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(FORM UPDATED: 08/11/2010)

WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS

2009-10
(session year)

Assembly
(Assembly, Senate or Joint)

Committee on Energy and Utilities...

COMMITTEE NOTICES ...

- Committee Reports ... **CR**
- Executive Sessions ... **ES**
- Public Hearings ... **PH**

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- Appointments ... **Appt** (w/Record of Comm. Proceedings)
- Clearinghouse Rules ... **CRule** (w/Record of Comm. Proceedings)
- Hearing Records ... bills and resolutions (w/Record of Comm. Proceedings)
  (**ab** = Assembly Bill) (**ar** = Assembly Resolution) (**ajr** = Assembly Joint Resolution)
  (**sb** = Senate Bill) (**sr** = Senate Resolution) (**sjr** = Senate Joint Resolution)
- Miscellaneous ... **Misc**

* Contents organized for archiving by: Stefanie Rose (LRB) (December 2012)

Cullen
Weston
Pines
& Bach
A Limited Liability Partnership

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PROBLEM STATEMENT

Currently, all wind energy proposals under 100 megawatts (MW) are reviewed at the local level. Though state law prohibits local jurisdictions from restricting wind development unless the regulations serve to protect public health and safety, there are no agreed-upon standards for satisfying that requirement. As a consequence, wind developers often encounter regulatory requirements that delay projects and increase their costs. A number of jurisdictions have adopted ordinances that make it difficult if not impossible for developers to comply with all the restrictions. Over 600 MW of planned wind developments are stalled across Wisconsin, due to midstream changes in regulations and procedures.

Now is the time to remedy this situation before it can cause lasting damage to Wisconsin's ability to attract future wind developments.

The two most significant remedies we seek would:

- Establish, by rule, permitting standards that are uniformly applied by local or state government to all wind energy installations, regardless of size and location;

- Create a procedure for appealing to the Public Service Commission ("PSC") decisions rendered by local jurisdictions on wind energy installations.

The organizations and companies listed below support efforts to improve the permitting environment for commercial wind projects in our state. Under our proposed reforms, all issues relating to public health and safety would be evaluated in a PSC proceeding, and then codified by rule into permitting standards (*e.g.*, setback distances, sound output) which would be uniformly applied by all state and local authorities. The rulemaking would also specify data requirements from developers (*e.g.*, environmental impacts) as well as define their financial obligations (*e.g.*, decommissioning). All commercial wind projects would conform to these standards. Once these standards have been codified, local governments would not be able to impose restrictions on wind energy installations that exceed what is set forth in the new rules.

Another important change we seek is a mechanism for allowing PSC appellate review of local decisions on permitting wind energy projects. We support the establishment of a procedural framework like the appeals process specified under the state's large livestock siting law.

NEED FOR PERMITTING REFORM

Wind is the only renewable energy resource that can scale up to meet the utilities' current renewable energy requirements. We expect that somewhere between 75% and 95% of the energy needed to meet the 10% statewide target will be generated with wind. The single biggest constraint to increasing wind generation in Wisconsin is the permitting environment, which is far more problematic here than in neighboring states.

Permitting reform's specific benefits to wind developers working in Wisconsin are:

- Adherence to rules and procedures that won't change while the project is under development or application is under review;
- Avoidance of permitting and legal expenses that make projects uneconomical; and
- Shortened project development timetables.

Specific benefits to ratepayers, taxpayers, and the environment are:

- Heightened probability of meeting Wisconsin's current renewable energy goal of 10% by 2015 as well as any successor target after that;
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- Increased opportunities for building community-scale wind installations, such as the six-turbine, 9 MW wind project proposed in the Town of Springfield in Dane County.

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- AgWind Energy Partners
- American Wind Energy Association
- Broadwind Energy
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- Clean Wisconsin
- Construction Business Group
- Customers First Coalition
- Dairyland Power Cooperative
- EcoEnergy, LLC
- Emerging Energies, LLC
- Federal Marine Terminals, Inc.
- Fednav
- Great Lakes Utilities
- Horizon Wind Energy
- Iberdrola Renewables
- IBEW 2150
- IBEW 965
- Invenergy, LLC
- IUOE Local 310
- Lake Michigan Wind and Sun
- League of Women Voters – Wisconsin
- Madison Gas & Electric
- Michels Wind Energy
- Midwest Renewable Energy Association
- Midwest Wind Energy
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- Operating Engineers Local #139
- Orion Construction Group
- Orion Energy Systems
- Port of Milwaukee
- RENEW Wisconsin
- Ritger Law Office
- Seventh Generation Energy Systems
- Sierra Club – John Muir Chapter
- Union of Concerned Scientists
- United Steel Workers
- Uriel Wind, LLC
- Wausaukee Composites
- Wind Capital Group
- Wind on the Wires
- Wisconsin Commercial Ports Association
- Wisconsin Environment
- Wisconsin Industrial Energy Group
- Wisconsin Land and Water Conservation Association
- Wisconsin League of Conservation Voters
- Wisconsin Manufacturers and Commerce
- WPPI Energy
- Xcel/Northern States Power-Wisconsin

Note: while the endorsing entities support the proposal as summarized herein, their endorsement should not be construed as a blanket endorsement of future legislative or regulatory changes to permitting wind energy systems in Wisconsin.

JOURNAL INTERACTIVE

Editorial: Blowin' in the wind

The state needs similar standards for wind turbine farms throughout Wisconsin and to encourage more wind farms to help it meet its renewable energy goal.

Posted: Feb. 26, 2008

"The way things stand now, it's easier to build a 100-megawatt wind farm in this state than it is to put up two or three turbines." So says Roy Thilly, chairman of the state's Task Force on Global Warming and president of Wisconsin Public Power Inc., a consortium of municipally owned utilities, on local ordinances that tend to restrict the development of small wind farms in Wisconsin and hurt the state's ability to meet its goal of generating 10% of its power from renewable energy by 2015 (*www.jsonline.com/721206*).

That's not the way it should be.

An ordinance enacted in Trempealeau County in December, for example, bars wind turbines from being built within a mile of a habitable building. That's effectively a countywide ban, according to Michael Vickerman, executive director of the environmental group Renew Wisconsin.

Right now, state law requires state regulators to approve large wind farms but leaves the decision-making on smaller projects to local units of government. While local governments should have a say in siting wind farms - or anything else - in their jurisdiction, giving them the ability to outright ban small projects goes too far. And standards for wind farms should not vary widely from community to community.

The Global Warming Task Force has recommended changing state law by setting similar standards for wind turbines across Wisconsin, and a bill to that effect is expected to be introduced by state Sen. Jeff Plale (D-South Milwaukee). Legislators should get behind a reasonable bill that would enhance Wisconsin's ability to provide more renewable sources of energy.

A final version of the measure should include at least uniform standards for wind turbines and a provision that would give wind power developers or those opposed to a particular development the option of appealing a local government's decision to the state Public Service Commission.

Wisconsin needs all the tools it can get to reduce greenhouse gas emissions that contribute to global warming. Wind farms - large and small - are among those tools. The state and local governments should be doing all they can to encourage more of them where they are appropriate.

What more should the state and local governments be doing to encourage wind farms? Send a letter to: Journal Sentinel editorial department

Give wind farms a fair chance

A Wisconsin State Journal editorial
December 11, 2008

Wisconsin cannot afford to let the statewide interest in developing wind farms be frustrated by communities that adopt a "not in my backyard" attitude.

That's why the state should develop reasonable wind farm siting standards to guide and limit local government regulation of wind farms and to provide an avenue of appeal for developers.

The goal should be to prohibit the "not in my backyard" disease known as NIMBYism while preserving local authority to restrict or reject wind farms when warranted.

Recent proposals to erect wind turbines on and near the Great Lakes demonstrate that it's in the public interest to take advantage of wind power. Wind power is expected to meet 90 percent of Wisconsin's goal to more than double the renewable energy contribution to electric needs over the next six years.

When developers propose wind farms of more than 100 megawatts in size they face a rigorous review from the state Public Service Commission, which protects both the public interest in regulation and the interest in wind power.

However, small wind farm developers fall outside the PSC's jurisdiction and are left to local regulation. Too often, they are blocked by unreasonable restrictions.

Local governments are frequently cowed into imposing impossible-to-meet requirements, or even moratoriums, after opponents raise alarming concerns, commonly based on misinformation.

Trempeleau County, for example, in 2007 adopted a wind power ordinance requiring turbines to be set back at least a mile from any neighboring residence, school, hospital or business. The ordinance effectively banned turbines.

The Legislature should step in. The Sensible Wind Siting Bill, which failed to pass earlier this year, offered a sound solution.

The bill -- proposed by Sen. Jeff Plale, D-South Milwaukee, and Rep. Phil Montgomery, R-Green Bay -- required the PSC to issue model rules specifying what restrictions local governments can impose on wind farms. Furthermore, the bill granted developers a right to appeal a local decision to the PSC.

The adoption of similar legislation should be a top priority for lawmakers in 2009.

Wisconsin should not let NIMBYism harm the public interest in a clean, renewable source of electricity.

