



INSIDE THIS ISSUE:

Environmental group backs wind power	1
Energy rate myths debunked	2
5 Questions with energy trader Chris Rugh	2
Flooding shuts down Iberdrola Renewables zoo exhibit	3

Environmental Group Backs Wind Power; Finds No Connection With Health Risks

Wind power is safe power for humans, according to one of the leading North American environmental organizations.

In a new report released this past June, Sierra Club Canada put its green stamp of approval on wind power and debunked claims of negative health effects from wind turbines. "The Real Truth about Wind Energy" reviews the latest medical and scientific research regarding the health and environmental impacts of wind turbines and concludes there is no scientific justification for placing a moratorium on turbines in Ontario, Canada.

"After a thorough review of the science we are confident in saying there is no evidence of significant health effects that should prevent the further development and implementation of wind turbines, wind farms and wind energy," the organization said. **"In fact, the further development of wind energy as a growing portion of our energy supply will reduce direct carbon emissions, improve the quality of the air we breathe and generally improve the health and well-being of Canadians, our families and the environment in which we live."**

The studies examining wind turbine sound repeatedly come to the same conclusion: the effects on health, if any, are minimal and affect only a very small portion of the population. The report cited typical sound pressure levels, measured in the environment and industry, and said most sound in our lives ranges from approximately 10 decibels (barely audible) to 140 decibels (the sound of jet operations on an aircraft carrier). On this scale, wind turbines fall at approximately 45 to 50 decibels, somewhere between the quiet of a bedroom and a calm house. Iberdrola Renewables' own research shows that ambient sound levels (the sound of background noise) in a rural project area can range from 29-55 decibels, *before* any wind turbines are installed. **(continued, pg. 2)**



Typical Sound Pressure Levels Measured in the Environment and Industry

Noise Source at a Given Distance	Sound Level in Decibels (dBA)	Qualitative Description
Carrier deck jet operation	140	Pain threshold
Auto horn (3 feet)	110	Maximum vocal effort
Pneumatic drill	80	Annoying
Air conditioner (20 feet)	60	Quiet
Wind turbine	45-50	Quiet
Library	30	Very quiet

(Source: Colby et al., 2009)

(Cover story...continued)

“The sound level from wind turbines at common residential setbacks is not sufficient to cause hearing impairment or other direct adverse health effects,” said Dr. Arlene King, chief medical officer of health (CMOH) of Ontario. “However, some people might find it annoying ... low-frequency sound and infrasound from current generation upwind model turbines are well below the pressure sound levels at which known health effects occur. Further, there is no scientific evidence to date that vibration from low frequency wind turbine noise causes adverse health effects.”

For more information or to read the full report, visit Sierra Club Canada’s website at www.sierraclub.ca. 🌱

Debunking the Myths: Wind Energy Helps to Keep Energy Rates Affordable

Fact or fiction: wind power is driving up energy prices in the U.S.?



The answer is fiction, according to some of the country’s top energy analysts. The U.S.’s sputtering economy has touched all industries and impacted prices, including energy. However, the misperception that wind energy has contributed to rising energy rates is permeating in some regions. The facts show that alternative energy sources, like wind, are actually helping to keep costs low and affordable against rising natural gas and coal prices.

“Due to continuing technological innovation, wind energy costs have fallen below the costs of most new conventional sources, and are close to cost-competitive with new natural gas generation, even at today’s unsustainably low natural gas prices,” said Denise Bode of the American Wind Energy Association (AWEA).

Beyond specific price points, wind energy offers stable pricing. Because of the nature of free fuel from the wind, wind power sale contracts can offer fixed pricing for a long term, potentially adding stability to the overall wholesale energy market.

In fact, a May report by *Midwest Energy News* said the most comprehensive studies and the experience of utilities so far suggest that, by and large, renewable portfolio standards haven’t had a significant impact on customers’ bills.

Consider these other recent statements that show the benefit of wind power on energy prices:

- A presentation by the Bonneville Power Administration at the 2011 Northwest Wind Integration Forum outlined that increasing wind generation lowers wholesale energy prices. Specifically, the analysis suggests that wind energy reduces annual average wholesale market prices by 4 percent to 8 percent, and as much as 20 percent during the spring.

(continued, pg. 3)



Five Questions With Chris Rugh



They say time stops for no man, and that’s especially true for Chris Rugh, real-time trader at Iberdrola Renewables. In fact, each hour of each day is a new adventure for the fourth-year energy trader. We recently caught up with Chris to find out how he spends his days and what trends he sees in the energy marketplace.

LN: What’s a typical day for a wind power trader?

Rugh: On an hourly basis, I am on the phone or computer, marketing and selling the company’s wind generation to many customers east of the Rocky Mountains in the United States. We like to say we work where the rubber meets the road—our job is to get the best price for the end product.

LN: How do you decide the price for wind power?

Rugh: To be successful, I have to study a lot of information. We have to market the power to a host of customers as it is forecasted by our meteorologists, and that’s a very dynamic process. It can be challenging because you don’t know if the decision you make was the best until after the transaction takes place. Most trades take place at the top of every hour and are viable for roughly 45 minutes before the next fluctuation kicks in. With different geographic markets across the U.S., each

with its own unique trading regulations, I have to keep on top of the various rules and watch the clock at the same time. You never know how the next hour will be. Every hour is different. Market conditions change all the time, and I move the power to the latest price.

LN: How did you become interested in wind power?

