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OMAHA, Neb. - Creighton University will harness Nebraska's sunshine and wind this spring as the University begins assembling a large array of solar panels and wind turbines at various locations across campus. When completed, the solar array will be the largest in the state.

The alternative energy project will be part of a new degree program for students studying technology and applied science in the College of Arts and Sciences. They will have research opportunities to assist with the building of the solar array, which will be located in a University parking lot.

The \$1.4 million project is a collaborative effort with Omaha Public Power District (OPPD); 1.14 million of that will be funded by federal funds requested by Rep. Lee Terry and Sen. Ben Nelson. The U. S. Department of Energy will administer the money as part of its mission to promote renewable energy. Creighton will also serve as a resource for OPPD customers contemplating the use of alternative energy projects on commercial sites.

"Our country must become more energy independent," Terry said. "By using alternative energy technologies, we can make our homes and businesses more efficient. This project is especially beneficial because it gives young people hands-on experience to learn about the benefits of solar and wind energy, something I have been a proponent of for years."

Nelson said that "supporting educational and research initiatives like this one will expand renewable energy in Nebraska and help make our country more energy secure. I'm pleased that students will gain useful hands-on experience working with renewable-energy technologies and community partners to reduce the University's reliance on traditional sources of power and increase its use of electricity generated from wind and solar energy."

Creighton University Physics Professor Michael Cherney said the new educational

program in energy technology will be designed to train future leaders in the field so that they possess the scientific expertise needed as well as an understanding of related social issues.

"The curriculum that is being developed for the program combines theory and practice. It is rooted in studies of how people learn most effectively and draws from programs found at some of the country's leading institutions. We want to attract highly motivated students who enjoy working with their minds, their hands and a broader community of people," Cherney said.

The project will begin with the installation of a thin film of photovoltaic cells on part of the south sloping roof of the Kiewit Fitness Center. This simple installation, which will be visible from the interstate, will be a demonstration of what some OPPD customers might find attractive in terms of solar projects, Cherney noted.

A solar tracker panel will be installed on the south side of the Lied Education Center, 24th and Cass streets. The panel will be about 20 feet wide and 16 feet tall and mounted on a pole about 10 feet above ground; it will be self-adjusting to provide the best angle for capturing sunlight.

Along with the tracker panel, four wind turbines will be installed on a hillside southwest of the Lied Education Center. Like the tracker panel, the turbines will be very visible from I-480 and from Cass Street. The 30-foot towers will have rotating drums at the top that spin with turbulent winds found in an urban setting. The electricity generated from the tracker panel and the wind turbines will be used in the Lied Education Center.

The largest installation will be the solar array in the parking lot between Burt and Cuming and 24th and 28th streets. The installation will be above two rows of parking. The rows will be about 300- and 100-feet long, respectively. Like the tracker panel, the array will be about 10 feet above ground at the lowest point. The photovoltaic cells will be supplied from four manufacturers so Creighton students can examine the panels and compare each manufacturer's product. The panels will be installed in a frame that facilitates changing and updating the panels through time.

Along with the large array of solar panels will be a smaller stand-alone array that is adjustable. The fixed panels will be installed at a 37-degree angle for the best efficiency. Connected to the smaller, adjustable array, will be a teaching station

that will give students the opportunity to see the inverters and other meters associated with producing alternating current.

Students in the atmospheric sciences program will be able to track the efficiency of the panels through a weather station, using computerized weather models developed by the students. The collective analysis, along with a web-cam presentation and a dashboard showing "right-now" production, will all be visible on a dedicated web site and on digital displays found in the Hixson-Lied Science Building.

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About Creighton University: Creighton University, a Catholic, Jesuit institution located in Omaha, Neb., enrolls more than 4,000 undergraduate and 2,900 professional school and graduate students. Nationally recognized for providing a balanced educational experience, the University offers a rigorous academic agenda with a broad range of disciplines, providing undergraduate, graduate and professional degree programs that emphasize educating the whole person: academically, socially and spiritually. Creighton has been a top-ranked Midwestern university in the college edition of *U.S. News & World Report* magazine's for more than 20 years. For more information, visit our website at: www.creighton.edu

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