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LOCAL NEWS

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Debate rages over wind energy farms

Issue divides community

Economic impact pro, con fuels ongoing discussions

By Neil Rhines Herald Times Reporter

MANITOWOC - A strong wind is blowing across Manitowoc County.

Some people find it hard to believe that deriving energy from a clean, unending source could be controversial, and others can't understand why anyone would want to build wind turbines next to their homes, or anywhere for that matter.

The battle over wind energy in Manitowoc County has commenced.

Opponents claim wind farms risk public safety, and have potentially adverse effects on property values and aesthetics.

A group calling itself COWS, or Citizens Opposing Wind turbine Sites, is lobbying agencies like Manitowoc County Planning & Park to change the county's wind energy ordinance and is calling for a moratorium on wind energy projects.

The same group filed a lawsuit on Jan. 18 against Manitowoc County Board of Adjustment, asking for an administrative agency review of the board's Dec. 20 decision to grant a conditional use permit to Navitas Energy Inc. to construct 49 wind turbines at various sites in the towns of Two Creeks, Two Rivers and Mishicot, known as the Twin Creeks Wind Farm.

From this project, the county would receive more than \$200,000 a year, and the townships involved would receive about \$10,000 to \$30,000, depending on how many towers were built on the property.

The town of Two Rivers would host three turbines, Two Creeks 21 and Mishicot 25.

COWS attorney Mark Hazelbaker believes the conditions granted in the permit concerning setback variances to property lines are illegal.



Tim Swoboda/HTR File Photo

A worker at Tower Tech Systems on 16th Street in Manitowoc works on a column for a wind turbine. The company produces the towers for wind energy turbines.

Why the push for wind energy?

Some people are wondering why there seems to be a big push as of late to install wind farms.

One factor is the "production tax credit" for wind energy. Known in the industry as the PTC, this tax credit is included in the Energy Policy Act of 1992. It was passed with the intention of giving a boost to renewable energies, and to at least partially tilt back the federal energy tax code, historically given to conventional energy sources like coal and natural gas.

Gas and oil have traditionally been granted large various government subsidies.

The credit is applied to electricity produced in the first 10 years of the plant's operation. In the case of the Twin Creeks Wind Farm, Navitas Energy would deduct the value of the credit from the



The suit is still awaiting an initial hearing date.

Proponents of wind energy (including the state of Wisconsin) argue for independence from foreign sources of energy, the economic benefit to towns, the county and participating landowners, reductions in air and water pollution, and eliminating the need for long-term waste storage.

Kent and Teresa Brandemuehl of rural Two Rivers have agreed to allow Navitas to develop two towers on property they own; one in the town of Two Creeks and the other in the town of Mishicot. But that doesn't mean that the couple and their five children dislike the people who live next door. Quite the contrary, Teresa said the last thing she wants is a fight with her neighbors, who she considers friends.

"I wouldn't sell out my life for a few thousand dollars a year if I thought it was going to be a horrible thing for my family and neighbors," she said.

The economic impact to the county, a need for other sources of energy, and the almost ever-present wind in the area are three big reasons why Brandemuehl said she is all for the turbine construction.

"I would be for this even if I wasn't getting (a turbine)," she said.

Mike Sagrillo, a rural Kewaunee County resident and wind energy specialist for Wisconsin Focus on Energy, said that although literally hundreds of thousands of wind turbines, of various shapes and sizes, are currently producing electricity worldwide, opposition to wind farms usually begins from a group of people he calls "NIMBYs" - not in my backyard.

According to Sagrillo, the original fear over the wind turbines is human nature, because, "there is a fear of what is not understood."

People opposed to wind turbines also bring up potential issues like noise, property values, ice throw and shadow flicker, he said.

The state of Wisconsin does not permit the denial of a wind turbine farm except if it directly affects the health and safety of those in the area.

Many members of COWS believe that the Board of Adjustment should have denied granting Navitas the conditional use permit for just that reason.

COWS has called for a moratorium on wind farms. A moratorium would not stop the Navitas project, however, because it already has a permit and could theoretically begin construction this spring. The only thing that could theoretically stop the Twin Creeks project is a court order.

Sagrillo is not in the COWS camp. The health and safety issues aren't there," he said.

Here is a look at some of the concerns raised by COWS and other opponents.

Noise

Sagrillo will readily admit that, in some circumstances, noise from

taxes it would pay.

The credit has been renewed several times, and experts in the wind energy industry believe it is on track for further extensions.

Source: The American Wind Energy Association

wind turbines is a problem.

Some of the older turbines are known to make quite a bit of racket, and although most people consider the 31 turbines in the town of Lincoln in

Kewaunee County fairly quiet, one particular siting wasn't the best for the residents, he said.

In that instance, a turbine 1,000 feet away on the downwind side, with

60- to 70-foot trees on three sides of the property makes something akin to a band shell, where all noise is amplified. This is where proper siting becomes important, but less so because of the advancements made in wind turbine technology, he said.

The turbines being installed by Navitas will produce about the same amount of noise as those in the wind farm near Montfort in the southwestern part of the state, he said.

