



*Wind Power in Ohio:  
It's Real, It's Here, It's Working. Let's Make More!*

**Weekly Update: April 24, 2006**  
(archived at [www.OhioWind.org](http://www.OhioWind.org))

## **OHIO WIND NEWS**

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### **New Migratory Bird Study of Western Lake Erie Basin**

**Next OWWG Meeting on Thursday, June 15 in Huron, Ohio**

**Toward Wildlife-Friendly Wind Power: A Focus on the Great Lakes Basin  
Toledo, Ohio June 27-29, 2006**

**Migratory Bird Stopover Site Attributes  
in the Western Lake Erie Basin – Executive Summary**

**Bowling Green Municipal Utilities Recognized for  
Role in Ohio's First Utility-Scale Wind Project**

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### **New Migratory Bird Study of Western Lake Erie Basin**

David Ewert, Director of Conservation Science for The Nature Conservancy's Great Lakes Program, and other expert authors released a 71-page report: Migratory Bird Stopover Site Attributes in the Western Lake Erie Basin. The report will soon be available on The Nature Conservancy website at <http://nature.org/greatlakes>.

Ewert states: "We recognize that more work needs to be done to fully describe stopover site attributes--some of which is described in the report under research needs--and look forward to updating this report as new information becomes known to us. Comments or suggestions to improve the report are always welcome. A stopover working group in Wisconsin is currently working to adapt results of this project to define stopover sites in Wisconsin. Ultimately, we hope to build a Great Lakes basin-wide approach to stopover sites.

"Please note that the GIS component of this project will be completed by May. We continue working on a booklet which will provide management guidance for stopover sites in the western Lake Erie basin. We are also working toward defining recommended monitoring protocols for

migrating birds in the region. It is our hope that this report will catalyze efforts to protect stopover sites in the western Lake Erie basin specifically, but also well beyond the basin.” For more information contact, David Ewert, Director of Conservation Science, [dewert@tnc.org](mailto:dewert@tnc.org), (517) 316-2256 (Phone), (517) 980-0061 (Mobile), (517) 316-9886 (Fax), [www.nature.org](http://www.nature.org), The Nature Conservancy, Great Lakes Program, 101 East Grand River, Lansing, MI 48906

## Next OWWG Meeting on Thursday, June 15 in Huron, Ohio

The **Ohio Wind Working Group** will meet at the **Cedar Point Center on the Bowling Green State University Firelands** campus in **Huron, Ohio** on **Thursday, June 15** from **10:00 AM to 4:00 PM**. This will be the regular meeting for June. Jim Smith, Dean of BGSU Firelands, will host this meeting where a major federal wind energy budget earmark activity will be going forward.

OWWG Members are encouraged to attend two other major wind education activities in June:

**June 4-6, 2006 – Pittsburgh – WINDPOWER 2006 - American Wind Energy Association National Conference & Exhibition** at: <https://www.eshow2000.com/awea/index.cfm> The conference expected to draw over 4,000 people.

**June 27-29, 2006 – Toledo - Toward Wildlife-Friendly Wind Power: A Focus on the Great Lakes Basin** - Hilton Toledo – Dana Conference Center. See page 4 below. Organized by: U.S. Fish and Wildlife Service, Great Lakes Basin Ecosystem Team, U.S. Environmental Protection Agency Great Lakes National Program Office, Illinois Natural History Survey and U.S. Geological Survey. See conference information at: <http://www.fws.gov/midwest/greatlakes/windpower.htm>

## Migratory Bird Stopover Site Attributes in the Western Lake Erie Basin – Executive Summary

Prepared under contract with The George Gund Foundation, April 2006, authors of the report are:

**David N. Ewert**, *The Nature Conservancy*  
**Gregory J. Soulliere**, *Upper Mississippi River-Great Lakes Joint Venture,  
U.S. Fish & Wildlife Service*  
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### Executive Summary

The western Lake Erie basin provides important stopover sites for all groups of migratory birds: waterfowl, shorebirds, raptors, other landbirds, and waterbirds (loons, grebes, cormorants, herons, rails, cranes, gulls and terns). The landscape has been dramatically altered from pre-settlement conditions yet the region remains important for birds to rest and feed so they can continue their migration in good physiological condition. Unfortunately, habitat loss in the region continues, potentially jeopardizing the ability of birds to maintain sufficient condition to

successfully complete their migration. Consequently, it is critical and urgent to define, protect, restore, and better manage migratory bird stopover sites in the western Lake Erie basin.

In this report, we (1) identify and summarize ecological and spatial attributes of migratory bird stopover sites in the United States portion of the western Lake Erie basin based on the literature and unpublished sources, and (2) outline a system for ranking the relative conservation importance of migratory bird stopover sites in the western Lake Erie basin that may also be useful elsewhere in the Great Lakes region and beyond. Application of this system may be especially useful for those seeking to optimize conservation of stopover sites for all groups of birds.

We anticipate that the stopover site attributes and ranking system summarized here can serve as a model for identifying and prioritizing stopover sites for conservation action throughout the Great Lakes basin and beyond. Efforts have been initiated in Wisconsin to adopt this model for areas near the Lake Michigan and Superior coastlines. This work should provide an invaluable extension of our work in the western Lake Erie basin.

Although each group of birds has specific migration habitat requirements, some stopover site attributes are common to species from two or more groups of birds (**Table 1**). Sites with these attributes may be disproportionately important for conservation purposes.

**Table 1. Stopover Site Attributes Common to Two or More Bird Groups.**

Most species of each group are associated with a stopover site attribute where indicated by an “X”. Owls are considered with landbirds.

