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## Wind energy project has Muskegon port hopping

By [Pete Daly](#)

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Arn Boezaart has enjoyed watching the port of Muskegon “come to life” this summer, to use his words, and because of the industry he is in, it has been encouraging.

That activity also has added to the cash flow in the West Michigan economy.

Boezaart is the executive director of GVSU’s Michigan Alternative and Renewable Energy Center on Muskegon Lake near downtown. From its windows, Boezaart watched several ocean-going freighters coming in to the Mart Dock, where they off-loaded commercial-grade wind turbine blades and tower segments destined for the Beebe Renewable Energy Project, a commercial wind farm under construction in Ithaca, south of Alma.

Beebe is being built by Exelon Wind, a division of Exelon Power, a \$33 billion Chicago company that also owns Constellation Energy. Exelon is the largest operator of nuclear plants in the U.S. and has operations and business activities in 47 states, the District of Columbia and Canada. It claims to be the largest competitive U.S. power generator, with approximately 35,000 megawatts of owned capacity. Exelon’s utilities deliver electricity and natural gas to more than 6.6 million customers in central Maryland, northern Illinois and southeastern Pennsylvania.

Exelon Wind has three operating wind farms in Michigan: the 52 megawatt Harvest Wind near Elkton, the 69 megawatt Michigan Wind 1 near Ubly, and the 90 megawatt Michigan Wind 2 near Minden City, according to Exelon spokesperson Bob Judge.

Judge said most of the output from the Beebe project will be bought by Consumers Energy under a 20-year agreement, as part of Consumers’ plan to meet the terms of Michigan’s renewable energy act.

Judge said Beebe will generate up to 81.6 megawatts of power and is scheduled to go online in December. Each of the 34 wind turbines can produce up to 2.4 megawatts of power.

Beebe will generate enough electricity to power 27,000 homes, according to Nordex, the German company that received the contract from Exelon to supply the turbines at Beebe.

Nordex built the blades for the turbines in Germany, but the tower sections were made by a Korean company. The nacelles that house the generating equipment on top of each tower were built by Nordex USA in their factory in Jonesboro, Ark.

“Nordex USA was unable to source tower sections from their U.S. suppliers in the timeframe required for construction of the Beebe Renewable Energy Project, so the towers were sourced overseas. Nordex has used U.S. suppliers in the past to construct towers,” said Judge.

He did not reveal the size of the investment being made in the Beebe project.

The Nordex N117/2400 turbines are specially designed for light wind conditions. Nordex also states that the acoustic level of the turbines is a maximum 105 decibels, “thus allowing the turbine to be used closer to residential areas.”

The N117/2400 was designed with construction height limits in mind. With a hub height of 91 meters on the standard tower, it is shorter than other turbines in its power range and well below 150 meters, which is a critical threshold for wind turbine height, according to Nordex.

Shipment of the turbine blades, tower segments and other components to the Beebe construction site are a major undertaking in itself. Each of the blades, which are being hauled individually, is 59 meters long — slightly more than 193 feet. A Burns Harbor, Ind., trucking company is using specially designed trailers with steerable rear axles for negotiating sharp corners.

Great Lakes Heavy Haul, a specialized trucking company from Byron Center, had the contract earlier this summer to move the blades from the ships to a lay-down area nearby and will continue that work, according to Randy Zuiderveen, COO at Great Lakes.

Boezaart said he believes the Port of Muskegon in recent years has had a trans-Atlantic shipment less than once a year. “Now, all of a sudden, we’ve got seven coming in to deliver wind turbine components,” he said.

Also, this summer, a ship left Muskegon bound for Spain, delivering a massive turbine blade mold that had been built by Energetx Composites in Holland. According to Energetx, a complete set of 45.3 meter blade molds was sold to Aeroblade, a manufacturing company based in Minano, Spain. Energetx uses an identical mold set in Holland to produce the same blades for the North American market. Moving the molds from Holland to the Mart Dock in Muskegon required the assistance of Rockford Berge, Great Lakes Heavy Haul and Gelock Heavy Movers.

Kelly Slikkers, vice president of business development at Energetx, said in May the wind blade production there created more than 50 jobs — “and we plan to continue hiring throughout the summer.”

Energetx reportedly has a contract for a number of the 45-meter blades but has not identified the buyer.

The port of Muskegon is operated by Sand Products, which owns Port City Marine and the Mart Dock. Chuck Canestraight, president of Sand Products, said the port of Muskegon is essentially a bulk material importer, mainly coal, cement and crushed aggregates. Cargo work is “spotty,” he said, which makes the burst of cargo activity at the port in Muskegon rather unusual. The last foreign vessel making a cargo delivery at the port of Muskegon was in 2004, according to Canestraight.

Delivery of the wind-generating equipment for Beebe “is a great project, to showcase a company that has had this operating port since 1929,” said Canestraight.

When asked if he believes wind energy is here to stay, Zuiderveen said there are “people a lot smarter than me to figure that out. My challenge is to make sure the Great Lakes is in position to support our customers in whatever endeavors they choose.”

Boezaart said the Beebe project and Energetx order “represent good news on several fronts. It means we are bringing more renewable energy into the country. It represents great use of the (Great Lakes) ports and demonstrates the potential” for heavy shipping.

“It also represents real jobs — work, right now, for people” in Michigan, he added.

The blade molds made by Energetx and shipped to Spain are “a good example of how we still have great technology in the U.S.,” added Boezaart. “It’s valued elsewhere.”



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