Return to story

COMPARISON OF WIND SITING LEGISLATION

2007 SB 544 (as amended) (authored by Sen. Plale and Rep. Montgomery)	2007 SB 544 Substitute Amendment 3 (authored by Senators Vinehout/Cowles)
Requires PSC to establish uniform siting standards and to hear appeals arising from local units of governments' application of those standards.	Establishes a board to establish uniform siting standards and to hear appeals arising from local units of governments' application of those standards
Establishes deadlines by which local units of government must act on application and provides that failure to act is deemed approval. (Completeness determination on application assumed if failure to act w/in 45 days; automatic approval of application if local unit of government fails to act w/in 90 days).	Deletes deadlines by which local units of government must act on application and provides that failure to act is deemed approval.
Establishes that applicants may supplement their application as necessary.	Deletes provision.
Requires the local unit of government create a record in conformance with PSC requirements and to follow PSC procedures.	Deletes provisions.
Limits extensions that local units of government may have to processing applications to 90 days in total.	Deletes provision.
Does not limit definition of aggrieved person defining right to appeal to PSC.	Limits appeals to Board to applicants of a wind energy system and persons who reside or own property w/in 2 miles of a proposed wind energy system.
Permits PSC to expand record on appeal.	No analogous provision for Board.
Requires that review of PSC appellate decisions be made under ch. 227.	Does not specify how analogous appeals from Board will be made.
Requires advisory committee to the PSC for assistance in drafting wind siting standards.	No advisory committee established for the Board
Compared to livestock siting ordinance: state agency issues standards, but differs in that appeals made to agency and not board.	Compared to livestock siting ordinance: board issues standards and hears appeals.

Analysis: PSC makes sense as the agency to lead in this area given its expertise on wind energy issues.
Sub. Amendment 3 is a formula for delay. Board will require time to be educated on wind issues—PSC also has substantial institutional knowledge on the issue. Without deadlines and automatic approvals, local units of government may succumb to wind opponents who will lobby them not to act, a recipe for litigation. Delay is the NIMBY's friend.
PSC process designed to ensure stakeholder input with advisory committee.

Proposed Windpower Projects in Wisconsin

(as of 11/01/08)

	Town (County)	Developer	Utility	MW	Turbine type	Permit	PPA	Name/In-service date
1	Seymour (Lafayette)	Horizon Wind Energy	None	99	Unspecified	Yes	Merchant	Darlington Wind Farm – 2010
2	Two Creeks, Mishicot, Two Rivers (Manitowoc)	Babcock & Brown	None	98	Unspecified	Yes	No	Twin Creeks – 2009
3	Randolph, Scott (Columbia)	We Energies	We Energies	<207	Unspecified (90 turbines)	CPCN application filed 102708	N/A	Glacier Hills – 2011
4	Randolph, Scott (Columbia)	Iberdrola Renewables	None	80	Unspecified	Not needed	No	Columbia Community Windpower – 2010
5	Mishicot (Manitowoc)	Emerging Energies	None	19	Unspecified (7 turbines)	In litigation	No	Mishicot Wind Farm -- 2010
6	Glenmore, Holland, Morrison, Wrightstown (Brown)	Invenergy, LLC	None	150	GE 1.5 MW (100 turbines)	CPCN application expected in 2009	No	The Ledge 2011
7	Ridgeville, Wilton, Wells, Jefferson, Sheldon (Monroe)	Invenergy, LLC	None	75	GE 1.5 MW (50 turbines)	In litigation	No	Summit Ridge - 2010
8	Glenmore (Brown)	Emerging Energies	None	<19	Unspecified (8 turbines)	Yes, permit approved 3/26/07	No	2009
9	Casco/ (Kewaunee)	Urban Wind Co.	None	5-10	Unspecified (5 sites)	Yes	No	2010
10	Springfield (Dane)	EcoEnergy,LLC	None	9	Acciona Energy 1.5 MW (6 turbines)	Yes	No	EcoDane – 2009/10
11	Chilton & Rantoul (Calumet)	EcoEnergy,LLC	None	>100	Acciona Energy 1.5 MW	CPCN application expected	No	2010

12-15	New Holstein (Calumet), Kaukauna (Outagamie), Westby (Vernon) , Evansville (Rock)	EcoEnergy LLC	WPPI	<24	Acciona Energy 1.5 MW	No	Term agree-ment	2010
16	Magnolia (Rock)	EcoEnergyLLC	None	99	Acciona Energy 1.5 MW	No	No	EcoMagnolia – 2010
17	Belmont (Lafayette)	EcoEnergyLLC	None	99	Acciona Energy 1.5 MW	No	No	EcoMont - 2010
18	Hazel Green, Smelser, Paris (Grant)	Wind Capital Group	None	<100	Unknown	Yes	No	White Oak - 2010
19	Arlington, Leeds (Columbia)	Wind Capital Group	None	50	Unknown	No	No	Arlington Prairie - 2011
20	Stockbridge/ Brothertown (Calumet)	Midwest Wind Energy	None	>100	Unspecified	CPCN application expected	No	2010

Combined total: Approximately 1,348 MW

Prepared by RENEW Wisconsin, 222 S. Hamilton St. Madison, WI 53703. www.renewwisconsin.org. 608.255.4044

History of Senate Bill 544

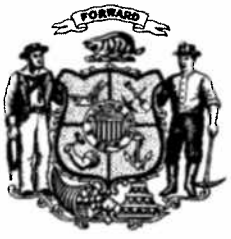
SENATE BILL 544 LC Amendment Memo

An Act to renumber and amend 66.0401 (1); to amend 66.0401 (2); to repeal and recreate 196.378 (4) (title); and to create 66.0401 (1e), 66.0401 (3), 66.0401 (4), 66.0401 (5), 66.0401 (6) and 196.378 (4g) of the statutes; relating to: requiring that local regulation of a wind energy system be consistent with Public Service Commission rules and granting rule-making authority. (FE)

2008

02-29. S. Introduced by Senator Plale; cosponsored by Representative Montgomery.
02-29. S. Read first time and referred to committee on Commerce, Utilities and Rail 641
03-05. S. Public hearing held.
03-07. S. Fiscal estimate received.
03-07. S. Executive action taken.
03-07. S. Report introduction of Senate Substitute Amendment 1 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report introduction of Senate Substitute Amendment 2 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report introduction of Senate Amendment 1 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report adoption of Senate Amendment 1 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report introduction of Senate Amendment 2 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report adoption of Senate Amendment 2 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report introduction of Senate Amendment 3 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report introduction of Senate Amendment 4 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report adoption of Senate Amendment 4 recommended by committee on Commerce, Utilities and Rail, Ayes 7, Noes 0 673
03-07. S. Report passage as amended recommended by committee on Commerce, Utilities and Rail, Ayes 4, Noes 3 673
03-07. S. Available for scheduling.
03-11. S. Placed on calendar 3-12-2008 and made a special order of business at 11:24 A.M. by committee on Senate Organization, pursuant to Senate Rule 17 (2).
03-12. S. Senator Sullivan added as a coauthor 695
03-12. S. Read a second time 703
03-12. S. Senate substitute amendment 3 offered by Senators Vinehout and Cowles 703
03-12. S. Refused to reject Senate substitute amendment 3, Ayes 11, Noes 22 703
03-12. S. Referred to committee on Senate Organization 703
03-12. S. Available for scheduling.
03-14. S. LRB correction 722
03-21. S. Failed to pass pursuant to Senate Joint Resolution 1 735


WISCONSIN STATE LEGISLATURE


FORWARD

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- Wisconsin Manufacturers and Commerce
- WPPI Energy
- Wisconsin State Council of Carpenters
- Wisconsin Utilities Association
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Note: while the endorsing entities support the proposal as summarized herein, their endorsement should not be construed as a blanket endorsement of future legislative or regulatory changes to permitting wind energy systems in Wisconsin.

Wind Siting Reform and Local Control

SB 185/AB 256 would direct the PSC to establish statewide siting standards for wind energy projects. Projects fewer than 100 MW in size would still be reviewed and approved by a local unit of government after the rules are adopted.

- The status quo is the only approach to wind siting that would leave local control completely unchanged. The status quo has stalled over 600 MW of potential wind projects forfeiting thousands of Wisconsin jobs and millions of investment dollars.

- The bill draft requires the PSC to establish an advisory committee of diverse interests to advise the Commission on the rules. Representatives from local units of government will be part of that advisory committee.

- In 2006 the WTA passed a resolution at its annual convention entitled "Uniform Standards for Public Health or Safety of Wind Energy Systems." The resolution called for uniform standards, and was the impetus for wind siting reform legislation.

- The bill draft from the previous legislative session was negotiated with the Wisconsin Counties Association and the Wisconsin Towns Association. The WTA was in favor of wind siting reform last session while the WCA was neutral.[1] The bill draft for the current legislative session is substantively similar.

- An amendment from the Wisconsin Realtors Association (supported by Wind for Wisconsin) allows local governments to deny a project application if a project would be sited in an area that has been primarily designated for future residential or commercial development.[2]

- Under SB 185/AB 256, local units of government would maintain their central role in the regulatory process for wind energy systems. Applications for wind energy projects under 100 MW in size would still be subject to review and approval at the local level. Local governments would be responsible for enforcing permit standards. Local governments would maintain control over their roads including restoration requirements and regulating driveway use (access roads).

> *In the coming weeks, the state Legislature will have a chance to make it easier for clean-energy creating wind turbines to proliferate in Wisconsin...Critics likely will charge that the bill is an attack on local control. However, it still lets local governments make wind-siting decisions, and allows those who disagree with them to appeal to the PSC and the courts.*[3]
>
> **-Eau Claire Leader-Telegram**

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[1] The WTA has registered in opposition in 2009. The WCA has remained neutral.

[2] Maps adopted under s. 66.1001(2)(b) on or before June 1, 2009.

[3] http://www.leadertelegram.com/story-opinions.asp?id=BJP8BE09JFU

Wind Energy is a Safe, Proven Technology

Scientists conclude that there is no evidence wind turbines have an adverse impact on human health.[1] Wind opponents have circulated deceptive videos and misleading photos in an attempt to scare legislators into inaction.