Manitowoc County Planning and Parks recently proposed adding a noise ordinance of 50 decibels to the county's wind ordinance. Planning and Parks voted to table the amendment, as well as others concerning setback issues during its Feb. 28 meeting, and is presently considering the amendments.

They will discuss them during a March 28 meeting.

Planning and Parks had recommended the level of 50 decibels at the adjoining property owner's property line.

But what does 50 decibels mean?

For comparison, 30 decibels is generally what you'd find at a library, 50 decibels is in a private office with very soft music, 60 decibels is the normal volume level of a conversation held between people three feet away, and a busy street corner is about 80 decibels.

COWS has recommended a noise maximum of 50 decibels during the day, and 35 at night, but some concerns exist as to how and where the noise level would be recorded and what measures would be taken if a turbine was found to be too noisy.

#### Property values

Charles Goodsole, who lives near the park in Two Creeks, has invested a substantial amount of money on his property, and built what he calls his dream home. He isn't sure exactly where the turbines will be in relation to him, but he'd like to know that his investment, made with retirement in mind wouldn't be for naught. Goodsole said that if a group of trees didn't block the view, he could see the reactors at Point Beach Nuclear Plant.

He's even considered erecting a smaller wind turbine on his property, and isn't against nuclear or wind powered energy. He just wants to make sure he doesn't have to take a hit. Goodsole likened the turbines to the cell phone towers that no one liked when they went in several years ago, and are now just part of the scenery.

"The quality of life is pretty good out here, I don't want it to end," he said.

According to Sagrillo, property values are in the eye of the beholder.

When Madison Gas and Electric and Wisconsin Public Service developed 31 wind turbines in the town of Lincoln in Kewaunee County, the first wind farm east of the Mississippi River, six property owners raised objections. Wisconsin Public Service offered to purchase their properties from them; two property owners accepted.

According to Sagrillo, be it a coal fired plant, gas facility or any other project, the typical operating procedure is to simply buy out any opposition on these projects.

Ice shed (throw)

According to Sagrillo, what he calls ice shed does happen. A few times a year, ice will collect on the moving blades, and warming conditions cause the ice to fall. Several mathematical models show how far ice can be thrown, depending on the height of the tower, and the length and speed of the blade.

However, when the blades become iced, just like on an airplane, they stop working like they're supposed to, Sagrillo said.

"It's sort of like driving a car with four flat tires," he said. "You can go, but you aren't going to go very fast."

Some studies show the blades decrease in efficiency (speed) by about two-thirds.

When the ice thaws, or the blades are attended to manually, the ice will then shed. Pieces of the ice can still travel for a couple hundred feet, however, if a strong enough wind is blowing.

One person, in Minnesota, has been killed from falling ice on a turbine, but it was during construction while the blades weren't attached. Otherwise, there have been no reported accidents or injuries from ice off of a turbine, he said.

A study of wind speeds in the state places some of the highest along the bump extending into Lake Michigan, extending inland, from Cleveland to Algoma.

Flicker

The rotating shadow of the wind turbine blades (during low light conditions like dusk and dawn) on the landscape is what is known as shadow flicker.

"It exists, there is no question that it exists," Sagrillo said.

With proper siting and setbacks, however, the effects can be mitigated, he said.

Herein lies one of the problems some people, like Dave Korinek of COWS, have with the way the ordinance on wind farms was created in Manitowoc County. Proper siting by the installing company can eliminate any problems with shadow flicker, instead of relying on a new set of drapes or large evergreens.

"These things weren't done," said Korinek, who attended the

Planning and Parks meetings on the wind ordinance as it was being created.

Korinek said he isn't against wind turbines, and has no doubt that some will find their way into Manitowoc County, but he isn't pleased with the way they came here. He said the county should have done more to inform the residents of surrounding areas that the issue was being discussed. Korinek said he feels the county, in developing the original wind ordinance, was more concerned with the industry's concerns, and not enough about the peoples.'

According to Sagrillo, each town and county has to determine if the state's recommended guidelines fit for their municipality. Issues like takedown costs, road repairs from installation vehicles and other, subtler costs, all need to be addressed at the local level.

#### Stray voltage

Jenny Eigenberger, an electrical instructor with Lakeshore Technical College, said she has absolutely no doubts that stray voltage is a very real problem affecting some farmers in the county.

She is a member of the team that installed a wind turbine at LTC, and does not believe turbines contribute to stray voltage. Instead, existing problems with improper grounding and poor wiring are responsible for stray voltage, or excess electricity being grounded.

"Sometimes a loose split bolt or an improper connection in a feeder panel is enough to cause problems," she said.

The college consumes all the energy it produces from the turbine (about 5 percent of its demands). Eigenberger said it is important to note that wind cannot answer all of the nation's energy demand - which increases at 2 percent each year.

Rather, wind is part of the answer, which also includes solar, geothermal and cleaning up of existing energy sources, she said.

Other wind turbine companies, such as Airtricity Mid-America LLC, based in Minnesota, and Emerging Energies LLP from Hubertus, have also expressed interest in developing wind turbines in Manitowoc County.

Neil Rhines: (920) 686-2105 or Nrhines@htrnews.com

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