-practice examples to reduce greenhouse gases by the National Wildlife Federation in its recent report "Higher Education in a Warming World: The Business Case for Climate Leadership on Campus." The report, issued in January 2008, concludes that reducing emissions is possible and often without additional cost. The paper highlights campuses that are leaders in reducing carbon emissions. <http://www.nwf.org/campusecology/businesscase>
- The Energy Conservation Advisory Council is investigating the actions necessary to achieve the same greenhouse gas reduction scenarios which the state's Climate Change Advisory Council is undertaking to develop (i.e., a 50% and 90% reduction in greenhouse gas emissions by 2050). The ECAC will provide estimates of feasibility and cost effectiveness of those actions.
- The College of Engineering, VP-Research, and Facilities Management formed a Green Power Task Force to determine options for future steam and electric capacity needs that would expand the University's use of renewable fuel and provide education and research opportunities. Major initiatives are underway for the main campus and the Oakdale Campus; including direct tie-ins with the UI's research and educational missions. The Task Force is co-led by Dean Barry Butler and Utilities & Energy Management Director Glen Mowery.

- The University of Iowa is actively investigating the use of alternative fuel sources, including wind, hydroelectric generation, synthesis gas, photovoltaic cells and the expanded use of biomass fuel.
- Board has given approval for Permission to Proceed with Planning for a Renewable Energy Plant on the Oakdale Campus. The projects position the Oakdale Campus to eventually become a 100% renewable powered campus.
- UI participates with MidAmerican Energy Corporation in energy curtailments during peak summer demand; helping to avoid and delay utility investment in new capacity.
- Facilities Management is managing an ongoing energy audit program for buildings, equipment and utilities distribution systems for operational and energy efficiencies and opportunities.
- The Center for Global and Regional Environmental Research at the University of Iowa, established in 1990, promotes interdisciplinary efforts that focus on global environmental change. Prominent UI faculty members are attached to this center and participate as advisors to UI.
- Two College of Engineering student projects are producing positive results. The Data Mining Combustion Optimizer (DACOMO) maximizes boiler performance by producing recommended control setting changes that are posted in real time on a web page used by the boiler operators in the plant. Another project by graduate students is evaluating additional biomass fuel opportunities for future operations.
- The UI Energy Expo provides an opportunity to bring together industry, academics, students, government and the public to focus on energy conservation initiatives, innovative technological solutions, and sustainability. It is sponsored by the Energy Conservation Advisory Council.
- The University is an Energy Star Partner with the U.S. Environmental Protection Agency and the Environmental Protection Agency designated the UI as an EPA Green Power Partner.

Recycling and Composting Programs

- The paper and cardboard recycling program nets approximately 22% of the UI's conventional waste stream. When considering all UI waste streams, more than 75% by weight is recycled, including Power Plant waste products, food composting, recycled paper, cardboard, plastics, and Universal Waste (batteries, pesticides, mercury-containing equipment and fluorescent lamps). All academic and research facilities have desk-side paper product recycling.
- The UI Recycle Task Force, an interdisciplinary group of students, faculty and staff, is charged with expanding the comprehensive recycling program and improve efficiencies, communication and community marketing. The UI Recycle Task Force is nearing completion of its recommendations.
- The Waste Management Task Force, comprised of Facilities Management staff and UI Environmental Collation students on committee with Iowa DNR, East Central Iowa Council of Governments (ECICOG), City of Iowa City, Coralville and Johnson County government leaders, is defining solid waste management goals for Johnson County for years 2008 – 2014.