<b>Stopover site attribute</b>	<b>Waterfowl</b>	<b>Shorebirds</b>	<b>Waterbirds</b>	<b>Landbirds</b>	<b>Raptors</b>
High aquatic insect productivity, especially during spring	X	X	X	X	-
Close proximity to the Great Lakes	X	X	X	X	X
Close proximity to intact natural or semi-natural habitats (e.g., forests, wetlands, etc.)	X	X	X	X	X
Moist soil, little vegetation	X	X	X	-	-
Structurally diverse forests	-	-	-	X	X
Minimal human disturbance	X	X	X	-	X
Few or no towers	X	-	-	X	X
Peninsulas and islands	X	-	-	X	X
Low anthropogenic light levels (nocturnal migrants)	-	X	-	X	-

***Toward Wildlife-Friendly Wind Power:  
A Focus on the Great Lakes Basin***

**Hilton Toledo – Dana Conference Center  
Toledo, Ohio  
June 27-29, 2006**

**Organized by:**

**U.S. Fish and Wildlife Service**

**Great Lakes Basin Ecosystem Team**

**U.S. Environmental Protection Agency Great Lakes National Program Office**

**Illinois Natural History Survey**

**U.S. Geological Survey**

Who should attend?

- Local, state, provincial, federal and tribal agencies
- Non-governmental organizations
- Researchers studying fish and wildlife issues
- Wind energy industry

Conference sessions will focus on:

- Communicating information about potential wildlife concerns of wind power generation
- Sharing resources available to help make informed decisions about where wind power facilities should be located
- Advancing knowledge of land-based and offshore wind and wildlife, including impacts to wildlife, tools and techniques, risk and impact assessment, laws and regulations, siting protocols, and monitoring
- Developing consistent research and management approaches for resource managers, regulators, scientists, decision makers, the wind energy industry, conservationists, elected officials and other stakeholders

Registration information, agenda and conference updates will be online at:  
<http://www.fws.gov/midwest/greatlakes>

# Bowling Green Municipal Utilities Recognized for Role in Ohio's First Utility-Scale Wind Project

Wind Powering America Web Article

[http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter\\_detail.asp?itemid=1224](http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=1224)

**Title:** Bowling Green Municipal Utilities Recognized for Role in Ohio's First Utility-Scale Wind Project

**Date:** 4/4/2006

**Location:** Bowling Green, OH

Wind Powering America presented the Carpe Ventem (Seize the Wind) award to Bowling Green Municipal Utilities for its role in developing the AMP-Ohio/Green Mountain Energy Wind Farm, Ohio's first commercial wind energy farm near Bowling Green. The award was presented at the Great Lakes Offshore Wind Technical Gathering on April 4, 2006 in Toledo, Ohio.



The Carpe Ventem (Seize the Wind) Award was presented to Daryl Stockburger, Bowling Green Municipal Utilities, for the AMP-Ohio/Green Mountain Energy Wind Farm.

More Information

American Public Power Association. (March-April 2006). "**Ohio Wind.**" **Public Power** [See article below]

Green Energy Ohio. (May 14, 2005). "**Green Energy Ohio Annual Meeting: Celebrating GEO's 5th Anniversary under the Bowling Green Wind Turbines!**"

<http://www.appanet.org/utility/index.cfm?itemnumber=16486>

Green Energy Ohio. (May 22, 2004). "**Green Energy Ohio 2003 Pioneer of the Year Award.**" <http://www.greenenergyohio.org/page.cfm?pageId=383>

**Ohio Utility-Scale Wind** <http://www.greenenergyohio.org/page.cfm?pageID=103>

## Ohio Wind

### Public Power

March-April 2006

By Jill K. Cliburn

<http://www.appanet.org/utility/index.cfm?itemnumber=16486>

The four powerful wind turbines sited just outside Bowling Green, Ohio, do not look that big from a distance. That is what the first graders from Wood County Public Schools said, as they approached in two yellow buses for a school field trip. But when they arrived and walked up close, craning their necks toward the sky, the kids were amazed.

Paulie Shaffer, environmental educator for Wood County, told the young visitors that each 1.8-MW wind turbine rests on a tower that is 260 feet tall. At the top of its arc, the tip of each spinning blade reaches almost 400 feet. “That’s more than twice as tall as the football stadium lights at Bowling Green State University,” she said.



The wind project, developed by AMP-Ohio and Green Mountain Energy, is both enormous and gentle. “It has a calming effect,” Shaffer said. The blades spin slowly, and the sound of the machines in full operation is “something like waves beating on a shore.” Shaffer said the project leaves visiting VIPs as awestruck as it leaves the school kids. But for grown-ups, the business strategy behind the project is at least as impressive as its physical presence. When the first phase of construction was completed in 2003, this was the first utility-scale wind project in Ohio, and one of the first east of the Mississippi. Careful planning by all the partners and a lot of pluck from Daryl Stockburger, the now-retired utilities director in Bowling Green, proved that the region was ripe for wind development.

Ten municipally owned electric utilities in Ohio participate in Omega-JV6--the Ohio Municipal Electric Generating Agency Joint Venture 6. Photo courtesy AMP-Ohio

Stockburger first took an interest in wind power decades ago. Bowling Green is a college town, so there is a lot of interest in new ideas. But the utility, which Stockburger headed for 18 years, must balance many needs and options in making its resource decisions. First, it joined other members of AMP-Ohio, the state’s joint action agency, to sponsor a low-impact hydro power project. Bowling Green also invested in a private landfill gas project, and developed a highly cost-effective load management program, equivalent to one MW in peak capacity.

