



# Watt's New? *Michigan Energy News*

**Bruce Goodman**  
616/336-6574  
bgoodman@varnumlaw.com

**Eric J. Schneidewind**  
517/482-6237  
ejschneidewind@varnumlaw.com

**Jack D. Sage**  
616/336-6557  
jdsage@varnumlaw.com

**Matthew D. Zimmerman**  
616/336-6536  
mdzimmerman@varnumlaw.com

**David E. Preston**  
616/336-6520  
depreston@varnumlaw.com

**G. Mark McAleenan, Jr.**  
616/336-6812  
gmmcaleenan@varnumlaw.com

**Matthew B. Eugster**  
616/336-6821  
mbeugster@varnumlaw.com

**Toni L. Newell**  
616/336-6815  
tlnewell@varnumlaw.com

**Timothy J. Lundgren**  
616/336-6750  
tjlundgren@varnumlaw.com

*"The motion of the water across these horizontal cylinders induces the cylinders to vibrate up and down, and the vibration is transformed into electricity,"*

Gustavo Simiao, CEO  
Vortex Hydro Energy

*"After this, they can work anywhere in the world."*

Robert Dickens, Managing Director  
Safety Technology

**VARNUM**  
ATTORNEYS AT LAW

www.varnumlaw.com

## Tower Manufacturing at Brownfield Port Location

Groundbreaking occurred on March 30 at an industrial landfill at the Port of Monroe for a new wind tower manufacturing facility. Ventower Industries is spending \$19 million to build the 115,000 square foot plant. The company expects manufacturing to begin in March 2011, with a capacity of 250 towers per year. Shipments to customers are expected to be primarily by barge. Incentives helped Michigan win the project over a competing site in Toledo: \$2.5 million under ARRA; \$3.7 million in MEDC employment credit; \$5.8 million brownfield redevelopment credit; and 50 percent tax abatements from the city of Monroe together with infrastructure upgrades to the port.

## Direct Drive 2.2 MW Turbine to be Manufactured in Saginaw?

Merrill Tool and Machine is supplying components to Northern Power Systems (Vermont) for a new utility scale 2.2 MW direct drive permanent magnet generator wind turbine. In January the company secured \$22 million in federal advanced-energy manufacturing tax credits under ARRA. The funding allowed it to purchase the equipment needed to produce the 2.2 MW wind turbine components, as well as components for Northern Power's existing 100 KW wind turbine design. In December the MPSC approved an amendment to Detroit Edison's contract with Stoney Corners Wind Farm in McBain to allow for testing the 2.2 MW turbine.

## Solar Panels with One and Two Axis Tracking

Patriot Solar Group of Albion is partnering with Grape Solar Inc. to provide solar trackers and mounts for the Western Hemisphere. The partners expect to sell more than 10 MW of 175 watt to 280 watt horizontal pole mounted photovoltaic panels in the next twelve months. A solar panel paired with a tracking system produces as much as 30 percent more energy than a static-mounted system. Shipments to Chile, Peru, Costa Rica, Brazil and Argentina will begin in May.

## Hydrokinetic Technology to be Tested in the St. Clair River

Ann Arbor-based Vortex Hydro Energy is scheduled to place a prototype hydrokinetic power generator in the St. Clair River this summer. The technology does not use turbines or propellers, but instead harnesses the motion of the river currents across horizontal cylinders. Energy can be extracted from currents as slow as two knots. The generator is expected to produce one kilowatt of energy when it is operating, and will remain in the water for two to three months.

## Wind Safety Training Program Offered

Grand Rapids Community College has licensed a safety certification program for the wind energy industry from YES/Safety Technology. Developed by Spain-based Ynfiniti Engineering Services and Wales-based Safety Technology, the college's training program will be implemented in May as a first of its kind in the nation program. Students will receive 80 hours of training in the safety aspects of working with wind turbines, including: risk prevention; rescue and evacuation; access for blade inspection; and safe use of load lifting systems.