- **Wind energy is safe, secure, and reliable**
- **Reject the fear campaign from wind opponents**
- **SB 185/AB 256 would establish a responsible forum for reviewing scientific information regarding wind energy**

There are over 120 Gigawatts[2] of wind turbines installed worldwide, and since 2005, global wind generation capacity has more than doubled. Currently, 76 countries are using commercial wind energy.[3]

The U.S. military uses wind turbines to reduce fuel costs and the need for fuel shipments in dangerous areas.[4]

Wind turbines provide safe and reliable energy. At present there are well over 10,000 utility-scale wind turbines installed and operating in North America, and tens of thousands of people who live and work in proximity to these wind turbines. Of these individuals, a very small number have claimed that their health has been adversely affected by wind turbines. **Surveys of peer-reviewed scientific literature have consistently found no evidence linking wind turbines to human health concerns.**

Wind power opponents frequently quote Nina Pierpont to frighten the public and convince decision makers that wind power is dangerous. **Her view is not supported by scientists** who specialize in acoustics, low frequency sound and related human health impacts. **It is important to point out that Dr. Pierpont's writings have not been published in peer-reviewed journals, a fact that raises questions as to the scientific validity of her research.**

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[1] http://www.canwea.ca/media/release/release_e.php?newsId=37
[2] 1 Gigawatt = 1 billion watts.
[3] http://www.wwindea.org/home/images/stories/worldwindenergyreport2008_s.pdf
[4] http://www.csmonitor.com/2006/0907/p01s04-usmi.html

The Canadian Wind Energy Association (CanWEA) has compiled a list of articles and publications on the subject from reputable sources in Europe and North America. Below are summaries of these articles:

1. **"Infrasound from Wind Turbines – Fact, Fiction or Deception?"** by Geoff Leventhall in Vol. 34 No.2 (2006) of the peer-reviewed journal Canadian Acoustics. This paper looks at the question of whether or not wind turbines produce infrasound at levels that can impact humans. It directly addresses assertions frequently made by Dr. Nina Pierpont, author of a recent book entitled "Wind Turbine Syndrome". *"In the USA, a high profile objector (Nina Pierpont of Malone NY) placed an advertisement in a local paper, consisting entirely of selected quotations from a previously published technical paper by van den Berg (Van den Berg 2004). However the comment "[i.e. infrasonic]", as shown in Fig 3, was added in the first line of the first quotation in a manner which might mislead naive readers into believing that it was part of the original. The van den Berg paper was based on A-weighted measurements and had no connection with infrasound. So, not only is the advertisement displaying the advertiser's self deception, but this has also been propagated to others who have read it. [...] The comment, [i.e. infrasonic], added into Fig 3 gives incorrect information. Claims of infrasound are irrelevant and possibly harmful, should they lead to unnecessary fears."* www.wind.appstate.edu/reports/06-06Leventhall-Infras-WT-CanAcoustics2.pdf

2. **"Wind Turbine Facilities Noise Issues"** by Dr. Ramani Ramakrishnan for the Ontario Ministry of the Environment. This study looked into the claims made in the doctoral thesis of G.P. van den Berg, a source frequently cited by Dr. Pierpont. It concluded that: *"The research work undertaken by G. P. van den Berg didn't provide scientific evidence to support the few major hypotheses postulated concerning the wind turbine noise characteristics."*
http://www.ene.gov.on.ca/envision/env_reg/er/documents/2008/Noise%20Report.pdf

3. **"Wind Turbine Acoustic Noise"**, A White Paper by Dr. Anthony Rodgers at the University of Massachusetts at Amherst. This paper looked into the issue of both sound and infrasound (low frequency sound) and concluded *"There is no reliable evidence that infrasound below the perception threshold produces physiological or psychological effects."*
http://www.ceere.org/rerl/publications/whitepapers/Wind_Turbine_Acoustic_Noise_Rev2006.pdf

4. **"Research into Aerodynamic Modulation of Wind Turbine Noise"**, University of Salford, UK, July 2007. This paper looked into claims that it was not infrasound, but "amplitude modulation" (AM) that presented problems. The paper concludes that *"This shows that in terms of the number of people affected, wind farm noise is a small-scale problem*

compared with other types of noise; for example the number of complaints about industrial noise exceeds those about windfarms by around three orders of magnitude" and that "The low incidence of AM and the low numbers of people adversely affected make it difficult to justify further research funding in preference to other more widespread noise issues."
http://usir.salford.ac.uk/1554/1/Salford_Uni_Report_Turbine_Sound.pdf

5. **"Electricity generation and health"** in the peer-reviewed journal The Lancet. The paper concludes that *"Forms of renewable energy generation are still in the early phases of their technological development, but most seem to be associated with few adverse effects on health"*
http://www.ncbi.nlm.nih.gov/pubmed/17876910

6. **"Health impact of wind turbines",** prepared by the Municipality of Chatham-Kent Health & Family Services Public Health Unit. This is a comprehensive review of available literature on the subject. This paper concludes and concurs with the original quote from Chatham-Kent's Acting Medical Officer of Health, Dr. David Colby: *"In summary, as long as the Ministry of Environment Guidelines for location criteria of wind farms are followed, it is my opinion that there will be negligible adverse health impacts on Chatham-Kent citizens. Although opposition to wind farms on aesthetic grounds is a legitimate point of view, opposition to wind farms on the basis of potential adverse health consequences is not justified by the evidence."* http://www.chatham-kent.ca/NR/rdonlyres/CA6E8804-D6FF-42A5-B93B-5229FA127875/7046/5a.pdf

7. **Energy, sustainable development and health**, World Health Organization, June 2004. The study finds that *"Renewable sources, such as photovoltaic and wind energy, are associated with fewer health effects. [...] The increased use of renewable energy, especially wind, solar and photovoltaic energy, will have positive health benefits, some of which have been estimated." There is also a table on page 79 showing the relative health effects of nearly all sources of energy, which clearly shows wind as negligible.*
http://www.euro.who.int/document/eehc/ebakdoc08.pdf

Wind Energy = Strong Editorial Support

SB 185/AB 256 (Wind Siting Reform) has earned the support of editorial boards from across the state. Wind energy growth will create jobs and attract needed investment dollars for local economies. SB 185/AB 256 is a needed regulatory reform that will eliminate costly barriers to renewable energy development.

Wisconsin State Journal, May 16, 2009
"A win for wind power in Wisconsin"

> *At stake is not only a clean, renewable source of energy, but also the state's economic vitality...Wisconsin can protect the health and safety of residents and encourage wind farm development. The proposed wind farm siting reform is the answer.*

Eau Claire Leader-Telegram, April 19, 2009
"State should loosen red tape that restricts wind power"

> *In the coming weeks, the state Legislature will have a chance to make it easier for clean-energy creating wind turbines to proliferate in Wisconsin...Critics likely will charge that the bill is an attack on local control. However, it still lets local governments make wind-siting decisions, and allows those who disagree with them to appeal to the PSC and the courts.*

Sheboygan Press, April 17, 2009
"Have uniform rules for siting wind turbines"

> *Wisconsin should move ahead with uniform rules and regulations for siting power-generating wind turbines that could be applied statewide...it is quite apparent that the desire to come up with reasonable rules is not universal. Some towns have written siting rules in such a way to ban wind turbine projects entirely.*

Tomah Journal, April 2, 2009
"Enact statewide standards for wind turbines"

> *Renewable energy must replace fossil fuels sometime, and the process may as well start now. Part of the solution is wind energy...Wind power won't reach its full potential until the state establishes uniform standards for siting wind turbines... it's an unavoidable reality that that energy generation must occur somewhere.*

The Country Today, January 28, 2009
"Not-in-my-backyard attitude a continuing problem"

Within the past week, stories have crossed our desks about a large dairy project near Rosendale, a Manitowoc County wind farm and a community animal-manure digester project in Dane County. In all three cases, millions of dollars would be invested - during the toughest economic times in about 60 years - to help stimulate the economy. Each of the projects would provide good rural jobs... The economy desperately needs stimulation, and agricultural and rural projects stand ready to meet the challenge. But many of the projects face opposition....The projects that could provide immediate economic stimulation could become bogged down by a plethora of opposition and regulations. If we want to put people back to work and get this country's economy back in gear, some people might have to change their mind-sets

Milwaukee Journal Sentinel, February 26, 2008
"Blowin' in the wind"

Right now, state law requires state regulators to approve large wind farms but leaves the decision-making on smaller projects to local units of government. While local governments should have a say in siting wind farms - or anything else - in their jurisdiction, giving them the ability to outright ban small projects goes too far. And standards for wind farms should not vary widely from community to community.

Wisconsin State Journal, March 18, 2009
"Don't blow chance for wind power"

Wisconsin cannot afford to let the statewide interest in harnessing clean, renewable power from the wind be frustrated by local "not in my backyard" campaigns against wind farms... Too often, local governments are cowed by "not in my backyard" worries about the impact of wind turbines -- worries that may be based on misinformation but that local governments lack the expertise to evaluate. The result is impossible-to-meet restrictions that draw small wind farm development to halt.

Wind Energy is Popular

Wind energy is surging in popularity because it spurs economic development and benefits the environment. An organized, vocal minority opposes wind energy development. However, the real world experience of successful wind energy development reaffirms the near universal support for wind energy. In fact, wind energy remains popular in areas of Wisconsin faced with siting challenges.

