



WINGBEATS

Audubon Society of the Capital Region



Change Is In The Wind As NY Turns To Renewable Energy Sources, Massive Towers & Turbines Spring Up To Reap Power From Air Currents



Sleek, pale and completely outsized among the weathered barns and cornfields, the turbines make trees look like ankle-high weeds. The machines are 215 feet tall, to the hubs of their triple-bladed fans.

On the Griffin family's 420-acre farm, two turbines have been planted in exchange for flat lease payments plus royalties for energy that is produced.

"We couldn't put enough cattle in the pasture to make up for what the wind payment is," said Donna Griffin, 61.

The lease contract prohibits the family from revealing the amount of payments.

But besides the direct wind power income, she has sold 4,000 to 5,000 wind farm T-shirts to eco-tourists and other visitors since Fenner Windpower went online in 2001.

"I kept thinking it'll drop off," said Griffin, who has the shirts made and hangs them in the front window of her house. "But I just got four tremendous boxes of them, because I was running out."

Griffin became a beneficiary of renewable energy by chance, because a big company -- Enel North America Inc. -- decided her area was a good one for a wind farm. But companies in the Capital Region, as small as one-person shops and as large as General Electric Co., are banking on air.

"Wind power is about to explode in New York," said Steve Sullivan, spokesman for the industry group Wind-PowerNY, and president of Power Communications in

Saratoga Springs, his energy-focused public relations firm.

Less than 1 percent of the electricity produced in the United States comes from wind. But last year, the country's wind power-making capacity went up by a whopping 30 percent, according to the U.S. Department of Energy.

New York is a relative newcomer to wind power. The first wind farm in the state was finished only in 2000. New York's capacity is dwarfed by that of Texas and California.

But that may be on the cusp of changing because of a convergence of government policies, economic changes and technology developments.

"There's a whole bunch of things hitting it," said Brian Parsons, project manager for wind applications at the Colorado-based National Renewable Energy Lab, a government-funded research facility.

A federal tax credit for wind power producers was just reinstated. New York recently decided that 25 percent of the state's energy should come from renewable sources such as wind, water, solar and biomass by 2013.

The state has provided \$15 million to lure wind power producers to New York. And to help meet the 25 percent renewables goal, New York expects to raise \$582 million to \$762 million in incentives for renewable power producers from a surcharge on power bills.

The policies have already had an impact on demand for wind power equipment, some say.

"People are calling us saying, 'We want turbines!'" said James Lyons, chief engineer for electrical systems at GE Global Research in Niskayuna, where he oversees research on wind power.

A Houston company, Zilkha Renewable Energy, plans to break ground soon on a huge wind power project in Lewis County. By the end of next year, another firm plans to have a 51-megawatt facility online in Chautauqua County.

Other projects are being considered for Herkimer County, lakefront on Erie County, land near Lake Ontario and in other areas.

"It's good for the environment, good for the economy," said Peter Smith, president of the New York State Energy Research and Development Authority, which funds energy research in the state.

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Audubon Society of the Capital Region



**Cordially Invites You To Attend Our
Year 2004 Programs & Field Trips**



Audubon Programs

All Programs To Be Held At:

*William K. Sanford
Colonie Town Library*

Thursday, November 11, 2004, 7-9:00 pm

The Smokies in Springtime

Speaker: Tom Lindsay

The Great Smoky Mountains National Park preserves the natural and human history of the southern Appalachian Mountains, and spring may be the best time for a visit. Wildlife, wildflowers, mountain streams and waterfalls delight the eye in this 520,000- acre park straddling the Tennessee/North Carolina border. Examples of early Appalachian architecture have been preserved as well, and the cabins, barns, schoolhouses and churches that remain give a glimpse of the region's past. Join us as photographer Tom Lindsay presents a photo essay on this delightful region.

Thursday, December 9, 2004, 7:00-9:00 pm

Down to the Sea

Speaker: Gerry Lemmo

Examine some of the fascinating life forms, waiting to be found, from the beaches of Maine to coastal Alaska. Images include the comical puffin, a primitive horseshoe crab, feisty Stellar's sea-lions, and a vivid red starfish in a rocky tidal pool.

Refreshments will be served. As always, we encourage you to bring your friends and family. For directions or details, call Greg Rucinski at the Colonie Library at (518) 458-9274.

Gerry Lemmo's travels have brought him to five of the seven continents. Through his vivid photography, he immerses you, the viewer, into the geography, culture and spectacular wildlife of places both near and far. With sixteen, 45- minute programs, full of both native and international subjects, you are enlightened with images of common, yet rarely seen birds and mammals of the Adirondack region, as well as exotic creatures from distant lands. Alaska, Madagascar, The Amazon, Kenya and Antarctica are among the destinations. The unique calls of featured wildlife accompany many programs, and some are enlivened with native music. Questions are always welcomed after each presentation.