*"It grows but no one's tried to cultivate it and plant it."*

Candace Wheeler  
GM Technical Fellow

*"The ultimate goal is to enable various applications like remote wireless sensors and surgically implanted medical devices."*

Tzeno Galchev, Doctoral Student  
University of Michigan

## GM to Make Diesel Fuel from Weeds

General Motors has entered into a five-year partnership with DOE to help develop the jatropha plant into an oil that can be refined into biodiesel fuel. The plant is drought-resistant and non-edible. The goal of the project is to develop new plant varieties that have high yields, can withstand frost, and can be grown in temperate climates of the U.S. with minimal care on marginal land. Under the project, two jatropha farms will be established near a GM factory in India.

## Body Vibrations Produce Electric Energy

"Energy harvesters" are tiny devices that could generate enough electricity from arbitrary, non-periodic noise and vibrations to power a watch, heart pacemaker, or wireless sensor. Examples include traffic driving on bridges, machinery operating in factories, and humans moving their limbs. The prototype from U of M's Engineering Research Center for Wireless Integrated Microsystems is one cubic centimeter in size, uses a material that produces a charge when it is stressed, and can generate up to 0.5 milliwatt from typical human body vibration (enough to run a watch).

## Michigan Shorts

Grand Valley State University and U of M have released their RFP for a Lake Michigan offshore MET tower and research platform. BP Wind Energy has notified the Huron-Manistee National Forest that they are withdrawing the Special Use Application submitted by White Pines Wind Farm, LLC. Ann Arbor-based solid oxide fuel cell manufacturer Adaptive Materials is developing a 300-watt fuel cell system for the U.S. Army. The 200 MW Gratiot Wind LLC project has been announced for the northeast area of Gratiot County by Invenergy and Mackinaw Power (Wind Resource). The MPSC has approved a pilot 3 MW solar energy contract between Nova Consultants, Inc. and Detroit Edison for a utility-owned project. U. S. Fish and Wildlife Service officials have written a letter opposing the proposal for three utility scale wind turbines on a capped landfill at Muskegon County's wastewater treatment facility. Suniva, Inc., manufacturer of monocrystalline silicon solar cells and modules, will receive a \$141 million loan guarantee from the federal government to build a factory in Saginaw County to be near Hemlock Semiconductor, the world's largest producer of polycrystalline silicon. Mariah Power of Manistee is changing its name to Windspire Energy, Inc.

**Michigan Energy Venues**

- Great Lakes Wind Council Information Meeting on May 4 at Muskegon Community College, 7:00 pm  
[www.michiganlowcouncil.org](http://www.michiganlowcouncil.org)
- 2010 Energy Conference and Expo on May 4 at Rock Financial Showplace, Novi  
[ww2.esd.org/EVENTS/EnergyConf.htm](http://ww2.esd.org/EVENTS/EnergyConf.htm)
- Energy Michigan Meeting on May 25 at Causeway Bay Hotel, 9:30 - 1:30, Lansing  
[www.energymichigan.org](http://www.energymichigan.org)
- Michigan Energy Fair on June 25-27 at Rock Financial Showplace, Novi  
[www.glrea.org](http://www.glrea.org)

## Searching for Any Port in an Economic Storm

As Michigan charts its economic future it needs to make certain it identifies and leverages its natural assets. In the past it has used its timber resources to foster the furniture industry, the special character of its sands to foster the sand casting foundry industry, and its abundant water to foster water intensive manufacturing. Now it is time to use its central location and access to the Great Lakes, the Mississippi, and the Atlantic to foster manufacturing of the next generation of large wind energy equipment. Windturbine components and finished wind energy goods are bulky, and shipping them is expensive. Rail and over-the-road transportation are increasingly a limiting factor in how big these can be. So transportation in and out of our state by ship and barge would provide an economic and logistical solution. The port cities of Michigan need to consider how to take advantage of this confluence of shipping advantages and the state's manufacturing talent to kick start the location of wind turbine industry(s) right here. As the only state with access to four of the five Great Lakes, we need to make lemonade out of lemons. Our peninsular geography can turn intermodal transportation (rail, truck, barge) into an asset. The logic and logistics seem obvious. Bring in the big cranes!