- A poll of voters in the Evansville Water and Light service area showed that 76% support wind power for the area, with less than 6% in opposition. Similar results were found in the Town of Union, with 72% supporting a wind project in the Town, and just 8% against.[1]

- A poll of voters in Calumet County overwhelmingly favored building new wind farms in the County. A full 70% of voters supported building new wind farms, including a plurality (45%) of voters living near the proposed projects.[2]

- In 2008, the U.S. wind industry installed 8,358 MW of new generating capacity, enough to serve over 2 million homes. The nation's wind power generating capacity grew by 50%, and represents an investment of $17 billion into the economy.[3]

- The U.S. market for small wind turbines – those with capacities of 100 kilowatts (kW) and less – grew 78% in 2008. U.S. manufacturers sold about half of all small wind turbines installed worldwide last year. U.S. market share amounted to $77 million of the $156 million global total.[4]

- There are over 120 Gigawatts[5] of wind turbines installed worldwide, and since 2005, global wind generation capacity has more than doubled. Currently, 76 countries are using commercial wind energy.[6]

- The U.S. military uses wind turbines to reduce fuel costs and the need for fuel shipments in dangerous areas.[7]

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[1] "Evansville Area Public Opinion Survey on Wind Power." *April 29, 2008*
[2] "Wind Farms in Calumet County." *October 18, 2007*
[3] http://www.awea.org/newsroom/releases/wind_energy_growth2008_27Jan09.html
[4] http://awea.org/newsroom/releases/AWEA_Reports_Small_Wind_Market_Growth_052809.html
[5] 1 Gigawatt = 1 billion watts.
[6] http://www.wwindea.org/home/images/stories/worldwindenergyreport2008_s.pdf
[7] http://www.csmonitor.com/2006/0907/p01s04-usmi.html

PSC Sensible Agency for Wind Rule-Making

SB 185/AB 256 direct the Public Service Commission (PSC) to initiate an administrative rule-making process to establish statewide siting standards for wind energy projects. The bill draft requires the PSC to establish an advisory committee of diverse interests to advise the Commission on the rules. The legislature will have the opportunity to review the proposed rules prior to their publication.

- The PSC is an independent regulatory agency dedicated to serving the public interest. The agency is responsible for the regulation of more than 1,100 Wisconsin public utilities, including those that are municipally-owned.

- The PSC works to ensure that, in the absence of competition, adequate and reasonably priced service is provided to utility customers. The PSC has oversight on every form of electric generation in the state.

- Alternatives to bypass the PSC are designed to introduce more delay and confusion into the siting process. Additional layers of bureaucracy only serve to reinforce the siting stalemate.

- Under the bill the PSC would establish a unique, comprehensive review of siting issues. Any attempt to predict the rule-making is speculative at best.

- The PSC is the agency with the expertise to provide the appropriate scientific, fact-based review of issues related to siting wind energy projects. The bill does not specify any siting requirements but establishes a process to review the relevant health and safety issues.

> *"I pledge to you a rule-making process which will be open and inclusive...The Commission will continue to be a fair partner with local government to ensure that the siting process is equitable to all, and that decisions are made in a timely and transparent way...The PSC's rule-making process is as open and inclusive a process as any."*(Joint public hearing May 12, 2009)
>
> **-Eric Callisto, PSC Chairman**

Wind Energy = Wisconsin Investment

SB 185/AB 256 as drafted will signal the growing wind industry that Wisconsin is open for business, making our state more competitive in attracting investment capital. Please support SB 185/AB 256 to help secure Wisconsin's economic future.

- 1,000 MW of new wind development in Wisconsin would create over 3,000 new jobs and provide $1.1 billion in economic benefit.[1]

- Wisconsin ranks fourth among states in terms of potential job gain, and fifth nationally for potential investment.[2] The 396 MW of wind energy installed in Wisconsin in 2008-09 will contribute nearly $3 million a year to local economies.

- Municipalities and counties hosting wind facilities can receive $2,000 per megawatt of capacity per year under the state utility credit (subject to per capita limits) and an additional $2,000 per megawatt of capacity per year because wind facilities produce renewable energy (not subject to per capita limits).[3] **A 100 megawatt wind facility would contribute up to $400,000 per year in property tax relief.**

- The New North, Inc. is a regional collaboration effort focused on promoting regional cooperation and economic development in an 18-county region in Northeast Wisconsin.

> *"This [American Wind Energy Association] report illustrates the economic growth opportunities that exist in the wind energy industry for the New North...this emerging industry is developing rapidly and we're well-positioned as a region to take advantage of it."*[4]
>
> *"We're excited about the growth potential this industry has, as well as the potential impact it has on job growth and expansion in our region."*[5]
>
> **-Jerry Murphy, Executive Director of New North**

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[1] **U.S. Department of Energy**. "Economic Benefits, Carbon Dioxide Emissions Reductions, and Water Conservation Benefits from 1,000 MW of New Wind Power in Wisconsin" *October 2008*

[2] Renewable Energy Policy Project. "Component Manufacturing: Wisconsin's Future in the Renewable Energy Industry." *January 2006.*

[3] WISCONSIN LEGISLATIVE FISCAL BUREAU, SHARED REVENUE PROGRAM (COUNTY AND MUNICIPAL AID AND UTILITY AID) (2007), *available at* http://www.legis.state.wi.us/lfb/Informationalpapers/18.pdf.

[4] http://www.thenewnorth.com/resources/995.pdf

[5] http://www.thenewnorth.com/resources/993.pdf

Wind Energy = Jobs

A commitment to wind energy development will serve as an economic catalyst for Wisconsin, creating jobs in manufacturing, construction, transportation, and operation & maintenance of wind turbines. SB 185/AB 256 make our state more manufacturing and other supply chain businesses that create jobs. By establishing statewide standards for siting small and medium sized wind farms legislators can provide an economic boost to Wisconsin's economy.

- 1,000 MW of new wind development in Wisconsin would create over 3,000 new jobs and provide $1.1 billion in economic benefit.[1] Currently, over 600 MW of planned wind development is stalled due to the lack of statewide permitting standards.

- Wisconsin ranks fourth among states in terms of potential for job gain, and fifth nationally for potential investment.[2]

- In 2007-08 Operating Engineers erected 88 turbines for WE Energies' Blue Sky Green Field Wind Energy Center. More than 400,000 labor hours were devoted to completing the project.

> *"We support SB 185/AB 256. Without this legislation we fear that good Wisconsin jobs will be lost to Iowa and Minnesota. A lot of our members, who are residents of Wisconsin, have traveled to those states in order to sustain a livable salary so that they can feed their families. Unless we have some uniform standards in the state we will not see the full potential for wind here in Wisconsin. Wind farm construction is good for our members. Wisconsin's economy needs this generation and Local #139 needs these family supporting jobs here in Wisconsin."* (Joint public hearing May 12, 2009)
>
> **-Terrance McGowan, Operating Engineers #139**

> *"We think it's important to encourage the development [of wind power] here in Wisconsin. There are good Wisconsin jobs at stake here. There are good Wisconsin companies that work in the design of these small wind farms, design the components that are used. There are good Wisconsin businesses that work in the maintenance of these wind farms. It is good work for Wisconsin workers."* (Joint public hearing May 12, 2009)
>
> **-R.J. Pirlot, Wisconsin Manufacturers & Commerce**

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[1] **U.S. Department of Energy**. "Economic Benefits, Carbon Dioxide Emissions Reductions, and Water Conservation Benefits from 1,000 MW of New Wind Power in Wisconsin" *October 2008*

[2] Renewable Energy Policy Project. "Component Manufacturing: Wisconsin's Future in the Renewable Energy Industry." *January 2006.*

Wind Siting Reform Supports State Policy

SB 185/AB 256 will improve the regulatory climate in Wisconsin and advance current state energy policy. The erratic permitting environment for wind projects means that state policy is being blocked at the local level.

- Current law requires that 10 percent of utilities' electrical sales be generated from renewable resources by 2015.[1]

- Wind will be the workhorse for Wisconsin utilities. Between 75% and 95% of the energy needed to meet the 10% statewide target will be generated with wind.

- The single biggest constraint to increasing wind generation in Wisconsin is the permitting environment, which is far more problematic here than in neighboring states.

- Regulatory uncertainty increases project costs, harming Wisconsin ratepayers. The absence of statewide siting standards forces wind energy out of state forfeiting Wisconsin jobs and investment while adding transmission costs.

> *"We support SB 185/AB 256...Industrial customers are very concerned about electric rates and their impact on jobs in state. We want to do everything we can to hold down rates here in Wisconsin to keep our jobs here and stay competitive...This bill is one way of mitigating these costs. Wind is the only resource that will meet the current 10% renewable mandate.* (Joint public hearing May 12, 2009)
>
> **-Todd Stuart, Executive Director of WIEG**

> *"Wisconsin is counting on wind power to propel the state 90 percent of the way toward meeting a goal of more than doubling the renewable energy contribution to electric needs over the next six years."*
>
> **-Wisconsin State Journal ("A win for wind power in Wisconsin")**

> *"Wind power is not a passing fad. It has to be a part of the solution to weaning the U.S. from fossil fuels...Wisconsin has chosen to be a leader, not a follower in the use of renewable sources of energy."*
>
> **-Sheboygan Press ("Have uniform rules for siting wind turbines")**

[1] http://www.legis.state.wi.us/2005/data/acts/05Act141.pdf

Date: July 15, 2009
Contact: Noah Seligman, 608-310-3338

If It Is Broke Please Fix It; Wisconsin Needs Uniform Siting Standards

Circuit Court decision affirms problems with wind energy regulatory framework

A Court of Appeals decision today (Ecker Brothers V. Calumet County) ruled that local units of government do not have the power to adopt siting standards of general applicability for wind energy systems. This decision eliminates several restrictive ordinances that purported to regulate wind energy, but merely served to block wind energy development.

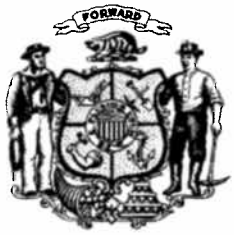
"The ruling casts substantial uncertainty about wind energy regulation in Wisconsin. In order for the state to move forward with a balanced approach to renewable energy growth, the legislature must pass uniform siting standards," said Curt Pawlisch, an attorney for RENEW Wisconsin, one of the sponsoring organizations for the Wind for Wisconsin coalition. "We urge the legislature to act quickly and pass uniform sitting standards when it returns in September."