In the late 1990s, Stockburger thought it might be time to add wind power to the mix. He worked with Green Energy Ohio, a nonprofit energy agency, to lay the technical groundwork for a wind power demonstration. He worked with volunteers to monitor wind resources around Bowling Green and to outline a project plan. The utility looked to AMP-Ohio to help develop the project. Jay Myers, assistant utilities superintendent for a neighboring AMP-Ohio member utility in Cuyahoga Falls, said Stockburger often talked about renewable energy at AMP-Ohio meetings. But it was at an informal gathering—a foundation-funded trip to Sacramento, Calif.—where Myers, Stockburger, and other AMP-Ohio members started to talk seriously about the wind project. “Sometimes I guess you have to take a trip across the country to meet with your neighbors,” Myers said. Cuyahoga Falls wanted to sponsor one large turbine by itself. If Bowling Green still wanted to sponsor at least one turbine and other AMP-Ohio cities wanted to join in, then the project was already approaching a good commercial size. AMP-Ohio agreed to put together a joint venture. It typically uses this mechanism for funding special projects that some, but not all, AMP-Ohio members wish to support. In all, 10 municipally owned electric utilities joined the wind project. It was officially called Ohio Municipal Electric Generating Agency Joint Venture 6 (OMEGA-JV6). The first phase of the project was completed in November 2003 and the second a year later. Each phase involved putting up two 1.8-MW Vestas wind turbines. Each participant in the joint venture owns a portion of the project, led by Bowling Green (4.1 MW) and Cuyahoga Falls (1.8 MW).

There are many ways for public power to approach wind development. Some

smaller projects have been cash-financed out of utility reserves. Many projects use municipal bond financing, over terms ranging from 12 to 25 years. The 2005 Energy Policy Act introduced a new reduced-cost financing option for public power utilities called clean renewable energy bonds. Some public power utilities work with private partners who can tap federal tax credits and private investment capital. While project costs vary, the rule of thumb is \$1.5 million per MW of installed wind capacity. According to Stockburger, economies of scale kick in once a project has four to six turbines of at least one MW each. AMP-Ohio wanted to work on that scale, but it had to find a creative way to manage the financing.

The joint venture chose private-issue bonding through Fidelity. Besides a low interest rate, the arrangement offered flexibility in the length of the term. Currently, partners expect to pay off the debt in 13 years from date of issue. "We could lengthen that term, but the sooner we pay it off, the sooner we'll be enjoying the equivalent of free energy," Stockburger said. "That's just the opposite of a new natural gas or coal plant. Fossil fuel costs are increasing, and I believe they will continue to increase over the life of any new plant."

Skeptics point out that wind generation is never completely free, because the utility has to pay operation and maintenance costs. "We planned a way to cover those costs, too," said Pam Sullivan, marketing vice president for AMP-Ohio. Green Mountain Energy was interested in securing green power supplies in the region around the time that AMP-Ohio was putting its project plan together. Green Mountain Energy invests in new renewable energy projects, Sullivan said. In this case, Green Mountain agreed to buy all the environmental attributes (also known as green tags renewable energy certificates) associated with the Bowling Green project. Its long-term purchase agreement made financing easier for the joint venture and it provides revenues that cover more than just operations and maintenance costs. Any money left after O&M costs are paid will help pay down the debt service, Sullivan said.

Because Green Mountain owns the project's environmental attributes, Bowling Green utility customers cannot claim they are getting green power unless they pay a premium to buy it. That's a little confusing for folks who plainly see the wind towers on the outskirts of town. "We tell our customers that Bowling Green Utilities supports wind development—on behalf of everyone—but that buying green power is a choice for each customer to make," Stockburger said.

He also reminds customers that a green power purchase supports a variety of renewable energy sources—not just wind. Many customers have responded well. The percentage of households and businesses in Bowling Green that subscribe to green power is well above the national average. "But all of our customers are proud of their turbines," Stockburger said. There's a big difference between detailed energy accounting and button-busting community pride.

Green power accounting aside, the fact that the project feeds the distribution grid actually makes it more cost-effective. "We feel fortunate that we didn't have to face transmission interconnection issues with this project," Stockburger said. Siting was relatively easy, since the project is located on county land, right next to the landfill. Distribution upgrades were modest, including a recloser for the site, which boosts system protection. Bowling Green and other AMP-Ohio cities receive network transmission service from First Energy, an Ohio investor-owned utility. From First Energy's perspective, the wind project acts like a large industrial load, which is readily managed. "If we used wind to meet 20 percent of our load, then the

intermittent nature of the resource might be a problem. But right now, I believe it works out well,” Stockburger said.

Distributed wind generation on this scale (7.2 MW in all) can be highly workable for joint action agencies, Sullivan said. This is especially true for utilities east of the Mississippi, where it is difficult to site a sprawling wind farm, and where it is not necessary to transmit electricity over long distances to reach a load center. AMP-Ohio also believes that giving member utilities the option to subscribe has worked well. “In our case, it is especially important to offer choices, because we have members in different states and in different transmission regions,” Sullivan said. AMP-Ohio is monitoring possible sites for more wind development in the state. Green Mountain Energy is also enthusiastic about partnering with public power utilities to bring more renewable energy projects online. Green Mountain is already providing green power and developing relationships with joint action agencies in other states. The wind project at Bowling Green is a good model for the way joint action agencies can enhance a green power marketing program with renewable energy developments that customers can readily see, a company official said. The Bowling Green wind project also has a direct link to one new, local project—a solar PV installation in partnership with Bowling Green State University and Bowling Green Utilities. The installation is 30 kW, but revenues collected as Green Mountain purchases the environmental attributes will finance system expansion up to 250 kW.