Audubon Field Trips

Sat / Sun, December 18 / 19, 2004

Christmas Bird Count 2004

See Page 4 for Details.

Hudson Mohawk

Bird Club Programs

Monday, November 1, 2004, 7:00-9:00 p.m.

A Week in the Everglades

Speakers: Denise & Scott Stoner

Colonie Town Library

Go to www.HMBC.net for program details.

Monday, December 6, 2004, 7:00-9:00 p.m.

HMBC Holiday Party & Birding Acadia

Speakers: Tom Lindsay

**Five Rivers Environmental
Center in Delmar**

Go to www.HMBC.net for program details.

Wind Power, continued from Page 1...

Twenty years ago, wind power cost 30 to 40 cents a kilowatt to produce, said the National Renewable Energy Lab's Parsons. Now, that's down to 3 to 5 cents.

Meanwhile, traditional energy sources have become less attractive.

"There's not a whole lot more hydro that can be developed in this country," Parsons said. "Natural gas prices have gone up, and it looks like they're going to stay there. Coal has issues with emissions-related stuff."

That means opportunity for companies -- and not just in printing T-shirts. AWS Truewind LLC, based at Albany NanoTech at the University at Albany, does wind mapping and forecasting, and is looking at 25 percent growth this year, said President Bruce Bailey.

"It's a good problem to have," he said. "It's just difficult to manage."

Schenectady-based Cyclics Corp., which is commercializing high-tech resins, last week announced that an international partnership would look at whether its plastics could be used for wind-turbine blades.

But these firms are not just reaping the benefits of a burgeoning industry. They are part of a cycle that goes around like the blades in Fenner Windpower: As they develop technology that lowers costs, that pushes growth, which increases their business.

Many modern technologies -- cellphones, computers -- are getting smaller. Wind turbines are an exception.

The bigger they are, the more electricity they can produce. Longer blades capture more wind, and they can access the greater wind speeds at higher altitudes. A few years ago, turbine towers were about 130 feet high. Now they can be more than twice that.

"But if you just start scaling up the turbines, they start to get heavier," said GE Global Research's Lyons. They need to be stronger and able to withstand more turbulent conditions. They become more difficult and costly to transport and erect.

Lyons was pushing GE to get into wind back in 1999. In 2002, the company bought troubled Enron Corp.'s wind power business. Since then, GE has invested \$100 million in wind power research and development. Lyons, based in Niskayuna, has brought the knowledge of 60 Ph.D.s to the various challenges of wind power.

A team that was working on composite fan blades for huge jet engines is now focused on wind-turbine blades, he said. Replacing part of the blade with carbon fiber could make it lighter and stiffer without increasing cost. Energy experts in Schenectady are working on the power systems inside the turbines. Researchers in other GE locations are working on more durable gearboxes, because wind turbines may need to crank all day, every day.

"This is a new business for GE," Lyons said. "But it's a related field. We know a lot about every part."

A decade ago, "wind was somewhat of a science project," said Steven Zwolinski, president of GE Wind Energy. Now, large utilities are seeing wind power as a viable business.

When GE bought Enron's wind division in May 2002, it was a \$500 million business. Last year, revenue was about \$1.3 billion, Zwolinski said. Next year, it's projected to be about \$2 billion. That kind of growth could continue for two decades before the industry plateaus, he said.

"This is going to be as big as our locomotive business in a couple of years," Lyons said. When AWS Truewind began in 1985, "wind wasn't thriving yet," said Bailey, the firm's president. Today, AWS forecasts wind for 2,000 megawatts of wind power in the United States, or about 30 percent of the existing capacity.

Some of the technology GE is working on has changed AWS' business. For example, as turbine towers get bigger and blades longer, companies need to measure wind in places that haven't been monitored before -- hundreds of feet in the air in rural areas.

"You're getting into a different part of the atmosphere, where

things become more unpredictable," Bailey said.

As wind power becomes a bigger part of the nation's energy portfolio, forecasting is more important, so the right amount of power can be scheduled into the system at any given time.

Then, there is AWS' ability to measure and model wind, which helps regulators and developers figure out where the most attractive wind farm sites might be. NYSEERDA sponsored a wind map of the state for just that reason.

The industry AWS serves is growing 30 percent a year. The firm has about 30 employees now and faces the challenge of finding more space and people with technical expertise.