SB 185/AB 256 directs the Public Service Commission (PSC) to initiate an administrative rule-making process to establish statewide siting standards for wind energy projects. The PSC is an independent regulatory agency dedicated to serving the public interest. The bill draft requires the PSC to establish an advisory committee of diverse interests to advise the Commission on the rules. AB 256 was vote out of the Assembly Committee on Energy & Utilities on a 10-2 vote last month, and has strong bipartisan support like its Senate companion.

"The Court did more than simply declare Calumet County's wind ordinance to be unlawful," said Michael Vickerman, Executive Director of RENEW Wisconsin. "The Court's decision also stripped away the legal foundation supporting all Wisconsin ordinances that contain blanket restrictions on wind projects. The decision erases unreasonable local ordinances that effectively prohibited any new wind development in this state for projects under 100 MW.

"A commitment to wind energy development will serve as an economic catalyst for Wisconsin, creating jobs in manufacturing, construction, transportation, and operation & maintenance of wind turbines," Vickerman said. "SB 185/AB 256 makes our state more attractive to manufacturing and other supply chain businesses that create state jobs. By establishing statewide standards for siting small and medium sized wind farms, legislators can provide enduring economic opportunity for Wisconsin," he said.


WISCONSIN STATE LEGISLATURE


FORWARD

Chapter 21

21.01 Title: Wind Generator and Wind Generating Facility Ordinance for Trempealeau County

21.02 Purpose: This chapter of County ordinances provides a regulatory framework for the construction and operation of Wind Energy Facilities in Trempealeau County, subject to reasonable restrictions, which will preserve the public health and safety.

21.03 Definitions: As used in this Chapter, the following terms have the meanings indicated:

Affected Property: Property impacted by personal or Commercial Wind Turbine.

Applicant: The person or entity filing an application under this Ordinance.

Commercial Wind Turbine: A wind energy conversion system which converts wind energy into electricity through the use of a wind driven turbine generator when the total height exceeds 150 feet or the nameplate capacity exceeds 100 kilowatts. Such wind turbine includes the turbine, blade, tower, base and pad transformer, if any.

Committee: The Zoning and Planning Committee of the County Board or any successor committee established by the Board for the oversight and supervision of Trempealeau County Zoning.

County: Trempealeau County, Wisconsin.

DNR: Department of Natural Resources

DOT: Department of Transportation

FAA: Federal Aviation Administration.

Farmstead: A farmstead is a place of employment and includes all buildings and structures on a farm that are used primarily for agricultural purposes such as housing animals, or storing supplies, production, or machinery.

Hobbyist Wind Turbine: A wind energy conversion system which converts wind energy into electricity through the use of a wind driven turbine generator when the total height is less than 50 feet and a prop diameter of 12 feet or less.

Hub Height: The distance measured from ground level to the center of the turbine hub.

MET Tower: A meteorological tower used for the measurement of wind speed.

Owner/Operator: The person or entity responsible for the day-to-day operation and maintenance of a wind turbine or Wind Energy Facility.

Personal Wind Turbine: A wind energy conversion system which converts wind energy into electricity through the use of a wind driven turbine generator when the Total Height is 150 feet or less.

Total Height: The distance measured from ground level to the blade of a wind turbine extended at its highest point.

Shadow Flicker: The moving shadows or shaded areas which are cast by rotating turbine blades.

Wind Energy Facility: An electricity generating facility consisting of one or more Wind Turbines under common ownership or operating control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, whose main purpose is to supply electricity to off-site customer(s).

Wind Energy Facility Siting Permit or Wind Turbine Permit: A construction and operating permit granted in accordance with the provisions of this Ordinance.

21.04 Regulatory Framework

(1) Zoning

(a) Wind Energy Facilities and commercial wind turbines may only be constructed as Conditional Uses in areas that are zoned Exclusive Agriculture, Exclusive Agriculture – 2 and Primary Agriculture.

(b) Personal Wind Turbines may be constructed as a conditional use in areas that are zoned Exclusive Agriculture, Exclusive Agriculture – 2, Primary Agriculture and Rural Residential. They are limited to one wind turbine per contiguous parcels under common ownership.

(c) Hobbyist Wind Turbines may be constructed as a permitted use in areas that are zoned Exclusive Agriculture, Exclusive Agriculture – 2, Primary Agriculture and Rural Residential.

21.05 Applicability

(1) The requirements of this Ordinance shall apply to all wind turbines for which a permit was not issued prior to the effective date of this Ordinance. Wind turbines for which a required permit has been properly issued, or for which a permit was not required, prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance. However, any such pre-existing wind turbine which does not provide energy for a continuous period of twelve (12) months shall meet the requirements of this Ordinance prior to recommencing production of energy. No modification or alteration to an existing wind turbine shall be allowed without full compliance with this Ordinance.

21.06 General Requirements for Wind Energy Facilities

(1) Wind Turbines shall be painted a non-reflective, non-obtrusive color which shall be pre-approved through the conditional use process.

(2) At Wind Energy Facility sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend the Wind Energy Facility to the natural setting and then existing environment.

(3) Wind Energy Facilities shall not be artificially lighted, except to the extent required by the FAA or other applicable authority.

(4) Wind Turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the Wind Energy Facility. Any such identification shall not appear on the blades or other moving parts or exceed six square feet per Wind Turbine.

(5) Electrical controls and control wiring and power-lines shall be wireless or not above ground except where wind farm collector wiring is brought together for connection to the transmission or distribution network, adjacent to that network.

(6) Routes of public travel to be used during the construction phase shall be documented by the Owner/Operator, and reviewed and approved by the Trempealeau County Highway Department, Town Chairman and Trempealeau County Zoning prior to construction. At the Committee's request a qualified independent third party, agreed to by the applicable entity(s), and paid for by the applicant, shall be hired to pre-inspect the roadways to be used during construction and an appropriate bond amount set. The public travel route will be re-inspected 30 days after project completion; any and all repairs will be completed within 90 days of end of construction project paid by the developer. The bond can be used by Trempealeau County for any degradation or damage caused by heavy machinery associated with the construction and demolition phases of a Wind Energy Facility.

(7) An appropriate continuous renewal bond amount will be set for each Wind Turbine for decommissioning should the Owner/Operator fail to comply with the Ordinance requirements or the Wind Turbine does not operate for a period of twelve (12) consecutive months.

(8) A signed statement by the landowner acknowledging that the landowner is financially responsible if the owner/operator fails to reclaim the site as required and that any removal and reclamation costs incurred by the county will become a lien on the property and may be collected from the landowner in the same manner as property taxes.

(9) Proof of continuous liability insurance in the minimum amount of five million dollars ($5,000,000.00) per occurrence shall be submitted to Trempealeau County indicating coverage for potential damages or injury to landowners, occupants, or other third parties.

(10) There shall be a timeline set prior to the construction phase of the project with a starting and ending date when the construction project will be completed.

(11) Evidence of compliance with FAA, DNR, DOT, United States Fish and Wildlife Service requirements and Signal Interference and Microwave Frequency Interference requirements must be submitted by the Applicant to Trempealeau County.

(12) A map shall be provided showing a proposed grid of any future Wind Energy Facilities being developed by the applicant to be located in Trempealeau County and surrounding counties.

(13) A document for each Wind Turbine including an accompanying diagram or maps showing the shadow flicker projection for a calendar year, in relation to affected property, roads and residences shall be submitted with the permit application.

(14) Access to a Facility and construction area shall be constructed and maintained following a detailed Erosion Control Plan in a manner designed to control erosion and provide maneuverability for service and emergency response vehicles.

(15) If a Wind Turbine foundation is proposed in a bedrock area, a baseline of all wells and certified public drinking sources in a ½ mile radius shall be established and permanent remedies shall be the responsibility of the developer if contamination occurs.

(16) If an area where Wind Turbines are planned is identified by the Fish and Wildlife Service to house a significant population of Bald or Golden Eagles a monopole tubular type tower shall be used instead of Lattice type towers.

(17) Setbacks: The following setbacks and separation requirements shall apply to Commercial Wind Turbines.

(a) Public Roads: Each Wind Turbine shall be set back from the nearest public road and its right of way a distance no less than two (2) times its Total Height.

(b) Railroads: Each Wind Turbine shall be set back from all railroads and their right of way a distance of no less than two (2) times its Total Height.

(c) Wind Turbine spacing: Each Wind Turbine shall have a separation distance from other Wind Turbines equal to one and two-tenths (1.2) times the total height of the tallest Wind Turbine.

(d) Communication and electrical lines: Each Wind Turbine shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than two (2) times its Total Height.

(e) Inhabited structures: Each Wind Turbine shall be set back from the nearest structure used as a residence, school, hospital, church, place of employment or public library, a distance no less than one (1) mile, unless mitigation has taken place and agreed by owner/operator and affected property owners involved and recorded in the Trempealeau County Register of Deeds office which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property.

(f) Property lines: Each Wind Turbine shall be set back from the nearest property line a distance no less than one-half (½) mile, unless mitigation has taken place and agreed by owner/operator and affected property owners involved, and recorded in the Trempealeau County Register of Deeds office which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property.

(g) From any wetland, water body, environmental significant or scenic area, each Wind Turbine total height shall have a minimum setback of two (2) times its total height or one thousand (1,000) feet which ever is greater.

(h) From any historical, cultural and archeological resource area, each Wind Turbine shall have a minimum setback of two (2) times its Total Height or one thousand (1,000) feet which ever is greater.

(i) Any new proposed residences, schools, hospitals, churches, public libraries, or place of employment, shall apply for a conditional use permit if they are to be located in the required set back area stated in section 17 (e) Inhabited structures.