Bowling Green and AMP-Ohio have had one unique advantage in developing these innovative projects, Sullivan said. That is, Daryl Stockburger’s leadership. In fact, most public power wind projects have relied on a champion for a good measure of their success. This case is no different, except perhaps that many people would not guess just how persistent and inventive Stockburger could be. “He strikes most people as so soft-spoken,” said environmental educator Shaffer. For many people, a visit to the wind site is a lesson in how one man, in one small town, can start something that turns out to be very big, she said. Stockburger retired last fall, but still follows regional energy developments and he might return to work if the right project came along.

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## **NATIONAL WIND NEWS**

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**New Public Citizen Analysis Finds That Renewable Energy  
Is Capable Of Meeting U.S. Needs  
And Can Best Address Climate Change**

**EIA Releases State Hydroelectric Power and Geothermal, Wind, and  
Solar Energy Consumption Data Through 2003**

**Michigan’s Governor Announces Comprehensive Plan to Reduce Mercury,  
Protect Families from Dangerous Health Impacts**

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## **New Public Citizen Analysis Finds That Renewable Energy Is Capable Of Meeting U.S. Needs And Can Best Address Climate Change**

**April 21, 2006**

According to a new analysis by Public Citizen based on the work of governments, universities and other organizations in the United States, Europe and Japan, it is technically and economically feasible for a diverse mix of existing renewable technologies to completely meet U.S. energy needs over the coming decades.

Clean, safe renewable energy sources – such as wind, solar, advanced hydroelectric and some types of biomass and geothermal energy – can reliably generate as much energy as conventional fuels without significant carbon emissions, destructive mining or the production of radioactive waste.

For the full text of the analysis see

[http://www.democracyinaction.org/dia/track.jsp?key=111539413&url\\_num=1&url=http://www.citizen.org/documents/RenewableEnergy.pdf](http://www.democracyinaction.org/dia/track.jsp?key=111539413&url_num=1&url=http://www.citizen.org/documents/RenewableEnergy.pdf)

## **EIA Releases State Hydroelectric Power and Geothermal, Wind, and Solar Energy Consumption Data Through 2003**

**April 20, 2006**

State-level hydroelectric power and geothermal, wind, and solar energy consumption data through 2003 by sector (residential, commercial, industrial, and electric power) are now available at [http://www.eia.doe.gov/emeu/states/seds\\_updates.html](http://www.eia.doe.gov/emeu/states/seds_updates.html). The data are provided in physical units (thousand kilowatthours) and British thermal units (Btu). The annual State-level consumption data are available in comma-separated value files for 1960 forward.

The State Energy Data System is the Energy Information Administration's primary compilation of historical State-level statistics on energy consumption, prices, and expenditures for petroleum, natural gas, coal, electricity, nuclear energy, and renewable energy sources. Data for each energy source are posted on EIA's Web site as they become available. Summaries by State and by sector are posted once all energy sources have been updated for the year. Annual summaries also include State rankings by sector for consumption prices, and expenditures.

## **Governor Announces Comprehensive Plan to Reduce Mercury, Protect Families from Dangerous Health Impacts**

**Plan would reduce emissions from electric utilities by 90 percent**

**Michigan Governor's Office News Release**

**April 17, 2006**

Lansing – Governor Jennifer M. Granholm today announced a proposal to reduce mercury emissions from Michigan power plants by 90 percent by 2015. The plan is designed to protect the health of Michigan's families and the environment from the harmful effects of mercury emissions.

"Michigan must take actions to protect its citizens and environment from mercury contamination, but we must do so in a way that balances energy, environment and the economy," Granholm said. "Mercury poses a real and serious health concern for the people of Michigan. We are ensuring that future generations can enjoy clean air and safe water."

Under the new rule, Michigan power plants will have to reduce mercury emissions by 90 percent by 2015 based on a system-wide approach. The first phase would use the reduction in emissions authorized under the federal Clean Air Mercury Rule (CAMR). The second phase would go beyond the CAMR reductions to get to 90 percent.

The Governor asked that the rule take into account both technological and cost-based considerations. A utility would be given additional time to comply if it installs and operates mercury reduction technology, but upon testing is unable to demonstrate compliance with the required reduction or emission limits. Second, additional compliance time would be provided if a power plant demonstrates that the annualized incremental cost of mercury reduction technology to go beyond CAMR will exceed a specified percentage of the gross revenue from electric generation for the utility system.

In a letter to Department of Environmental Quality (DEQ) Director Steven E. Chester, the Governor also noted that the governors of Minnesota, Illinois, Pennsylvania and Georgia have all recently announced their intentions to reduce mercury emissions by 90 percent

“Mercury is a potent neurotoxin that is a significant health concern, in particular for children and women of child-bearing age,” Granholm said.

The plan will be implemented by Director Chester, whose agency will draft a rule under Michigan’s Clean Air Act to achieve the emission reduction goals set forth by the Governor. In her letter, Granholm directed that the rule should not allow interstate trading, but that it could include a utility system-wide approach as long as it would not result in “hot spot” mercury emissions that would place Michigan residents at risk

Director Chester cited the risk mercury poses to Michigan’s vast water and fishing resources that are critical to the state’s tourism efforts for economic development.

“Our waters play a critical role in our economy, and in our success as a state,” said Director Chester. “This new rule will protect our citizens, and improve our quality of life by making our waters safe to fish, swim, and boat in.”

Currently, all of Michigan’s inland lakes are under a statewide advisory limiting the consumption of fish due to mercury contamination.

Director Chester indicated that the DEQ would begin working on promulgating the rule by initiating a formal stakeholder group process to implement the Governor’s directive.

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**APRIL 21, 2006**

Following news stories, compliments of the American Wind Energy Association (AWEA). Check out AWEA’s *Wind Energy Weekly* at <http://www.awea.org/wew/index.html>

See this week’s news following these headlines:

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**MidAmerican announces plans to grow wind portfolio**

On April 18, MidAmerican Energy Co. received approval from the Iowa Utilities Board to build up to 545 MW of new wind power in Iowa.

