MEREDITH'S VISION

The vision statement of the Meredith Comprehensive Plan states:

> We must preserve and maintain the Town of Meredith's historic, agricultural and rural character. We must guide development to meet the economic, social and recreational needs of all residents. We must foster a unified community while maintaining the ambiance of a small rural town with the uniqueness that is Meredith. We must realize this vision in an efficient, cost-effective manner.
>
> — Meredith Comprehensive Plan, 2006, final draft, p. 7

THERE IS DISCUSSION OF PLACING AN INDUSTRIAL-SCALE, POWER-GENERATING PROJECT WITH 100 OR MORE WIND TURBINES THAT ARE ABOUT 400 FEET TALL ACROSS THE TOWN.

Presented February 6, 2006
To the Town of Meredith Planning Board
By Kenneth Jaffe, MD

The community and town officials are presented with decisions that will have historic consequences for us all. The impact and risks of such a project on the whole community takes us out of the realm of personal land use, and demands regulations to protect the residents, the town, and its vision. This is a critical point in Meredith's history.

I believe we all want the nation to move toward renewable forms of energy. In fact, we are already assuming substantial responsibility for this with our tax dollars going to federal and state tax subsidies to power companies and their investors. But we also share a responsibility to join the debate on how much economic and health risk small local communities should take on.

- Is it safe and appropriate to place large, industrial-scale power generation close to homes, farms, and roads?
- Should turbines be placed where they threaten or damage scenic, historic, environmental, and wildlife resources?
- Who reaps the rewards of massive tax breaks for wind turbines?
- Should small towns give tax breaks to power companies and their investors?

In fact, this debate is not really occurring in Albany and Washington. This part of the discussion about national energy policy is taking place in towns like Meredith.

Power-generating companies have largely presented the town with sales presentations. Unfortunately, these presentations ignore or gloss over the negative impacts and risks to the town and its residents.

My belief is that town officials and a few landowners have been attracted by the short-term financial benefits of wind turbines on their land after being presented with a one-sided and simplistic picture of the risks — environmental, financial, health and safety.

A deeper understanding of the full range of risks, all with serious financial downsides, and of who will take on those risks, is necessary as the town and landowners make decisions.

In this document we will first look at the role of

- wind in national energy policy
- our town in the process of developing national energy policy
- nature of an industrial wind project
- profits — where they come from and whom they go to

We will examine the town's environmental, economic and health risks, and discuss how we can create rules to avoid those risks, including reasonably transferring the cost of the risks to the corporation who will reap the profits.

NATIONAL ENERGY POLICY — HOW GREEN IS IT?

Even among strong advocates of green power, there are questions being raised about current national energy policy for wind turbines. This is especially true in Europe, where wind power is more widespread. The Europeans are confronting the inability to shut fossil-fuel plants, negative effects on the countryside, problems with integration with the grid, and questions about the efficiency of wind power to reduce greenhouse gases.

Scientific and technical issues that are raised, even by the industry, include the following:

- In the effort to reduce greenhouse gases, wind power is much more expensive and much less efficient than other methods. These include conservation, such as
  - insulation of homes
  - more fuel-efficient cars
  - updating of old, polluting power plants.
- These methods do not receive the massive subsidies that go to the power companies and their financial partners.
- No fossil-fuel power plants have actually closed in Europe, even with their large installation of wind power, because the production of electricity from wind is so inconsistent, and greatest during periods of least demand — nighttime in winter.
- The coal-fired plants which must continue to run to back up the wind facilities actually produce far more polluting gases for each unit of electricity produced than if they ran at full output.
- The grid has difficulty in efficiently managing the wide fluctuations in electricity produced by wind power.
- The technology of offshore wind power is rapidly advancing, and offers a more consistent wind output without impacting on the landscape.
- Ways of storing electricity produced by wind power, like hydrogen fuel cells, will be coming on line in the next several years, and could be used on a small, local scale to heat homes.

