

UWO partners in second dynamic biodigester project

by Alex Hummel - Monday, August 29, 2011

<http://www.uwosh.edu/today/13812/uwo-partners-in-second-dynamic-biodigester-project/>

Wisconsin's largest dairy farm will be home to one of Wisconsin's most dynamic research, renewable energy production and public education facilities as part of an initiative involving the University of Wisconsin Oshkosh's College of Letters and Science and UW Oshkosh Foundation.

On Aug. 24, the UW Oshkosh Foundation Board of Directors unanimously endorsed a proposal to pursue an innovative partnership with Milk Source's Rosendale Dairy and renewable energy companies Viessmann Group and BIOFerm Energy Systems of Madison.

The proposal calls for construction of a large, wet anaerobic biodigester/biogas production facility at the Pickett dairy site. The plant would use the farm's livestock manure to make energy. It would also operate as a dynamic, collaborative UW Oshkosh student-and-faculty biosolids research and teaching laboratory with an attached public education center.

"Our College of Letters and Science and UW Oshkosh Foundation, in collaboration with Rosendale Dairy, will provide students and faculty opportunity to pursue state-of-the-art environmental science teaching and research and educate their region in the process," UW Oshkosh College of Letters and Science Dean John Koker said.

UW Oshkosh Provost Lane Earns said the facility will propel student learning and advance the University's multifaceted mission.

"In multiple ways, this new, proposed facility enhances UW Oshkosh's teaching, research and public service missions," Earns said. "It will help our students attain high-impact career skill and knowledge while advancing sustainable energy and environmental solutions for our campus and rural communities."

From waste to fuel for service, learning, research

The proposed wet biodigester will rely on Rosendale Dairy's livestock manure, the on-site ingredient needed to produce methane gas and electricity. The process involves anaerobic digestion, the bacterial decomposition of organic matter that occurs in the absence of oxygen.

In the odor-controlled environment of the biodigester, gas produced is safely combusted and turned into electricity. The revenues that will come from the energy's return to the grid will advance UW Oshkosh's operations and educational mission.

"This is a special opportunity to bring a digester to our farm with an outstanding partner," said Jim Ostrom, co-founder and partner of Milk Source. "We are proud to be working with the visionaries of the UW Oshkosh Foundation and the University to not only create green energy but to be part of the science and technology education that will be taking place."

The multifaceted energy plant and facility will significantly enhance UW Oshkosh student learning and community outreach opportunities involving environmental and biosolids research. It will also:

- Feature a public education center operated by UW Oshkosh students and faculty. It will introduce Wisconsin K-12 students, educators and residents to the environmental science and engineering involved in harnessing a renewable energy source from a state-of-the-art, 21st Century dairy farming operation. Furthermore, UW Oshkosh is in the early stages of discussions with UW Extension and other constituent groups of using biodigester revenues to develop a new center on rural community development.
- Be available as a remote classroom and laboratory for UW Oshkosh microbiology, biology, environmental studies and chemistry classes. Revenues from the production and sale of energy will further fund the enhancement and growth of laboratories throughout the institution, including the [University's Environmental Research and Innovation Center](#). The ERIC is home to the institution's collaborative, student-and-faculty aquatic and sustainability research initiatives.
- Fund a new student scholarship program under development by the UW Oshkosh Foundation.

The student scholarship and rural community development initiatives will involve the consultation of UW Oshkosh's world-class faculty, staff and student leadership, UW Oshkosh Chancellor Richard Wells said.

"Through this one proposed facility and partnership, there is the potential for much good for our campus, region and state," Wells said.

The promise of renewable energy, carbon neutrality

Viessmann and BIOFerm collaborated with UW Oshkosh Foundation and university sustainability leaders to build a [state-of-the-art, dry fermentation anaerobic biodigester facility](#), dedicated in May and now operating off Witzel Avenue in Oshkosh.

That facility's airless storage chambers, filled with grass clippings, agricultural plant refuse and UW Oshkosh campus food waste, will produce electricity and heat from biogas, the byproduct of the decomposing material. That plant, the first of its kind in the Americas, will also generate clean energy for the campus and serve as a research facility.

UW Oshkosh expects the second state-of-the-art biogas facility at Rosendale Dairy, in concert with the campus's array of other sustainability initiatives, will significantly accelerate UW Oshkosh on its carbon neutrality timeline, a goal currently targeted for 2025 in the University's [Climate Action Plan](#).

The 2.8 megawatts the new biodigester is expected to generate could power approximately 1,600 homes per year, according to BIOFerm. The company also projects that, based on UW Oshkosh's current annual consumption of electricity, the new plant could cut the campus's carbon neutrality target by more than half, reducing it from 14 years from now to seven.

Having two state-of-the-art biodigester facilities within 20 miles of one another will further enhance UW Oshkosh's identity as a living, learning laboratory in the NEW North. It will also make the region a

global destination for enterprises interested in renewable energy advances.

Next steps

Groundbreaking and completion timelines, project costs and revenue projections and other details for the project are still being developed by UW Oshkosh and partners.

UW Oshkosh is conducting a 120-day due-diligence period to review biodigester engineering and business plans and to pursue and develop purchasing agreements for power generated at the plant. With appropriate contracts, permits and financing arrangements in place, ground is projected to be broken on the facility in spring 2012, with a projected biodigester startup in 2013.

The facility will be owned by the UW Oshkosh Foundation and led, managed and operated by UW Oshkosh students, faculty and staff.

“This is a multifaceted win for our students and the state of Wisconsin, and it is the kind of innovative, entrepreneurial project the UW Oshkosh Foundation believes is essential to the future of our thriving institution,” said UW Oshkosh Foundation President Arthur H. Rathjen.

UW Oshkosh Vice Chancellor for Administrative Services Tom Sonnleitner said the private partnerships involved in the project are more evidence of the University’s entrepreneurialism.

“We are working hand in hand with private enterprise to not only operate in a more environmentally-friendly way, but also to reduce our operational costs,” Sonnleitner said. “By substantially moving us off the grid, this facility will help UW Oshkosh continue to redirect financial resources previously spent on campus energy bills to the expansion academic programs and classroom seats. That is the core of our institution’s mission.”

Read more:

- [Environmental Research and Innovation Center brings opportunity](#)
- [UWO, partners dedicate innovative biodigester](#)
- [UWO to unveil nation's first dry fermentation anaerobic biodigester](#)