**AES to nearly quadruple investment in renewable energy projects**

International power plant development giant AES Corp. announced plans to invest approximately \$1 billion over the next three years to expand its alternative energy business and bring to market new projects and technologies to reduce or offset greenhouse gas emissions.

**Coalition sends letter to Congress to urge striking of anti-Cape Wind provision**

Leaders of a diverse group of labor, trade, industry, and environmental organizations announced the creation of a broad coalition working to strike language in a Coast Guard bill unfairly targeting the Cape Wind proposed offshore wind power project.

**FPL Energy breaks ground on 50-MW project, using 2.3-MW turbines**

On April 19, North Dakota Gov. John Hoeven (R) joined FPL Energy, Minnesota Power, and nearly 100 dignitaries and guests in Oliver County to break ground at the Oliver Wind Energy Center just north of Center, N.D.

**Wisconsin Power & Light resource plan calls for new wind power project**

As part of its 2006-2013 generation plan, Wisconsin Power & Light Co. (WP&L), an Alliant Energy company, announced new details of its utility supply plan, which include an expansion of its wind portfolio.

**Wind integration issues can be resolved, experts say**

The technical, reliability, economic, and policy issues presented by the variable nature of wind power are solvable and dwarfed by wind power's benefits, experts at a technical symposium April 20-21 in Washington, D.C., agreed.

**Wind power project financing explained at AWEA Houston workshop**

The AWEA Wind Project Finance & Investment Workshop, held April 19-20, provided the 220 participants with the most up-to-date information on the state of the wind power industry and how to finance wind projects.

**TXU plans to add 700 MW of wind to portfolio in five years**

As one part of its generation resource plan through the end of the decade, TXU Corp. announced that it is launching a new company, TXU Renew, to double its renewable energy portfolio by 2011.

**Massachusetts' latest one-turbine wind project up and running**

The Vestas 660-kW wind turbine being built by the Massachusetts Maritime Academy was erected and should be fully operational by the end of the week.

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**MidAmerican Announces Plan to More Than Double Its Wind Capacity**

On April 18, MidAmerican Energy Co. received approval from the Iowa Utilities Board to build up to 545 MW of new wind power in Iowa. The ultimate project size, cost, and location have not been finalized. The first phase of the expansion will be a 99-MW project being developed by Invenergy in Carroll and Crawford counties in west central Iowa. It will consist of 66 GE Energy 1.5-MW wind turbines and is scheduled to be completed in 2006.

MidAmerican currently owns and operates 360.5 MW of wind energy facilities in northwest and north central Iowa. The company estimates that its wind energy projects can generate enough electricity for approximately 100,000 customers. The new projects, using larger wind turbines, would have the capability of generating enough electricity for up to 200,000 more customers, according to MidAmerican.

Electric rates in Iowa for MidAmerican customers will remain at current levels through at least 2010 pursuant to the Iowa Utilities Board order approving the project. "This is another significant investment by MidAmerican in Iowa's energy future," said Todd Raba, president of MidAmerican Energy Co. "This project will bring additional renewable energy to Iowans while keeping electric

rates stable for our customers. We are again adding renewable energy to our diversified generation portfolio in a way that makes sense for our customers, our company, and the state.”

By building the full 545 MW of new wind capacity, MidAmerican estimates that up to 1.6 million tons of carbon dioxide would be avoided annually, which is the equivalent of removing 279,000 vehicles from the road. MidAmerican’s existing 360.5 MW of wind energy help avoid up to 805,000 tons of carbon dioxide annually, which is equivalent to removing 140,000 vehicles from the road.

“As the No. 1 regulated utility owner of wind energy installations in the nation, MidAmerican is a leader in increasing the amount of electricity generated in Iowa from renewable resources,” Iowa Governor Tom Vilsack (D) said. “The company’s ability to invest in new electric generation facilities while continuing to hold the line on electric rates has a huge impact on the energy security of our state.”

MidAmerican also announced that it has reached agreement with the Iowa Farmers Union to facilitate the opportunity for small community-based wind projects. Under the terms of the agreement, MidAmerican will purchase up to 40 MW of capacity from community wind projects that are connected to MidAmerican’s electric distribution system. Each project can be up to 2.5 MW, and up to 20 MW can be connected at any one delivery point on MidAmerican’s electric distribution system.

Iowa economic development officials also are pleased about the impact the new wind project will have on the state’s economy. “Projects like this are key drivers in economic development for our state,” said Mary Lawyer, director of the Iowa Department of Economic Development.

“MidAmerican is investing in our state’s energy future and in the lives of our communities and residents with the creation of construction jobs, not only for this project, but also with the \$1.5 billion investment the company has in its other new electric generation projects in Council Bluffs, Des Moines, and northwest and north central Iowa.”

#### **AES Creates ‘Alternative Group’ As Part of New Investment Plan**

International power plant development giant AES Corp. announced plans to invest approximately \$1 billion over the next three years to expand its alternative energy business and bring to market new projects and technologies to reduce or offset greenhouse gas emissions.

Through the creation of an alternative energy business group, AES said it intends to expand its existing alternative energy businesses in wind power generation, biomass, and the development of liquefied natural gas (LNG) terminals. The company said it plans to triple investment in its wind generation business over the next three years.

AES entered the wind generation business in 2004 and purchased SeaWest in 2005. It has invested approximately \$265 million to date. The company said it is pursuing another 2,000 MW of wind projects in development, primarily in the U.S. It said it is also developing wind power projects in Europe, China, India, and Central and South America, with an emphasis on countries with existing AES businesses.