(j) Unless owned by the applicant, no parcel of real estate shall be subject to shadow flicker from a Wind Turbine unless mitigation has taken place and agreed by the owner/operator and affected property owners involved and recorded in the Trempealeau County Register of Deeds office which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that shadow flicker may exist at times on or at the burdened property.

(k) There shall be a two (2) mile Setback from any recognized U.S. Fish and Wildlife Refuge located in Trempealeau County.

(18) Noise: Audible Sound (Audible Noise) emitted during the operation of any Wind Energy Facility or individual Wind Turbine (includes Commercial Wind Turbines, Personal Wind Turbines and Hobbyist Wind Turbines) is limited to the standards set forth in this provision. Testing procedures are provided in Appendix A of this Ordinance.

a) Audible Noise due to Wind Energy Facility or Wind Turbine operations shall not exceed the lesser of five (5) decibels (dBA) increase over the existing background noise level (L_{90}) or exceed forty (40) decibels (dBA) for any period of time, when measured at any structure used as a residence, school, hospital, church, place of employment, or public library existing on the date of approval of any Wind Energy Facility Siting Permit or Wind Turbine permit. All measurements shall be taken using procedures meeting American National Standard Institute Standards including: ANSI S12.18-1994 (R 2004) American National Standard Procedures for Outdoor Measurement of Sound Pressure Level, and (ANSI) S12.9-Parts 1-5:

Part 1: American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound
Part 2: Measurement of Long-Term, Wide-Area Sound
Part 3: Short-Term Measurements with an Observer Present
Part 4: Noise Assessment and Prediction of Long-Term Community Response
Part 5: Sound Level Descriptors for Determination of Compatible Land Use

Measurements must be taken with qualified acoustical testing instruments meeting ANSI Type 1 standards, and Class 1 filters. The windscreen recommended by the instrument's manufacturer must be used and measurements conducted only when wind speeds are ten (10) miles per hour (mph) or less. The microphone must be located at a height of one and two-tenths (1.2) to one and one-half (1.5) meters from the ground.

b) In the event Audible Noise due to Wind Energy Facility or Wind Turbine operations contains a steady Pure Tone, including, but not limited to, a whine, screech, or hum, the standards for audible noise set forth in subparagraph (a) of this subsection shall be reduced by five (5) dBA. A Pure Tone is defined to exist when the one-third (1/3) octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels on the two (2) contiguous one-third (1/3) octave bands by five (5) dBA for center frequencies of five hundred (500) Hz and above, and eight (8) dBA for center frequencies between one hundred sixty (160) Hz and four hundred (400) Hz, or by fifteen (15) dBA for center frequencies less than or equal to one hundred twenty-five (125) Hz.

c) In the event the Audible Noise due to Wind Energy Facility or Wind Turbine operations contains Repetitive Impulsive Sounds, the permitted sound pressure level for Audible Noise in 19(a) shall be reduced by five (5) dBA.

d) In the event the Audible Noise due to Wind Energy Facility or Wind Turbine operations contains both a Pure Tone and Repetitive Impulsive Sounds, the permitted sound pressure level for Audible Noise in 19(a) shall be reduced by seven (7) dBA.

e) No low frequency sound or infrasound due to Wind Energy Facilities or Wind Turbine Operations shall be created which causes the sound pressure level at any existing residence, school, hospital, church, place of employment, or public library within a one (1) mile radius from any Wind Turbine to exceed the following limits:

TABLE 19.e.1

Band No.	1/3 Octave Band Center Frequency (HZ)	Limits for 1/3 Octave Bands	Limits for 1/1 Octave Bands
1	1.25 and below	65	
2	1.6	65	
3	2	65	70
4	2.5	65	
5	3.15	65	
6	4	65	70
7	5	65	
8	6.3	65	
9	8	65	70

10	10	65	
11	12.5	61	
12	16	61	65
13	20	61	
14	25	60	
15	31.5	58	63
16	40	58	
17	50	58	
18	63	55	61
19	80	53	
20	100	52	
21	125	50	55

f) A Wind Energy Facility or Wind Turbine operation that emits sound or causes structural or human body vibration with strong low-frequency content where the time-average C-weighted sound level exceeds the A-weighted sound level by at least 20 dB when measured inside a structure and adversely affects the subjective habitability or use of any existing residence, school, hospital, church, place of employment, or public library or other sensitive noise receptor shall be deemed unsafe and shall be shut down immediately. Exceeding any of the limits in Table 19.e.1 shall also be evidence that the Wind Energy Facility or Wind Turbine operation is unsafe and shall be shut down immediately.

g) Prior to approval, developers of a Commercial Wind Turbine operation or Commercial Wind Energy Facility shall submit a Pre-construction Background Noise Survey with measurements for each residence, school, hospital, church, place of employment, or public library within one (1) mile of the proposed development. The Background Noise Survey shall be conducted in accordance with the procedures provided in Appendix A of this Ordinance, showing background sound levels (L_{90}) and 1/1 or 1/3 octave band sound pressure levels (L_{90}) during the quietest periods of the day and night over a reasonable period of time (not less than 10 minutes of sampling). The Pre-construction Background Noise Survey shall be conducted at the Applicant's expense by an independent noise consultant contractor acceptable to the Trempealeau County Zoning Department.

h) Prior to approval, developers of a Commercial Wind Energy Facility or Commercial Wind Turbine operation shall provide additional information regarding the make and model of the turbines, Sound Power Levels (L_W) for each octave band from the Blade Passage Frequency up through 10,000 Hz, and a Sound Impact Study with results reported on a contour map projection showing the predicted sound pressure levels in each of those octave bands for all areas up to one (1) mile from any Commercial Wind Turbine or Commercial Wind Energy Facility for the wind speed and direction that would result in the worst case Wind Energy Facility sound emissions. The Sound Impact Study may be made by a computer modeling, but shall include a description of the assumptions made in the model's construction and algorithms. If the model does not consider the effects of

wind direction, geography of the terrain, and the effects of reinforcement from coherent sounds or tones from the turbines, these shall be identified and other means shall be used to adjust the model's output to account for these factors. The Sound Impact Study results shall be displayed as a contour map of the predicted levels, but shall also include a data table showing the predicted levels at any existing residence, school, hospital, church, public library, or place of employment within the model's boundaries. The predicted values shall include dBA values and shall also include the non-weighted octave band levels in the data tables. The Sound Impact Study shall be conducted at the Applicant's expense by an independent noise consultant contractor acceptable to the Trempealeau County Zoning Department.

i) Operators of a Commercial Wind Energy Facility or Commercial Wind Turbine operation shall submit a Post-construction Sound and Vibration Measurement Study conducted for each Commercial Wind Turbine or Commercial Wind Energy Facility according to the procedures provided in Appendix A of this Ordinance within twelve (12) months of the date that the project is fully operational to demonstrate compliance with the noise limitations in Section 19(a). The study shall be conducted at the wind energy facility owner/operator's expense by a noise consultant contractor acceptable to the Trempealeau County Zoning Department.

j) The Committee may impose a noise setback that exceeds the other setbacks set out in this Ordinance or require waivers from affected property owners and persons in legal possession acceptable to the Committee if it deems that greater setbacks are necessary to protect the public health and safety, or if the proposed wind energy facility is anticipated to exceed the levels set forth in Section 19(a) at any existing residence, school, hospital, church, place of employment, or public library.

k) Any noise level falling between two (2) whole decibels shall be deemed the higher of the two.

l) If the noise levels resulting from the Commercial Wind Turbine or Commercial Wind Energy Facility exceed the criteria listed above, a waiver to said levels may be granted by the Committee provided that express written consent from all affected property owners and persons in legal possession has been obtained stating that they are aware of the noise limitations imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed. If the applicant wishes the waiver to apply to succeeding owners of the property, either a permanent noise impact easement or easement for the life of the wind turbine shall be recorded in the Trempealeau County Register of Deeds' office which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist at the burdened property.

m) A Noise Study may be conducted at the expense of a Commercial Wind Energy Facility or a Wind Turbine (Commercial, Personal or Hobbyist) Owner/Operator by an independent noise consultant contractor acceptable to the Trempealeau County Zoning Department if two (2) or more complaints are received and documented at a particular site. The study shall be conducted according to the procedures provided in Appendix A of this Ordinance for any sites where the complaints were documented. The Operator shall reimburse the County for the Noise Study expense within ten (10) days of billing. Failing to reimburse may be a basis for revoking a permit.

(19) Minimum Ground Clearance: The blade tip of a Commercial Wind Turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet. The blade tip of a personal and hobbyist Wind Turbine shall, at its lowest point, have ground clearance of no less than fifteen (15) feet.

(20) Signal Interference and Microwave Frequency Interference: The owner/operator shall minimize any interference with electromagnetic communications, such as radio, telephone or television signals caused by any Wind Energy Facility or Turbine. (If the applicant is a public utility, s. PSC 113.0707 also applies).

(a) A one thousand (1,000) feet microwave communication corridor between turbines must be maintained if the turbine facility is located between transmission towers.

(b) Communication tower – Wind turbine setback shall be at least one (1) mile to prevent signal interference.

(c) Emergency communication towers will be located on a Geographical Information System (GIS) map so turbine facilities can be properly planned to avoid conflict with Trempealeau County Emergency Services.

21.07 Setbacks: The following setbacks and separation requirements shall apply to Hobbyist and Personal Wind Turbines.

(a) Public Roads: Each Wind Turbine shall be set back from the nearest public road and its right of way a distance no less than two (2) times its Total Height.

(b) Railroads: Each Wind Turbine shall be set back from all railroads and their right of way a distance of no less than two (2) times its Total Height.

(c) Wind Turbine spacing: Each Wind Turbine shall have a separation distance from other Wind Turbines equal to one and two-tenths (1.2) times the total height of the tallest wind turbine.