Rugh: My mother worked for wind turbine pioneer Zond in the 1980s, which was later bought by Enron Wind in the 1990s and then purchased by GE a few years later. Today, she works for the American Wind Energy Association (AWEA), while my father works for DeWind, a wind turbine manufacturer that sells globally. I grew up in California with hundreds of turbines up on the hills above my town and actually worked there in high school. My parents taught me a lot about the wind industry. After college I volunteered at WINDPOWER (an annual wind power conference that attracts tens of thousands in the industry) and networked with key people. That's how I got my first job at PPM Energy (forerunner to Iberdrola Renewables) as a generation dispatcher.

LN: What is one thing most people don't know about being a power trader?

Rugh: Probably that power trading is a 24/7, 365-day business that never takes a day off, even for holidays. That means some unusual working schedules for energy traders, such as rotating 12-hour shifts, 7-day schedules and weekend time off in the middle of the week.

LN: What's the toughest part of your job?

Rugh: No matter the day or time, a team of three traders and one meteorologist are always here doing the job. It's not always smooth sailing. I have to be cool under pressure, make decisions and maintain control. When I do encounter bumps in the road, I try to keep the wheels on the bus and persevere. That's our department motto. 🚧

(Debunking the Myths...continued)

- U.S. Department of Energy, Energy Information Administration says wind energy is one of the most affordable forms of new electric-generating capacity competing with all other sources, while renewable targets save consumers dollars such as by holding down natural gas prices.
- Bernstein Research found in its report, "Power Prices Below Zero," that regions of the country that have increased their use of wind energy have seen significant declines in wholesale power prices.
- A Reuters report earlier this year said a wind turbine can now generate electricity at a cost of about 6-8 U.S. cents per kilowatt hour (kWh), depending on construction and financing costs, compared with about 3-7 cents for gas and coal, say analysts.
- The New York Independent System Operator (NYISO) looked at the implications of an 8,000 MW wind addition to New York and concluded it "... results in an overall reduction in wholesale electricity prices." 🚧

Historic Flood Temporarily Halts Iberdrola Renewables Exhibit at Minot Zoo

One of the year's worst natural disasters has put a hold on a zoo wildlife project supported by Iberdrola Renewables.

Prior to its closing due to massive flooding this past summer, the historic Roosevelt Park Zoo in Minot, N.D., and Iberdrola Renewables collaborated on a special exhibit about wild raptor wingspans. More than 500 schoolchildren toured the zoo on Endangered Species Day in May, and the exhibit was planned to go on permanent display for more than 85,000 annual visitors to enjoy.

However, record spring flooding has closed the zoo for the remainder of the year and a plan is in the works to get the facility back in shape for next year, according to Ron Merritt, executive director of the Minot Park District. But until cleanup starts, a timetable can't be determined. Cleaning the zoo, finding a contractor for damaged buildings and formulating a plan for the animals are all part of the considerations to get the zoo operational in the future.

The *Minot Daily News* reported that the zoo had a very short season – exactly one month – before it was originally shut down following the first evacuation notice in the city of Minot. More than 200 of the zoo's animals were shipped out before the flooding hit. According to news reports, the Tanganyika Wildlife Park in Wichita, Kan., took in nine animals, including three giraffes, two lions, a Siberian tiger, a Bengal tiger and two Amur leopards. Other animals were sent to zoos in Minnesota, South Dakota and North Dakota, while some are being housed in a warehouse in Minot outside of the flood zone.

Iberdrola Renewables is hoping that the wingspan exhibit can be included in the reopening process. Designed by Brand Manager Chris Benham, the exhibit is intended for children to compare their own arm lengths to the wingspans of various wild birds. **(continued, pg. 4)**



Questions? Have a story to tell?

Questions or comments relating to Landowner News? Have a story to tell? Would you rather receive an electronic copy to save paper? We'd like to hear from you!

Contact Landowner News via email: dlitchfield@iberdrolaren.com or via regular mail: Landowner News 110 N. Brockway St., Suite 340 Palatine, IL 60067



 printed on recycled paper

091311|4926

(Minot Zoo...continued)

"Students can learn just how big our raptors are," said the zoo's educational coordinator, Becky DeWitz. "I specifically chose many raptors that are endangered. The exhibit includes the California condor, bald eagle, snowy owl, peregrine falcon and our tiny elf owl, whose wingspan is only one foot and one inch."

In addition to fulfilling its educational mission, Roosevelt Park Zoo provides critical raptor rescue and rehabilitation services in a wildlife-rich region where government resources are limited. Iberdrola Renewables provides financial support to the zoo to assist with raptor rescue, and the zoo staff is specializing in care for hawks, owls and falcons that live in the surrounding farms and grasslands.

"It is essential to support wildlife rehabilitation in the areas where we operate, and we are proud to be industry leaders in this area," said Jerry Roppe, wind operations wildlife permitting compliance manager. "Not only does this mitigate impact on species, efforts like these also educate the local community about how they can help preserve natural habitat and help these species thrive."

The 91-year-old Roosevelt Park Zoo is located about 60 miles west of the Iberdrola Renewables Rugby Wind Power Project in Pierce County, North Dakota (pictured left). Sited at the geographic center of North America, this project comprises 71 turbines and generates 149 megawatts (MW).

If you would like to contribute to the rebuilding of the zoo, visit its website at www.rpzoo.com to make a donation. 



Becky DeWitz in her role as Education Coordinator at Minot's Roosevelt Park Zoo before the flooding.



110 N. Brockway St., Suite 340
Palatine, IL 60067