In addition to the new wind power investment, AES announced the following initiatives:

- Investing in the commercial development of projects and technologies that directly reduce greenhouse gas emissions or create emission offsets under the “Clean Development Mechanism” (CDM) of the Kyoto Protocol. AES said that, since October 2005, it has already committed to approximately \$100 million in investments which will generate over 17 million tons of carbon reduction credits through 2012.
- Strategic partnerships with Los Alamos National Laboratory and XL TechGroup to identify, evaluate, and bring to market new technologies in the alternative energy area. AES said its

partnerships with Los Alamos and XL Tech Group – an architect and builder of high-value new businesses, primarily in the ecotech, biotech and medtech fields – give AES the opportunity to develop and commercialize proprietary energy-related technologies developed by these entities.

- Evaluating future investments in other sources of alternative energy such as solar power and wave technologies. The company said it is also evaluating future investments in nonelectric business lines such as ethanol, bio diesel, methane capture and conversion projects, synthetic fuels and new technologies to reduce greenhouse gas emissions.

“AES is committed to meeting a developing market need for new energy resources and technologies that will lead to a secure and sustainable energy future,” said AES President and CEO Paul Hanrahan. “With 25 years of experience in energy and a presence in virtually every region of the world, AES will play a leading role in this rapidly growing segment of the energy industry.”

William Luraschi, AES executive vice president of business development, will lead AES’s alternative energy group. “Global energy consumption is expected to more than double by 2025,” Luraschi said. “We believe that traditional ways of producing energy alone will not meet this demand, due to rising production and transportation costs, energy security issues, and the growing recognition of environmental impacts. That leaves an enormous opportunity for alternative sources of energy to fulfill a large part of this growing demand.”

#### **Coalition Announces Campaign to Urge Congress to Reject Attack on Offshore Wind Power**

Leaders of a diverse group of labor, trade, industry, and environmental organizations announced the creation of a broad coalition working to strike language in a Coast Guard bill unfairly targeting the Cape Wind proposed offshore wind power project. Cape Wind is America’s first proposed offshore wind farm and is being reviewed by seventeen Federal and State agencies in a process that began in 2001.

A provision written specifically to stop the proposed Cape Wind project was tucked into a bill that was voted out of committee on April 6 (see *Wind Energy Weekly* #1186). The final version of the Coast Guard authorization bill contains language allowing the Governor of Massachusetts the unrestricted power to veto the project. The bill containing the provision still must be approved by the full House and Senate, which will be on spring recess over the next two weeks.

AWEA Legislative Director Jaime Steve began the press conference by announcing that the group sent a letter from 55 organizations to every Member of the Senate and House of Representatives urging them to reject the backdoor anti-offshore wind power language that was inserted during conference committee negotiations. Steve added, “Today we are here to present a broad coalition of energy, labor, maritime, and environmental organizations urging Congress not to torpedo America’s first proposed off shore wind energy facility. On behalf of the U.S. wind energy industry – which spurs more than \$4.5 billion per year in economic activity and produces clean, domestic energy for all Americans – we think it is wrong that any proposed energy project should be stopped by a small group of elected officials acting outside of the public eye. This is especially true for a project that would generate jobs, and clean stable priced electricity for a region in need of more power.”

Other groups that were represented at the press conference include the National Ocean Industries Association, the International Brotherhood of Electrical Workers (IBEW), U.S. Public Interest Research Group, Natural Resources Defense Council (NRDC), Greenpeace USA, Conservation Law Foundation, and Clean Power Now.

Senator Joe Lieberman (D-Conn.) issued a statement emphasizing his support for clean energy sources. He said, “I have long been a strong advocate for alternative energy sources, and in fact

my Climate Stewardship and Innovation Act contains a provision that would ensure that wind and other clean energy technologies are brought to the marketplace as quickly as possible.

As happened last December with the failed Arctic drilling provision, there is now another attempt to use vital national security legislation – the Coast Guard bill – to make bad energy policy, in this case quashing America’s first offshore wind farm. Although our options for fighting this may be limited because the Coast Guard legislation is so critical to our nation’s security, I am working with colleagues to explore those options.”

Cape Wind President Jim Gordon expressed gratitude for the broad support for Cape Wind and for standing up for an open and transparent government and regulatory process. “All we have ever asked is that the Federal and State agencies be allowed to finish their work without political interference and render their judgment. We are convinced these agencies will find that Cape Wind is in the public interest.”

### **FPL Energy Breaks Ground on North Dakota Project**

On April 19, North Dakota Gov. John Hoeven (R) joined FPL Energy, Minnesota Power, and nearly 100 dignitaries and guests in Oliver County to break ground at the Oliver Wind Energy Center just north of Center, N.D. U.S. Sen. Kent Conrad (D-N.D.), Rep. Earl Pomeroy (D-N.D.), and staff representing Sen. Byron Dorgan (D-N.D.) also joined in the celebration.

“Strong state incentives – and a strong working relationship with committed, forward-looking companies like FPL Energy and Minnesota Power – have resulted in this and other large wind facilities currently under development across North Dakota,” Hoeven said. “Taking advantage of our wind and combining it with new technology puts us in a unique position to further economic development in the region and at the same time generate clean, renewable power.”

FPL Energy’s Senior Vice President for Development Mike O’Sullivan said, “This is another big step in the growth of an important industry in a state with enormous potential. The Oliver Wind Energy Center will generate clean, renewable energy for the region and create new economic opportunity for Oliver County and North Dakota.”

ALLETE, Inc., Chairman, President and CEO Don Shippar said, “Minnesota Power is here today to break ground at this site and declare our commitment to this project as part of our strategy of building a more diversified generation portfolio. A lot of thought and teamwork has gone in to the project so far, and we are excited to get the real work started today.” (Minnesota Power is an operating division of ALLETE, Inc.)