(d) Communication and electrical lines: Each Wind Turbine shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than two (2) times its Total Height.

(e) Property lines: Each Wind Turbine shall be set back from the nearest property line a distance no less than three (3) times its Total Height, unless mitigation has taken place and agreed by owner/operator and affected property owners involved and recorded in the Trempealeau County Register of Deeds office which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property.

21.08 Miscellaneous Safety Requirements for Commercial and Personal Wind Turbines

(1) All wiring between Wind Turbines and the Wind Energy Facility substation shall be underground.

(a) All neutral grounding connectors from Commercial Wind Turbines shall be insulated from the earth and shall be sized to accommodate at least twice the peak load of the highest phase conductor, to absolutely prevent transient ground currents, in order to comply with the **National Electric Safety Code** and the **IEEE Standard 519-1992, approved by the American National Standards Institute,** as follows:

Grounding of both the electrical transmission lines and the supply lines to the internal electrical systems of the turbines themselves, shall comply with **Rule 92D, Current in Ground Conductors:** "Ground connector shall be so arranged that under normal circumstances, there will be no objectionable flow of current over the grounding conductor."

Rule 215B: [It is not permissible] "to use the earth as a part of a supply circuit."

Under no circumstances shall any Wind Turbine be connected directly to the grid; connection must be made through a substation or transformer properly grounded and filtered to keep harmonic distortion within recommended limits.

Bare, concentric neutrals are specifically prohibited in buried lines between turbines and in underground transmission lines to substations.

(2) Wind Turbine towers shall not be climbable up to fifteen (15) feet above ground level.

(3) All access doors to Wind Turbine towers and electrical equipment shall be lockable and locked when unattended.

(4) Appropriate warning signage shall be placed on Wind Turbine towers, electrical equipment, and Wind Energy Facility entrances.

21.09 Fee Schedule

(1) The permit application is required for a Hobbyist Wind Turbine. No fee or bond amount is required.

(2) The Conditional Use Permit application fee for a Personal Wind Turbine shall be two hundred twenty-five dollars ($225.00). No bond amount is required.

(3) For a Wind Energy Facility the application fee is five hundred dollars ($500.00) per turbine. The amount of the bond required will be based on the number of turbines and the estimated cost to remove the Wind Turbine, including to a point three (3) feet below grade.

21.10 Validity

Should any section, clause or provision of this chapter be declared by the courts to be invalid, the same shall not affect the validity of the chapter as a whole or any part thereof, other than the part so declared.

Chapter 21 - Appendix A

Trempealeau County Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Wind Energy Conversion Systems

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Introduction

The potential sound and vibration impact associated with the operation of wind powered electric generators, including Wind Energy Facilities and Wind Turbine operations, is a primary concern for citizens living near proposed Wind Energy Conversion Systems ("WECS"). This is especially true of projects located near homes, residential neighborhoods, schools, hospitals, churches, places of employment and public libraries. Determining the likely sound and vibration impacts is a highly technical undertaking and requires a serious effort in order to collect reliable and meaningful data for both the public and decision makers.

This protocol is based in part on criteria published in the Standard Guide for Selection of Environmental Noise Measurements and Criteria.[1] and the Public Service Commission of Wisconsin publication Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Electric Power Plants (February 2002).[2] The purpose is to first establish a consistent and scientifically sound procedure for estimating existing ambient (background) sound and vibration levels in a project area, and second to determine the likely impact that operation of a new wind energy conversion system project will have on the existing sound and vibration environment.

The characteristics of the proposed WECS project and the features of the surrounding environment will influence the design of the sound and vibration study. Site layout, types of wind energy conversion units ("WECU") selected and the existence of the significant local sound and vibration sources and sensitive receptors shall be taken into consideration when designing a sound and vibration study. An independent, qualified consultant shall be required to conduct the sound and vibration study.

Note: Trempealeau County Zoning Department Administration shall be consulted prior to conducting any sound and vibration measurements. These guidelines may be modified (with express written approval of the County Zoning Department) to accommodate unique site characteristics. Consult with Zoning Department staff assigned to the project for guidance on study design before beginning any sound and vibration study. During consultation, good quality maps or diagrams of the site are necessary. Maps and diagrams shall show the proposed project area layout and boundaries[5], and identify important landscape features as well as significant local sound and vibration sources and sensitive receptors including, but not limited to, a residence, school, hospital, church, place of employment, or public library.

Measurement of the Existing Sound and Vibration Environment

An assessment of the proposed WECS project area's existing sound and vibration environment is necessary to predict the likely impact resulting from a proposed project. The following guidelines shall be used in developing a reasonable estimate of an area's existing sound and vibration environment. All testing shall be performed by an independent acoustical testing engineer approved by the Trempealeau County Zoning Department. All measurements shall be conducted with industry certified testing equipment.[4] All test results shall be reported to the Trempealeau County Zoning Department.

Sites with No Existing Wind Energy Conversion Units

Sound level measurements shall be taken as follows:

1. At all properties within the proposed WECS project boundaries[5]

2. At all properties within a one mile radius of the proposed WECS project boundaries[5].

3. One test must be performed during each season of the year.
   a. Spring (March 15 – May 15)
   b. Summer (June 1 – September 1)
   c. Fall (September 15- November 15)
   d. Winter (December 1- March 1)

4. All measurement points (MPs) shall be located in consultation with the property owner(s) and such that no significant obstruction (building, trees, etc.) blocks sound and vibration from the site.

5. Duration of measurements shall be a minimum of ten continuous minutes for each criterion (See Item 9 below) at each location.

6. One set of measurements shall be taken during each of the following four periods:
   a. Morning (6 - 8 a.m.)
   b. Midday (12 noon – 2 p.m.)
   c. Evening (6 – 8 p.m.)
   d. Night (10 p.m. – 12 midnight)

7. Sound level measurements must be made on a weekday of a non-holiday week.

8. Measurements must be taken at 6 feet above the ground and at least 15 feet from any reflective surface[3].

9. For each MP and for each measurement period, provide each of the following measurement criteria:
   a. Unweighted octave-band analysis (16^2, 31.5, 63, 125, 250, 500, 1K, 2K, 4K, and 8K Hz)
   b. L_{ave}, L_{10}, L_{50}, and L_{90}, in dBA
   c. L_{ave}, L_{10}, L_{50}, and L_{90}, in dBC
   d. A narrative description of any intermittent sounds registered during each measurement
   e. Wind speed at time of measurement
   f. Wind direction at time of measurement
   g. Description of the weather conditions during the measurement

10. Provide a map and/or diagram clearly showing:
    a. The layout of the project area, including topography, the project boundary lines[5], and property lines
    b. The locations of the MPs
    c. The minimum and maximum distance between any MPs
    d. The location of significant local sound and vibration sources
    e. The distance between all MPs and significant local sound and vibration sources
    f. The location of all sensitive receptors including but not limited to, a residence, school, hospital, church, place of employment, or public library.

Sites with Existing Wind Energy Conversion Units

Two complete sets of sound level measurements must be taken as defined below:

One set of measurements with the wind generator(s) off.

One set of measurements with the wind generator(s) running.

Sound level measurements shall be taken as follows:

1. At all properties within the proposed WECS project boundaries[5]
2. At all properties within a one mile radius of the proposed WECS project boundaries[5].
3. One test must be performed during each season of the year.
    a. Spring (March 15 – May 15)
    b. Summer (June 1 – September 1)
    c. Fall (September 15- November 15)
    d. Winter (December 1- March 1)

4. All measurement points (MPs) shall be located in consultation with the property owner(s) and such that no significant obstruction (building, trees, etc.) blocks sound and vibration from the site.

5. Duration of measurements shall be a minimum of ten continuous minutes for each criterion (See Item 9 below) at each location.

6. One set of measurements shall be taken during each of the following four periods:
    a. Morning (6 - 8 a.m.)
    b. Midday (12 noon – 2 p.m.)
    c. Evening (6 – 8 p.m.)
    d. Night (10 p.m. – 12 midnight)

7. Sound level measurements must be made on a weekday of a non-holiday week.
8. Measurements must be taken at 6 feet above the ground and at least 15 feet from any reflective surface[3].
9. For each MP and for each measurement period, provide each of the following measurement criteria:
    a. Unweighted octave-band analysis (16^2, 31.5, 63, 125, 250, 500, 1K, 2K, 4K, and 8K Hz)
    b. L_{ave}, L_{10}, L_{50}, and L_{90}, in dBA
    c. L_{ave}, L_{10}, L_{50}, and L_{90}, in dBC
    d. A narrative description of any intermittent sounds registered during each measurement

e. Wind speed at time of measurement
f. Wind direction at time of measurement
g. Description of the weather conditions during the measurement

10. Provide a map and/or diagram clearly showing:
    a. The layout of the project area, including topography, the project boundary lines[5], and property lines
    b. The locations of the MPs
    c. The minimum and maximum distance between any MPs
    d. The location of significant local sound and vibration sources
    e. The distance between all MPs and significant local sound and vibration sources
    f. The location of all sensitive receptors including but not limited to, a residence, school, hospital, church, place of employment, or public library.

Sound Level Estimate for Proposed Wind Energy Conversion System

In order to estimate the sound and vibration impact of the proposed WECS project on the existing environment an estimate of the sound and vibration produced by the proposed WECU(s) must be provided.

1. The manufacturer's sound level characteristics for the proposed WECU(s) operating at full load. Include an unweighted octave-band (16[4], 31.5, 63, 125, 250, 500, 1K, 2K, 4K, and 8K Hz) analysis for the WECU(s) at full operation for distances of 500, 1000, 1500, 2000, 2500 feet from the WECU(s).

2. Estimate the sound levels for the proposed WECU(s) in dBA and dBC at distances of 500, 1000, 1500, 2000, 2500 feet from the WECU(s). For projects with multiple WECU's, the combined sound level impact for all WECU's operating at full load must be estimated.

