

CENTERS OF ENERGY EXCELLENCE

The Michigan Economic Development Corporation has put into action the Centers of Energy Excellence program—a bold initiative designed to help develop, grow and sustain alternative energy clusters throughout the state. Centers of Energy Excellence provide resources to match universities, national labs, and the state to accelerate the commercialization of next generation energy technologies.

The six initial **Centers of Energy Excellence** are:



The Boston-based company with offices in Ann Arbor and Livonia is establishing a center focused on the manufacture of rechargeable lithium batteries for the transportation and alternative energy sectors, leveraging the state's automotive assets. The University of Michigan will contribute research on manufacturing system design, performance and processes; and Michigan State University will contribute research on battery materials and electrode designs.



The Atlanta-based company, in partnership with San Antonio's Valero Energy Corporation, is establishing a pilot scale biorefinery at the Decorative Panels International hardwood plant in Alpena. The biorefinery will convert the process waste effluent from the plant into cellulosic ethanol, sodium acetate and clean, warm water. The project has potential for replication across the state in other biorefineries, pulp and paper mills, and food and agricultural processing plants. Michigan Technological University will contribute research to improve fermentation processes and also on the use of sodium acetate for novel anti-icing applications.



The Boston, Mass.-based company is establishing a cellulosic ethanol center in Kinross (eastern Upper Peninsula). The center will utilize the abundant timber resources in the area, producing fuel from nonfood, cellulosic crops (wood). Michigan State University and Michigan Technological University will focus on improving the supply chain for woody biomass feedstock.



The Ann Arbor-based company is establishing a center focused on next-generation lithium battery technologies and processes. The proprietary technologies enable the manufacture of battery cells in Michigan instead of overseas. The University of Michigan will contribute research on battery lifecycles.



Swedish Biogas
INTERNATIONAL

Swedish Biogas International (SBI) is launching a waste-to-energy/biomethane center at the city of Flint's waste water treatment facility. Kettering University, a partner in the project, will collaborate with Linköping University in Sweden. Kettering will work toward adapting municipal vehicles so that they can utilize the biomethane as fuel. Kettering's incubator will also serve as the initial headquarters for SBI's North American operations, providing a launch point for expanding the use of this technology throughout Michigan and North America. The C.S. Mott Foundation and Swedish agencies are also partnering on the project.



This company with operations in East Lansing, Webberville and Sweden is establishing a biorefinery that will produce high-value specialty and fine biochemicals and biofuels from natural feedstocks. Technology developed at this center can be applied to existing biomaterial processing facilities across the state such as corn ethanol plants, beet sugar refineries, and pulp mills to produce new, higher margin products. Michigan Technological University will contribute research toward the supply chain for biomass feedstock that will be delivered to the biorefinery.

For additional information, contact the MEDC Customer Assistance Center at 517.373.9808, via e-mail to COEE@michigan.org, or by visiting our Web site at MichiganAdvantage.org/21cjf.