The Oliver County Wind Energy Center will consist of 22 2.3-MW wind turbines, some of the largest wind turbines installed in the U.S. The developers estimate that the Center will be able to generate enough electricity to power about 16,000 homes. Construction will begin this spring and is expected to be completed by the end of the year. The facility is owned and will be operated by FPL Energy. Minnesota Power has contracted to buy all of the output.

### **300 MW of New Wind in Wisconsin Power & Light Resource Plan**

As part of its 2006-2013 generation plan, Wisconsin Power & Light Co. (WP&L), an Alliant Energy company, announced new details of its utility supply plan, which include an expansion of its wind portfolio.

“Electricity demand in our service territories has grown on average about 3% per year, and we expect this growth rate to continue,” said Barb Swan, WP&L president. “The plan we’ve developed to meet this growing demand is balanced and will keep our rates competitive.”

The plan, originally announced last August, called for the addition of 100 MW of wind and 250 MW of conventional generation. WP&L has now added an additional 200 MW of wind generation and has increased the size of the conventional plant to 300 MW.

For the wind generation, WP&L has entered into an option-to-purchase agreement with Midwest Wind Energy (MWE) for development rights to the Cedar Ridge Wind Farm, which is located in the towns of Eden and Empire, approximately eight miles southeast of Fond du Lac, Wis. WP&L will decide by July 31, 2006, whether it will take ownership of Cedar Ridge Wind Farm. Since 2004, MWE has been procuring necessary entitlements, permits, leases and other development rights to allow for the construction and operation of approximately 40 wind turbines. WP&L is actively evaluating the site and MWE's remaining development activities. If WP&L decides to purchase the Cedar Ridge Wind Farm site, the company expects the wind farm will be fully operational by the end of 2007 and have a total nameplate capacity ranging from 80 to 99 MW.

The company said it is also actively pursuing additional wind power purchase agreements and ownership opportunities in Wisconsin, Iowa, and Minnesota for WP&L customers.

In addition to the wind facility, WP&L plans to either expand generation capacity at the current Nelson Dewey Generating Station by adding a 300-MW circulating fluidized bed (CFB) unit to the two existing coal-fired units or build a pulverized coal unit near two existing coal-fired units at the Columbia Energy Center. In addition to the new unit, the company plans to add emission control technologies to the two 100-MW existing units.

WP&L said that it plans to file permit applications for construction of the wind farm later this summer and will seek fixed-rate financing treatment for both facilities.

#### **Experts Agree: Wind's Variability Easily Manageable**

The technical, reliability, economic, and policy issues presented by the variable nature of wind power are solvable and dwarfed by wind power's benefits, experts at a technical symposium April 20-21 in Washington, D.C., agreed.

The Institute of Electrical and Electronics Engineers (IEEE), AWEA, the North American Electric Reliability Council (NERC), and the Utility Wind Integration Group (UWIG) joined forces to cosponsor the symposium on the current status of wind power for utilities.

"Much of the information presented in the symposium has been available for several months now, in a variety of sources and venues," said AWEA Senior Outreach Representative John Dunlop. "What is really new here is that it has been pulled together and packaged in a form that is accessible to our nation's policymakers, and that it is endorsed by the Institute of Electrical and Electronics Engineers (IEEE), the most prestigious electrical engineering organization in the U.S. That provides a new level of credibility that should go far to ease concerns about wind's variability as an electric generation source."

Officials and experts speaking at the conference looked at the ways they are solving the unique challenges that wind power can pose for electric utilities – clearing the way for ever-larger amounts of this clean, domestic, cost-effective, and strategic energy source in America's power portfolio.

Alexander Karsner, the President's new Assistant Secretary for Energy Efficiency and Renewable Energy, said that the President meant business when he stated that wind could provide 20% of the nation's electricity. Karsner asserted that his office is committed to removing roadblocks to bringing wind power to market and that the ramifications of wind power development go beyond America's borders, to countries in the Asia-Pacific and elsewhere in the world watching and waiting for our progress. Describing the President's Advanced Energy Initiative as a first step on a pathway to durable peace, Karsner concluded, "Your work is America's arsenal."

Federal Energy Regulatory Commissioner (FERC) Nora Brownell noted that FERC wants to be a “platform for change” and help get the rules right on interconnection, imbalance, reliability, and market access issues. Being “risk-averse” should not mean doing things the way they were done 30 years ago, she said, adding that she believes there is an “alignment of the stars” for wind power today, because of high gas prices and steeply increased awareness of the reality of global warming. From her position at FERC, Brownell sees several challenges, including a need to harmonize rules and adopt rules that have already been proven effective without reinventing the wheel, work on infrastructure development, and improve planning processes. “How do you plan 20 or 30 years out for reliability, fuel diversity, and more wind power,” she asked, “instead of going for the quick short-term fix?”

There is no technical reason why wind power cannot supply a significant share of electricity supply, experts agreed. The potential is vast, and technical solutions to operational issues can be and are being found. Rather, the main barriers to large-scale wind power development are regulatory and institutional. Speaking as the head of the Wind Energy Working Group for NERC, Mahendra Patel of the Pennsylvania-New Jersey-Maryland (PJM) Power Pool said that bringing more wind power online “is not a reliability issue” but a market issue of cost allocation among various sources. Bill Grant, manager of the transmission control center for Xcel Energy – the utility that is now the largest purchaser of wind power in the U.S. – provided a vivid description of how Xcel is managing the challenges posed by wind power’s variable output on its systems. He said the net energy savings to the utility from wind power totaled \$5 million on its Southwestern system and \$9.75 million on Xcel’s Colorado system in 2005.

