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UNIVERSITY OF MINNESOTA MORRIS

UMN Morris and UMN WCROC launch the Center for Renewable Energy Storage Technology

(May 4, 2022) For over twenty years, the University of Minnesota Morris and University of Minnesota West Central Research and Outreach Center (WCROC) have been working to advance clean energy solutions in west-central Minnesota. In 2005, UMN WCROC installed the first industrial-scale wind turbine at a public university in the United States. In 2011, UMN Morris installed a second wind turbine. During the past decade, both University of Minnesota campuses have advanced research and demonstration projects. UMN WCROC built a globally-unique wind-to-hydrogen-to-ammonia platform, turning wind and water into fertilizer. UMN Morris demonstrated biomass gasification. And, both campuses built solar PV and solar thermal projects.

For many years now, UMN Morris and UMN WCROC, have explored the potential of energy storage in rural Minnesota.

Now, UMN Morris and UMN WCROC are partnering to launch the Center for Renewable Energy Storage Technology, or CREST. In order to reach high levels of renewable power generation, efficient and economic energy storage systems are critically needed. This field is poised for significant growth and attention in the coming years. The new UMN intercollegiate Center will provide leadership in research, demonstration, education, and outreach in this vital field by organizing teams and partnerships and incubating energy storage research and demonstration-scale projects.

A hallmark and unique characteristic of renewable energy efforts at the Morris campuses has been the ability to test systems at commercial or near-commercial scales. This scale is especially crucial in moving new technologies from labs into the commercial market. CREST will also expand opportunities for Minnesotans to learn more about energy storage technologies and potential applications. Recently, UMN WCROC announced it will host the \$18.6 million US DOE ARPA-E REFUEL Technology Integration 1 metric ton per day ammonia pilot plant. In addition, WCROC received \$10 million from the State of Minnesota in the 2021 legislative session through the Xcel Energy RDA account to develop ammonia-fueled power generation and self-contained ammonia storage technologies. UMN Morris announced a new project to develop a large-scale battery-storage demonstration project. These projects are done in collaboration with partners from across the University of Minnesota and with many partners in the public and private sectors.

Leadership at UMN WCROC and UMN Morris are excited to grow the partnership between the two UMN institutions in Morris. The Center brings faculty together from both institutions.

“When it comes to the intersection of energy and agriculture, UMN WCROC has been leading the way for a long time,” says Lee Johnston, Director of Operations at WCROC. We are working to strengthen farms and rural communities. Clean energy and energy storage are important now and will grow in importance in the years ahead. Using our local natural resources to create electricity, fertilizer, and fuel in the state and region is critically important. CREST is another way the WCROC and the College of Food, Agricultural and Natural Resource Sciences (CFANS) are blazing a trail into the future. We would not be able to be a global leader in this field without the great support and partnerships within the UMN Morris campus, and the Department of Chemical Engineering and Material Science and the Department of Mechanical Engineering on the Minneapolis campus.”

Acting Chancellor Janet Schrunk Ericksen emphasizes that “Our students are looking for UMN Morris to lead. We know that Morris is a model community in our state and nation. When people come to Morris they see what the future is going to look like. We believe that energy storage will be a part of a clean energy future. And, CREST builds on our climate leadership.”

The U of M partners launched the Center for Renewable Energy Storage Technologies in recognition of previous successes, and in recognition of the challenges ahead to create a clean energy future.



Pictured from left: Bryan Herrmann, Vice Chancellor, Finance and Facilities, University of Minnesota Morris; Janet Schrunk Ericksen, Acting Chancellor, University of Minnesota Morris; Mike Reese, Director, Renewable Energy, West Central Research and Outreach Center; Lee Johnston, Director of Operations, West Central Research and Outreach Center; Bryan Herrmann, Vice Chancellor, Finance and Facilities, University of Minnesota Morris; Blaine Hill, City Manager, City of Morris; Guido Wallraven, Technical Director, City of Saerbeck, Germany; Dr. Christof Wetter, Professor, FH Münster University of Applied Sciences.

View the event here: <https://z.umn.edu/CREST-Announcement>