



The MAREC Minute

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GRAND VALLEY STATE UNIVERSITY
MICHIGAN ALTERNATIVE AND RENEWABLE ENERGY CENTER

The Michigan Alternative & Renewable Energy Center (MAREC) is a program of Grand Valley State University. MAREC is part of the Muskegon Lakeshore SmartZone, a joint venture with the city of Muskegon, Grand Valley State University, and the Michigan Economic Development Corporation.

A Message From The Director

In this edition of *The MAREC Minute*, we are pleased to share a number of new activities. A data integration project led by students from the College of Engineering will link MAREC's data with the university and the web-oriented world. A new incubator tenant presents new opportunities for advances and innovations in power storage technology. The expansion of the Michigan Small Business and Technology Development Center's presence at MAREC brings new resources and opportunities for entrepreneurs and small business start-ups. Also, a number of seminars and workshops offer training opportunities for Muskegon and the region. We are grateful for the collaborative assistance from university resources as well as local and regional partners in making these projects possible.

In February, GVSU received approval of a \$1.33 million grant award from the Michigan Public Service Commission. This significant award will be applied toward development of an offshore wind assessment and research project to be developed in partnership with the Michigan Memorial Phoenix Energy Institute at the University of Michigan. These recently funds will be added to an earlier Federal Department of Energy grant awarded in 2009 that required a non-federal match. The combined state and federal grants represent about half of the total funds needed for the project. In order for this very ambitious project to move ahead, private equity participation will be solicited in the coming weeks to complete the funding requirement.

The offshore wind assessment project will be developed in partnership with state, federal and wind industry interests to establish base-line wind information and related offshore research to support the future development of offshore wind generated energy. This project represents an opportunity to contribute to efforts underway to identify West Michigan and the greater Muskegon region as a place where a future offshore wind industry can emerge. With its premier deep-water port and superb manufacturing assets, Muskegon is well positioned to be the epicenter of the future Michigan wind industry. MAREC along with local and regional economic development, manufacturing and industry, are working together to bring offshore wind energy technology to Muskegon and the region.

Through Grand Valley State University-MAREC, West Michigan has a seat on the Michigan Great Lakes Offshore Wind Council (GLOW) created by Governor Jennifer Granholm in early 2009. The development of offshore wind in Michigan and the Great Lakes region is a difficult undertaking filled with political, technical, regulatory and scientific complexities. It is important work that will require the effort of many if Michigan hopes to capture a share of this emerging renewable energy industry. States like New York, Ohio, Wisconsin, and the province of Ontario are rapidly moving ahead and Michigan finds itself in a "catch-up" position.

Watch for further developments as the Offshore Wind Assessment effort continues. We hope your winter winds will turn to more pleasant spring and summer breezes soon!



T. Arnold (Arn) Boezaart

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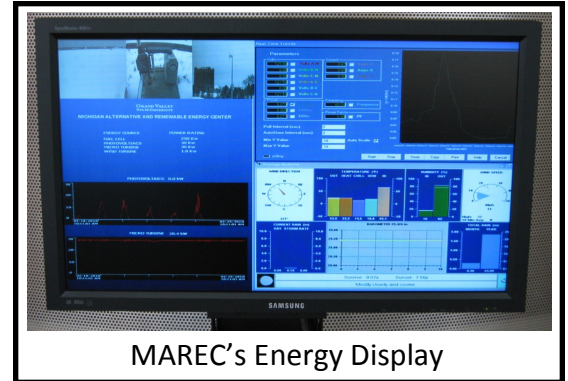
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GVSU Students Lead Integration Project

MAREC is pleased to announce a student-led data integration project in partnership with the Padnos College of Engineering and Computing at Grand Valley State University. To date, MAREC has not had the capacity to share and integrate data from its alternative and renewable energy systems and devices with other locations. With assistance from the College of Engineering, a senior engineering project has been designed and initiated that will make renewable energy data generated internally at MAREC available to the university for study and research purposes, as well as to the general public via the MAREC website (www.gvsu.edu/marec).