How much wind a utility or balancing authority can easily handle depends on that area’s portfolio (natural gas and hydro work well with wind power, for example), on the size of the system (larger areas can balance power more easily), and on the extent to which wind is spread around geographically on the system (the more widely spread out, the smoother the overall wind power output). Wind forecasting helps managers make the most efficient use of the resources on a given system. Mark Ahlstrom of WindLogics noted that as wind forecasting is growing in accuracy, the next step will be to deliver such forecasting information to system operators in the format that is most useful for decision-making in the control room.

Reliability can now be enhanced by wind power, experts agreed, thanks to high-tech features available in modern wind turbines. Post-fault response was better with than without wind turbines, according to data from Hydro-Quebec presented by GE Energy, and to a study on the possible impacts of integrating 3,300 MW of wind power into New York’s system. Transmission issues – from interconnection and grid access, to tariffs, and grid expansion – are a big part of what will determine whether wind becomes a significant part of the generation mix, speakers agreed. Significant progress has been made in the last three years, but challenges remain at the national and regional levels. “Utility and wind industry engineers have a lot of work to do and AWEA’s relationship with IEEE, UWIG, and NERC will be critical to meeting these challenges,” said AWEA Deputy Policy Director Mike Jacobs.

### **Oil and Gas Industry Players See Wind Filling The Gap as Hydrocarbon Production Diminishes**

The AWEA Wind Project Finance & Investment Workshop, held April 19-20, provided the 220 participants with the most up-to-date information on the state of the wind power industry and how to finance wind projects. One of the main themes of the workshop, held for the first time in Houston, Tex., was the advantages of combining a wind portfolio with traditional oil and gas holdings.

In the Wednesday keynote address, BP Alternative Energy’s Eric Bakker traced his company’s journey from 1997 as its leadership came to acknowledge the realities of climate change and implemented their decision to do something about it. They determined that hydrocarbons will increasingly be reserved for non-combustion uses (such as plastics, etc.) and the power generation gap will have to be made up by a collection of other sources – with wind power playing

a leading role. He indicated that BP Alternative Energy's commitment to renewable energy was serious and long term as illustrated by its investment in the solar energy sector. Finally, he challenged the audience to think about their "carbon footprint" and to work to make reductions.

Shell WindEnergy's Alan Forster walked the group through the radically changing fuel mix in the U.S. from the mid-nineteenth century through today to illustrate the place renewable energy has taken in the profile. He showed Shell's forecast for energy sources through 2060, which projects the decline of oil & gas and the ascendance of renewable energy in the mix.

Tuesday's keynote address was delivered by Pat Wood III, former Chairman of the Federal Energy Regulatory Commission and Texas Public Utility Commission Chairman. He wondered at the phobia the country displays when it comes to issues surrounding energy infrastructure. When speaking about the Public Utility Regulatory Policies Act and the wind energy production tax credit, he indicated that the federal government had created those programs to incubate new technologies, but cautioned that he feels those programs should be phased out once the subsidized industry is sufficiently strong to stand on its own. Regarding President Bush's statement that wind "has the potential to supply up to 20% of our nation's electricity," he said, "...the potential the president spoke of lies waiting."

The final panel of the Workshop included short presentations from several prominent members of the oil and gas community, including John Calaway, CEO of Superior Renewable Energy, a wind project development company. With the advent and application of 3-D seismic prospecting, Calaway said that Superior saw that no new major gas discoveries were left in place in the U.S. and realized that the U.S. would no longer be able to sustain reserve margins and that hydrocarbons for fuel would soon be in short supply. Even with the emergence of LNG infrastructure and delivery in the US, the days of even \$4/MMBTU were long over. Superior turned its gaze in the direction of wind power as a way to fill new power generation needs in a cost-effective manner. When asked, "What is the major challenge wind power faces today?" he replied that persistent bad federal energy policy is keeping the sector from booming.

#### **TXU Announces Plans To Double Renewables Capacity**

As one part of its generation resource plan through the end of the decade, TXU Corp. announced that it is launching a new company, TXU Renew, to double its renewable energy portfolio by 2011. TXU Renew will focus on the growing renewable energy market by investing in renewable power facilities, according to the company. The commitment to double its portfolio will increase TXU's total renewable energy capacity to approximately 1,400 MW.

The bulk of TXU Corp.'s new resource plan will be met by 11 new coal-fired plants totaling 6,400 MW of capacity, to be operational by 2010. It also includes some provisions for investments in efficiency and conservation, called the 'Peace of Mind' program.

TXU's plan includes funds for voluntary emission reductions, accomplished through fuel switching and retrofitting emission controls at existing units. According to the company, these actions will reduce TXU's current mercury emissions by more than 50%, and will make substantial reductions in sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions as well.

#### **Turbine Goes Up At Massachusetts Maritime Academy**

The Vestas 660-kW wind turbine being built by the Massachusetts Maritime Academy was erected and should be fully operational by the end of the week. The turbine was built on its campus located on Taylors Point in Buzzards Bay, Cape Cod, Mass. (see *Wind Energy Weekly* #1151, July 22, 2005).

The school estimates that the wind turbine could provide one-fourth or more of the school's electricity. It will also produce renewable energy certificates that can be sold to meet the Massachusetts state renewables portfolio standard. Commodore Richard Gurnon, president of MMA, estimated that the turbine will cost the school about \$1.4 million but could save MMA

\$300,000 per year on its electric bill (assuming today's electricity costs, which may rise over the 20-year lifespan of the turbine).

Gurnon also said that the turbine on the campus would give the engineering cadets a valuable opportunity to gain experience with wind energy. The school is reportedly looking into the feasibility of other renewable energy sources such as solar and geothermal energy.