- Plastics and aluminum are collected in all areas of Kinnick Stadium. "Clean-up Sundays" by volunteer booster groups encourages recycling of redeemable and non-redeemable plastics. Several groups are actively sorting recycling plastics and taking them to local recycling centers.
- In early 2007, a student-proposed food-composting project began with UI Dining Services and the City of Iowa City. In addition, Dining Services is selling its waste cooking oil for reuse.
- UI's Student Week of Welcome included display booths on Energy Conservation and Recycling.
- The Waste Characterization Sorting Project was a partnership with UI environmental students, Iowa DNR, East Central Iowa Council of Governments (ECICOG), City of Iowa City Landfill and City Carton to conduct waste characterization studies of the Pentacrest buildings and grounds, and the UI Main Library. The study found that approximately 50% of UI waste stream is comprised of recyclable materials.
- The "Sturrier Challenge" was a semester-long initiative (Stanley and Currier Halls) that engaged students in energy conservation and recycling practices. The challenge raised student awareness and changed behaviors toward conserving energy. This challenge was highly successful because it was created, owned and implemented by UI Housing and students.
- The UI recently won a National Recycling Coalition and Coca-Cola Bin Award that provides 150 Busch System recycle bins for collection of plastics valued at \$13,425.
- Iowa Department of Natural Resources (IDNR) Solid Waste Alternative Program Award will provide 23 high-end outdoor plastics collection containers valued at \$20,650. The contract with IDNR is in the process of being completed and bins will be purchased and placed by the end of the spring semester 2008.
- Beverage Contract RFP for the campus beverage supplier included a recycling funding component valued at \$25,000.
- Construction and renovation projects use the UI's comprehensive Campus Design Standards to ensure energy conservation is designed into new and renovated projects. The standards generally exceed State codes and standards. The University has implemented a Building Commissioning Program to ensure buildings operate to optimal designed conditions. New buildings will be initially commissioned, and existing buildings will be routinely re-commissioned, in order to minimize energy consumption. Sustainable design practices have been employed on all projects over the past decade; including three buildings registered for LEED Certification (College of Public Health, Hygienic Laboratory and Beckwith Boathouse). A fourth building, the University of Iowa Institute for Biomedical Discovery, also is being considered for LEED certification.
- Design and construction projects are recycling demolition materials, including carpeting and roofing materials. The UI received an award for recycling approximately 150,000 square feet of roofing material on Carver-Hawkeye Arena.

Transportation

- UI Parking and Transportation supports alternative transportation methods for UI commuters through access to Cambus and discounted bus passes on the two local community systems. It operates 75 vans for 805 members of an employee van pool program, a three person formal car pool program (TRIP) serving 58 people, and numerous two person informal car pools. Active bicycling on campus is supported by funding biking programs and the installation and upgrading of bicycle parking spaces.
- The UI offers free shuttle (Cambus) service on campus, with over 3.7 million riders annually.
- The UI Diesel Fleet (31 Cambuses and 85 trucks) operate on up to 10% biodiesel.
- In its fleet of 544 vehicles (not including Cambus), the UI has 214 Light duty Flex Fuel vehicles that consumed over 100,000 gallons of E-85 in calendar year 2007. The University also operates 8 Hybrids (3 Ford Escapes and 5 Prius)
- Facilities management has purchased electric vehicles for a trial program for a “green” fleet. The vision is to eventually convert more that 50% of Facilities Management’s fleet vehicles. Some departments are currently evaluating electric vehicles for the service fleet.
- GPS monitoring devices will be installed in service vehicles to help the University develop an idling policy.
- A “day pass” system was implemented that allows employees who occasionally need to drive to work can plan to purchase a one-day permit.

Green Product Contracts

- University purchase terms and conditions have been updated to include a clear statement regarding Energy Star-rated products to assist in assuring that Energy Star-rated equipment is purchased whenever possible.
- Various University vendors (Grainger, Fisher Scientific, Iowa Prison Industries, VWR, etc) have been contacted to provide a list of their green products to be made available through University contracts.
- Training on purchasing green products is being advanced by Purchasing.
- The University is evaluating green-certified janitorial supplies. Green-certified foam soap has been adopted and facial tissue made from recycled material is under review.
- The University issued a Request for Proposal for Vending and Beverage Service that contained a provision for providing support of recycling efforts on campus.