The project has been designed by Andy Barker, Jon Geerlings, and Team Leader Randy Schoenhals. The principal goals of the project are to provide for improved local and remote data access, real time and historical reports on energy production, as well as analysis and monitoring of system efficiency. By providing students, faculty and the public access to the MAREC data, studies and comparison to similar renewable energy devices elsewhere can be conducted. The project will stream real time data to a display in the MAREC lobby and record it to a file server for archiving. Building visitors will have the opportunity to generate custom reports for various renewable energy components as specified by the user and the data will be accessible via the internet to remote locations. The system information, including weather station data, will be available for all to see and use by the end of June.

The MAREC facility will greatly benefit from the impressive student talent brought to bear on this challenge along with the consultation, expertise and support from faculty at the College of Engineering. This project will benefit many academic areas of the university and will enhance public awareness of renewable energy technologies. The data integration project provides a valuable applied technology learning opportunity for GVSU students and expands the opportunity to learn about alternative and renewable energy technologies to all.

Small Business Development Services Added to MAREC

An agreement was recently finalized with the Michigan Small Business Technology Development Center (MI-SBTDC) Region 7 Office to station a business consultant at MAREC. This will provide a higher level of business support service to incubator tenants and small businesses in the Muskegon region. Beginning March 1, Eric Siefert, a long-time area banking executive, commercial lender and SBA loan specialist, will begin full-time employment as a consultant with the Region 7 MI-SBTDC office. Eric will spend at least two days each week at MAREC where he will provide consultation and business development support to incubator tenants, Muskegon area small businesses, new venture companies and area entrepreneurs. Eric said that his presence at MAREC “will increase access to SBTDC resources along the lakeshore including workshops and other support for area entrepreneurs.”

Dante Villarreal, Region 7 Director stated that “the opportunity to have the full spectrum of small business assistance services at MAREC will provide high value to the Muskegon community and allow entrepreneurs full access to these resources.” In recent public remarks, both Grand Valley President Thomas Haas and Governor Jennifer Granholm have emphasized the importance of supporting and encouraging the development of small business, promoting entrepreneurial innovation and encouraging job creation. The addition of MI-SBTDC services at MAREC will contribute to that call to action.

Energy Partners LLC Makes Home at MAREC

A start-up company working on the development and commercialization of portable power technology products is the newest tenant at Grand Valley State University's MAREC. Energy Partners moved in at MAREC on the first of February and has leased approximately 1,000 square feet of research development space. The company works closely with Grand Rapids-based Coffman Electrical Equipment in an effort to expand innovations in energy storage and management systems.

Energy Partners founder, James Wolter, is a physicist and recently retired professor of business and new product market development at the Seidman College of Business at GVSU. He has worked on the development of alternative energy products for a number of years. The company will start with one employee and has plans to grow in the future. The first employee of Energy Partners will be George Jaeger, a Hope College trained biologist. He brings an "organic" dimension relevant to the development of bio-based fuels and energy as a complement to the "inorganic" focus by Wolter on battery and power systems.



Prof. James Wolter

"As the technology that will be developed by Energy Partners and its collaborators is successfully commercialized, many direct and indirect jobs will be added to the West Michigan economy," said Arn Boezaart, executive director of MAREC. Wolter added, "Locating Energy Partners at MAREC represents a perfect match based on the company's focus and current needs and MAREC's role in advancing new technology and business development."

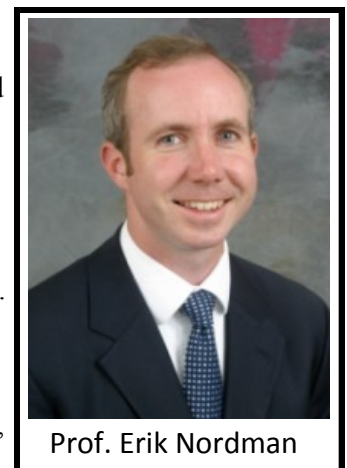
Energy Partners, LLC, is the third incubator tenant currently at MAREC along with Smart Vision Lights and Logical Lighting Systems, LLC. These three companies bring MAREC's incubator laboratory space close to capacity.

GVSU Studies West Michigan Wind Energy Perceptions

Erik Nordman, assistant professor of Natural Resources Management at GVSU is exploring public perception issues related to wind energy as part of a project funded by Michigan Sea Grant. This research project will link efforts with MAREC's offshore project and the efforts of the Michigan Great Lakes Wind Council. Wind energy is an attractive alternative to fossil fuels because generating power from wind produces no pollutants, such as carbon dioxide.