"The question in-house is: how to grow and how fast," Bailey said. "We're trying to control growth." When the first wind power project was built in New York a few years ago, "we kind of felt like we were scooped," said William Wagers, vice president for Jasper Energy LLC, based in Westchester County. As York Windpower Inc., the firm developed projects in places such as Texas and Wyoming.

"We decided to spend some time looking closer to home for projects rather than trekking all over the country and all over the globe," he said. "I think a lot of competition in Texas and other states out West maybe caused developers to look at the East."

Energy prices in general are higher in New York than in Texas, but the cost of doing business is higher, too.

"The grants certainly help," Wagers said.

Today, the company is securing permits for a 51-megawatt wind farm in Chautauqua County, for which it received more than \$3 million in NYSEERDA grants. Two weeks ago, it got another \$200,000 NYSEERDA grant to study four potential wind sites around the Adirondacks.

After doing environmental, community and wind studies, the company hopes to apply for permits from the state Department of Environmental Conservation or the Adirondack Park Agency.

At higher elevations, like the Adirondacks and the Catskills, wind is better. Wind turbines are also more obvious.

"There could be environmental sensitivities, aesthetic sensitivities," NYSEERDA's Smith said.

The wind industry can't grow without wind farms. They are novelties now, but will people start to see them as intrusions?

In Fenner, people are enthusiastic.

"They're - I don't know - peaceful," resident Donna Griffin said.

In places as different as Cape Cod and Kansas, however, some residents have turned against wind power. It may be clean and less mysterious than nuclear or natural gas power, but the ever-larger turbines are impossible to hide.

"Wind is a very visible technology, and there will be controversy in some places," AWS' Bailey said. "That's going to be unavoidable. The industry will have to be very careful in how it proceeds."

Conservation groups also worry about birds and bats that may unwittingly fly into turbines.

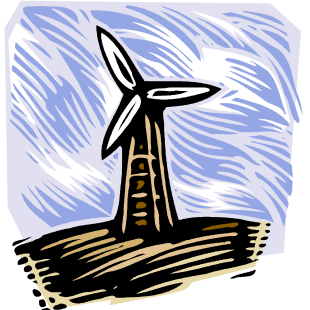
"There's more concern, I think, than we have answers at this point," said Michael Burger, director of bird conservation for Audubon New York, a chapter of the national bird conservation group.

Audubon is working with NYSEERDA to help guide wind power development in the future.

"It might not be for everybody," the authority's Smith said of wind power. "You've got to want it."

"But we need to have some success, because the wind developers will see New York as a good place to do business. Otherwise, they'll go elsewhere," he said.

Courtesy of Sara Clemence / Albany Times Union. She can be reached at 454-5476 or by e-mail at sclemence@timesunion.com



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Christmas Bird Count 2004 !!!

It's time again to get ready for the annual madness called the Christmas Bird Count (CBC), the yearly nationwide tally of birds sponsored by the National Audubon Society. Field parties fan out throughout their assigned regions on a specific day in December and follow a well-defined set of rules for counting birds seen and / or heard from dawn until dusk.

Counts are conducted in pre-determined 15-mile diameter circles. In each count circle, a number of field parties, led by experienced birders, cover a portion of the circle and search all habitats for as many of the resident or wintering birds as they can find. At the end of the day, count-circle field parties gather for a compilation party which includes a light supper and a lot of good-natured kidding about "the one that got away". The resulting tallies are sent to the National Audubon Society. This national tally is posted on the Cornell Lab of Ornithology website, and the data are used by biologists to analyze population characteristics. The Count began in 1900, and the data collected in the over 100 years of operation today forms an important scientific record.

The Capital Region Chapter sponsors two such counts, and you are welcome to join in the fun! If you are interested in either of these counts, contact the compiler listed below:

Saturday, December 18 - The Saratoga Christmas Bird Count Centered in Saratoga Spa State Park, the Saratoga CBC circle includes the State Park, National Battlefield, Wilton, and Hudson River to Schuylerville. Tally at home of compiler. Contact Jane Graves via e-mail at: jgraves@skidmore.edu

Sunday, December 19 - The Albany County Christmas Bird Count Centered in Coeymans Hollow, the Albany County CBC circle includes Five Rivers Environmental Education Center, south Bethlehem, Alcove-Basic Reservoirs, and Westerlo. Tally at Five Rivers Center. Contact Alan Mapes at (518) 439-4086 or e-mail aamapes@gw.dec.state.ny.us for more information or to confirm in the event of inclement weather.

***** For Programs, Field Trip, & Further General
Environmental Information, Visit Us on the Internet at:
www.CapitalRegionAudubon.Org**



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