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EIU Celebrates Grand Opening of Impressive Renewable Energy Center

Oct-07-2011

Eastern Illinois University and Honeywell today unveiled the school's Renewable Energy Center, one of the largest university biomass installations in the country, as part of a grand opening ceremony held on campus for students, faculty and the broader Charleston community.

The REC is a 19,000-square-foot steam plant that will provide heat for buildings and classrooms across the university grounds. It is driven by two large biomass gasifiers - the first application of this technology in Illinois and the surrounding region - that use wood chips from forest residue for fuel.

By switching to a renewable energy source, EIU will reduce annual carbon dioxide emissions by an estimated 20,000 metric tons, which is equivalent to removing more than 3,600 cars from the road, according to figures from the U.S. Environmental Protection Agency.

The new plant is one piece of a comprehensive energy- and environmental-conservation program that also includes a variety of upgrades to other university facilities and infrastructure. The product of close collaboration between EIU and Honeywell, the program is expected to cut energy use on campus in half and carbon dioxide emissions by 80 percent.

The facility will more than pay for itself through the projected \$140 million in energy savings over the next two decades - savings that are guaranteed through a 20-year performance contract with Honeywell.

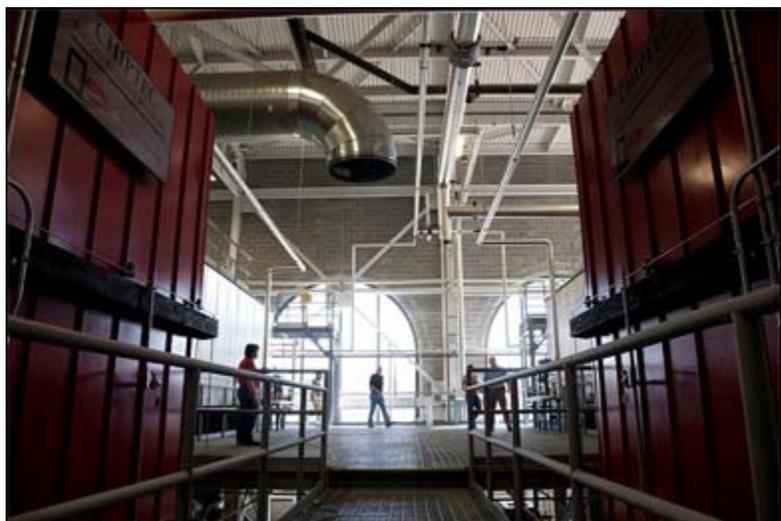
The facility will also have a major educational benefit. The REC's dedicated classroom space and advanced technology displays are helping the university develop a Center for Clean Energy Research and Education (CENCERE) to provide EIU students and faculty extensive opportunities for clean-energy research. The university also offers a new academic minor in sustainability and is in the process of adding a master's degree in renewable energy.

"This facility is a symbol of Eastern Illinois University's commitment to our campus and environment, and demonstrates our willingness to take a progressive step toward sustainability," said Bill Perry, president of Eastern Illinois University.

"Operating our campus with a renewable resource allows us to show that cleaner energy options are both practical and fiscally responsible. This will not only impact our operations, but permeate into our curriculum as well."

To heat the campus, a material-handling system at the plant delivers wood chips to the biomass gasifiers where they are broken down in a heated, oxygen-deprived chamber, creating a synthetic gas that burns similar to natural gas. The gas is then used to fire high-efficiency boilers, which results in more complete combustion and lower emissions, and gives EIU a carbon-neutral solution for heating its facilities.

The gasifiers will consume an estimated 27,000 tons of wood per year, replacing the more than 10,000 tons of coal burned annually by EIU's existing plant, which will be decommissioned and repurposed for other university needs.



For more photos of Eastern Illinois University's Renewable Energy Center, see [EIU's Flickr site](#).

The REC also features a back-pressure turbine that is powered by superheated steam from one of the boilers to generate electricity, as well as two ground-mounted solar arrays. The turbine and arrays will provide other sources of renewable energy for the university and generate almost 3 million kilowatt-hours of electricity per year - enough to power 250 homes on average.

Along with the steam plant, the broader, \$80-million program with Honeywell includes energy- and water-efficiency upgrades across campus. EIU financed the work and is using the subsequent savings to pay for the improvements. As a result, the program will not place a burden on the university's budget, or require additional taxpayer dollars or student fees.

"EIU is now one of the leading examples of what's possible when an organization takes a long-term, strategic approach to energy and the environment," said Paul Orzeske, president of Honeywell Building Solutions. "We worked closely with the university to define its needs as an institution and tailor a program to help meet its goals. This is innovation with a clear purpose in mind, and the entire campus and community benefits as a result."