3. Provide a contour map of the expected sound level from the new WECU(s), using 5dBA increments created by the proposed WECU(s) extending out to a distance of at least 5,280 feet (one mile).

4. Determine the impact of the new sound and vibration source on the existing environment. For each MP used in the ambient study (note the sensitive receptor MPs):
    a. Report expected changes to existing sound levels for L_{ave}, L_{10}, L_{50}, and L_{90}, in dBA
    b. Report expected changes to existing sound levels for L_{ave}, L_{10}, L_{50}, and L_{90}, in dBC
    c. Report all assumptions made in arriving at the estimate of impact and any conclusions reached regarding the potential effects on people living near the project area.

5. Include an estimate of the number of hours of operation expected from the proposed WECU(s) and under what conditions the WECU(s) would be expected to run.

Post-Construction Measurements

1. Within twelve months of the date when the project is fully operational, and within two weeks of the anniversary date of the Pre-construction ambient noise measurements, repeat the existing sound and vibration environment measurements taken before the project approval. Post-construction sound level measurements shall be taken both with all WECU running and generating power, and with all WECU off.
2. Report post-construction measurements to the Trempealeau County Zoning Department (available for public review) using the same format as used for the Pre-approval sound and vibration studies.

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[1] Standard Guide for Selection of Environmental Noise Measurements and Criteria (Designation E 1686-96). July 1996. American Society for Testing and Measurements.

[2] Measurement Protocol for Sound and Vibration Assessment of Proposed and Existing Electric Power Plants. February 2002. Public Service Commission of Wisconsin.

[3] Environmental Noise Guidelines: Wind Farms. (ISBN 1 876562 43 9). February 2003. Environment Protection Authority, Adelaide SA.

[4] The Trempealeau County Zoning staff acknowledges that few sound level meters are capable of measurement of the 16 Hz center frequency octave band. However, because noise complaints from the public most likely involve low frequency noise associate with proposed WECS, we encourage applicants to pursue the collection of this important background noise data. If obtaining the 16 Hz data presents a problem contact Trempealeau County Zoning staff prior to collection of any field ambient measurement data.

[5] Project Boundary: A continuous line encompassing all WECU's and related equipment associated with the WECS project.

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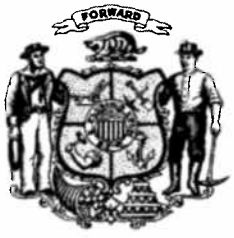


Wood Wind thoughts

add incentive to promote wind over coal

1 – Payments in lieu of taxes – Utility Aid payment equal to $2000 per megawatt. This is distributed 1/3 to the town and 2/3 to the county. School districts get nothing at all. So a 100 MgW system pays the town $66,666 per year and the county gets $134,000. Again school districts, Tech Colleges get nothing. This comes out of a special shared revenue account – I assume the money paid into it comes from an assessment on the utilities. See stat. 79.04 (6)

2 – Eminent Domain – Under current PSC siting standards, a land owner can have a significant section of their land "taken" by the placement of a wind turbine without any compensation from the wind developer. For example, PSC requires turbines to be setback 1000' from an existing residence, but only about 500' from a property line. Thus there exists an arc of 500' in which the adjacent property owner is unable to build a new residence because once the turbine is sited, that land is now unavailable for building. See the "yellow-circle" diagram.

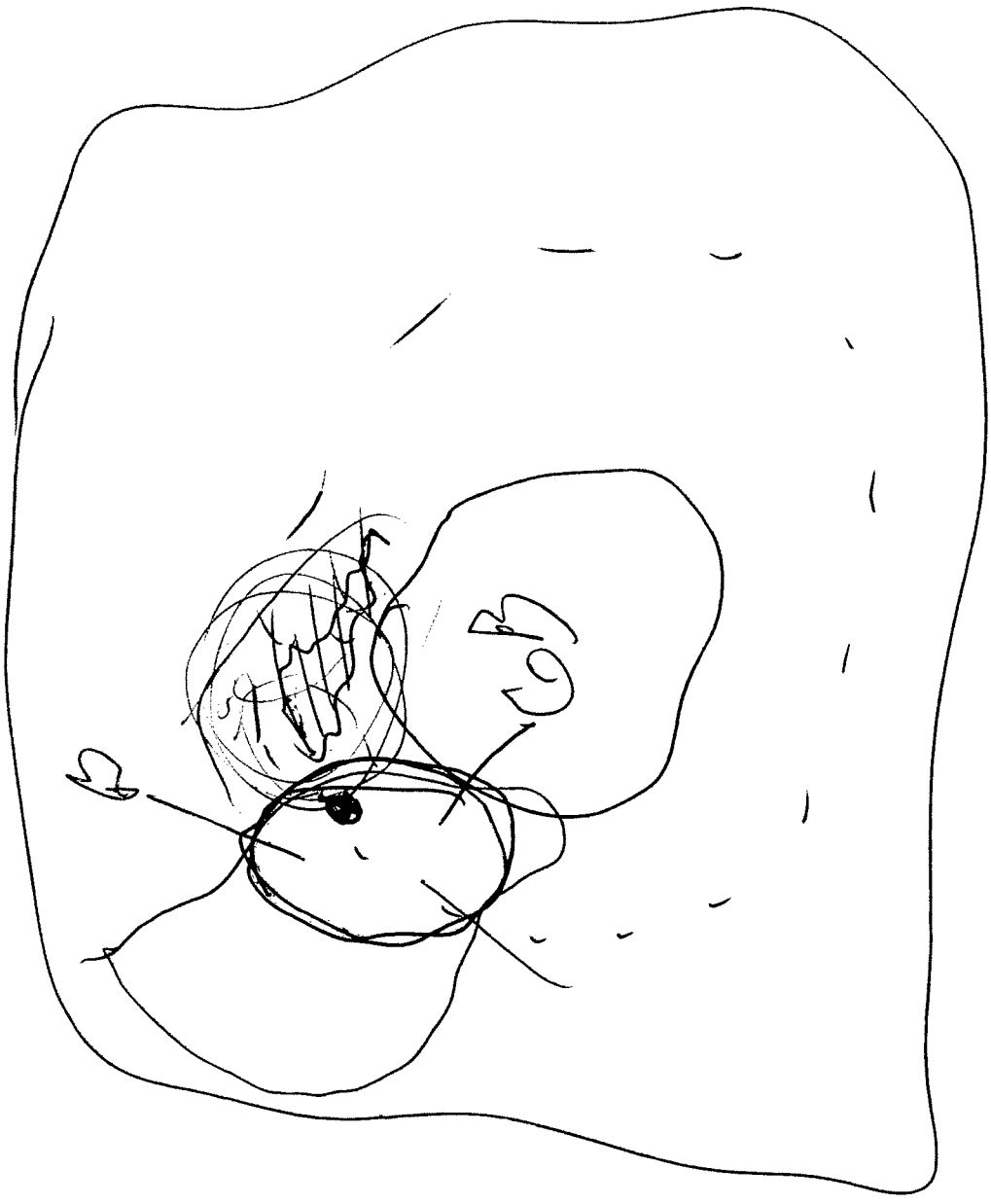
Under case law, these kinds of "takings", where any reasonable use of the land is taken by government action, are not legal under the new law passed to address the "Kelo" decision. The government decision in this case refers to the PSC siting standards that this bill authorizes and that will almost certainly reflect the current PSC policy of siting turbines at 1000' feet to a house, but only at 500' to a property line or potential building site.

3 – Reduction of potential economic development by turbine siting and the effects of this on local tax base and school taxes. Let's take Calumet County as an example. Wind developers want to site several major wind farms here. Each wind "farm" would encompass around 10,000 acres. Calumet County is scheduled to grow by around 25,000 people in the next 20 years. If that equals around 12,000 homes that could take up around 6-12,000 acres – even with smart growth and densification plans. So what advances the community economy more - a wind farm or a subdivision with 10,000 homes? This is a real life issue as growth in Calumet County is coming in what are now basically rural areas.

Wipes out entire sub developments without payment in lieu taxes for school districts

If the schools get nothing from the wind turbine "tax" and only can get the underlying value of the land, what has happened to that value, did it remain the same, or did it decline? Property owners within or near to these wind farms are experiencing dramatic declines in property value, which will be eventually expressed in depressed assessments and declines property taxes – whereas a new subdivision would lead to a dramatic increase in the tax base.

Are the 2 mutually exclusive? Common sense tells us the answer is a resounding yes!

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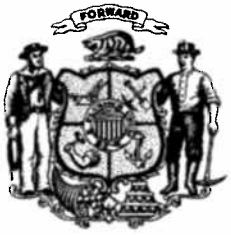
FORWARD

The legislation before us today is the result of bipartisan efforts to create uniform siting standards for wind energy projects in Wisconsin. It directs the Public Service Commission, to receive public input, including that of a stakeholder committee, and to then develop rules for permitting standards to be applied uniformly by both local and state governments to wind energy installations.

Currently, wind projects are victims of delay tactics and other obstructions often made possible by the lack of clear rules. Passage of this legislation will enhance Wisconsin's economy by creating a clear and level playing field for everyone when a wind turbine project is proposed. With uniform standards, we can attract investment in our state

that will create green jobs and help us address the need to develop more clean and renewable energy.

Currently, over 600 megawatts of proposed wind projects are stalled in Wisconsin due to the absence of clear and uniform regulations. This figure does not include potential projects that have been abandoned because wind developers are discouraged from constructing these important projects in our state. These costly delays and deterrents kill jobs and drain investment from Wisconsin. The status quo has put our state behind the rest of the country in developing green energy solutions. Today, by passing this legislation, we can move ahead investing in future jobs and energy resources.