The Department of Energy (DOE) recently released new estimates of the U.S. potential for wind-generated electricity, tripling previous estimates of the size of the nation's wind resources. Michigan's coastal zones have the potential to produce an abundant amount of wind energy.

This project will explore and analyze the economic, social, and environmental benefits and challenges of utility-scale wind energy development in the coastal areas of Oceana, Muskegon, Ottawa, and Allegan counties. Researchers will examine the issues surrounding wind farms, including: citizen involvement in decision making; benefits to communities, impact on tourism; visibility of turbines; ecological constraints to siting turbines; pollution reduction; and existing local and county regulations.



Prof. Erik Nordman

"By combining science and public participation, our integrated assessment will empower West Michigan citizens and local governments to make informed decisions about wind energy facilities in their communities. Our project will enhance local capacity to better understand the trade-offs associated with wind energy development, and will help Michigan achieve its 10 percent renewable energy target in a manner that is environmentally, economically, and socially appropriate," said Nordman.

Muskegon Inventors Network Makes MAREC Home Base

The Muskegon Inventors Network (MIN) is an organized non-profit support group for local inventors, entrepreneurs and creative people who meet to learn, network and support one another in pursuit of innovation and business opportunities. Following recent discussions between MIN and MAREC, the Muskegon Inventors Network has accepted an invitation to make MAREC its official home.

Through networking with like-minded people, innovators and product developers find that they are not alone, that many people understand their situation and that many resources exist that can make the seemingly impossible become very possible. The group boasts many members who are inventors, some with patented products and some with high hopes. The MIN membership includes a wide range of members including marketers, business owners, entrepreneurs, consultants, pure inventors as well as those with skills needed to help others commercialize and take their idea to market.

The MIN is a diverse group that welcomes anyone with creative interests. As Orville Crain, president of MIN said, "If you have a new product and experiencing difficulty with market penetration, come on down. If you have a great idea and don't have the slightest idea what to do next, come on down. We may not have all the answers, but we may just have a piece or two of the puzzle needed to move you to the next level." The MIN offers participants the opportunity to leverage their ideas to create tomorrow's new businesses, products and new jobs.

The focus of the MAREC facility is well suited to the purpose and spirit of the Muskegon Inventors Network. The MIN meets on the third Tuesday of each month from 6-8 p.m. For more information about MIN please visit the Web at www.muskegoninventorsnetwork.org. Those interested are encouraged to stop by sometime and meet this great bunch of creative friends, neighbors and entrepreneurs!

Van Andel Global Trade Center Comes to Muskegon

The Van Andel Global Trade Center (VAGTC) is an important component of the GVSU Seidman College of Business with a mission to strengthen the community through increased global business by providing high quality international consulting, training and resources. Among its many services, the VAGTC provides world-class international business solutions for small and mid-sized companies.

MAREC will host a briefing by VAGTC staff on Thursday, March 11 at 7:30 a.m. With so many of our emerging technologies involving offshore supply chain and product development relationships, it is important for our local businesses to have the opportunity to learn about this valuable regional resource. Please join us for this complimentary event. For more information call 616.331.6900 or 231.722.4371.

Events at MAREC

Energy Lecture Series	Advanced Fundamentals of Marketing your Business	Muskegon Café Scientifique	Muskegon Business - World Business
Upcoming lectures will be posted on our Web at www.gvu.edu/marec	Tuesday, March 9 6 to 9 pm	Wednesday, March 10 6 to 7:30 pm	Thursday, March 11 7:30 to 9 am
The first energy lecture series was held at MAREC on March 2. The public is welcome to attend these free lectures.	This event is sponsored by the MI-SBTDC . To register: call (616) 331-7370 or visit www.misbtcd.org/training	Join us for an interesting and free discussion on Rare Earth Metals : The politics, science and opportunity of an emerging green technology presented by Tom Berwald, President of Sinteris Corp.	Mark Bleckley, associate director of the Van Andel Global Trade Center , will provide a briefing on the VAGTC. To register for this free event, call 616.331.6900