REFERENCES

Current Experience with Renewable Support Schemes in Europe, by The Council of European Regulators, 2004, pages 57, 59: http://www.ceer-eu.org/

"Reduction in Carbon dioxide Emissions: Estimating the Potential Contributions from Wind-Power," report to the Renewable Energy Foundation, 2004, pages 2–5, 16, 20, 30–31.

The Guardian, 2005 http://society.guardian.co.uk/environment/story/0,14124,1425868,00.html

The Guardian, 2005 http://www.guardian.co.uk/comment/story/0,3604,1425696,00.html

"If there was a way for Meredith to use the power from wind turbines, our needs would be fully met by two turbines." — *see* NY State Dep't of State Municipal Regulation of Wind Energy Facilities

"The power generated will not flow to Meredith. There is no technical method available to connect these wind turbines directly to our local service. The power will flow through the grid to the sites of the power demand — major metropolitan areas, particularly NYC---and can be bought back from the grid by local customers — per representative of a local wind developer.

THE REGULATORY PROCESS AND THE ROLE OF TOWNS — SMALL BUT POWERFUL

NY is a home-rule state. Much of the decision-making about this type of project falls to the town. Our Comprehensive Plan states:

> To ensure that implementation occurs, it is critical that all municipal officials review the Comprehensive Plan and use it as a basis for future decision-making in Meredith.
>
> — Meredith Comprehensive Plan, p. 50

Meredith has two broad options, through its regulations, to

- determine that no industrial-scale wind project can conform to the Vision of the Comprehensive Plan.
- permit wind turbines, while enacting rules that will
  - keep such a project within the boundaries of the Meredith Vision to maintain the town's character — historic, agricultural, and rural.
  - guarantee the health and safety of all citizens affected by such a project.
  - require that the power companies assume the financial risk if the project creates negative environmental, health, and economic impacts on the community.

Although there are no statewide guidelines at present, there are a number of agency rules, regulations, and guidelines that must be considered if the town proceeds to formal assessments. The review process must include many key aspects, such as the impact on

- the rural quality of Meredith
- historic resources including Hanford Mills, and Catskill Turnpike
- the economy and economic risks
- noise and its effect on health and well-being
- safety, including the risk from ice throws, blade breakage, and fire
- wildlife, including migrating eagles and hawks

In reviewing a sampling of the regulations adopted in other towns, an unfortunate pattern emerges:

- the town character, quality of life, and scenic resources are ignored
- power companies accept *no* risk for negative economic impacts to the town or its residents
- noise standards fail to meet NY DEC, World Health Organization, and other international recommendations, including England, Australia, and Sweden.
- safety standards for siting merely write industry goals into law
- impacts on historic resources are ignored

see wind energy laws of Sidney, Roxbury, Amherst, Lewis (documents not on line)

WE CAN DO BETTER.

HISTORY OF THE POWER INDUSTRY — WHOM DO YOU TRUST?

The past behavior of the power-generating industry with respect to their truthfulness and their impact on towns in New York State — economic, public safety and health, and environmental — should be a warning to us all.

Acid rain — Environmental, Tourism and Economic Impact
An array of electric power companies fought a decades-long battle denying responsibility and fighting corrective measures. Its 'only fish', but here are hundreds of dead lakes in the Adirondacks, having a crushing impact on fisheries and the local tourism industry.

Power Plant Siting — Public Safety and Property Values
In the early stages of nuclear power, the electric power industry, with the agreement of state regulators, made judgments about the safe siting of nuclear power plants. They placed nuclear plants in densely populated areas of NY State — in Westchester and Long Island. The industry's flawed assessment of risk had a devastating impact on local property values, and still endangers millions in the event of an accident.

Public health, the environment and community impact
The major manufacturer of industrial wind turbines — General Electric — fought for decades to avoid responsibility for illegally dumping tons of cancer-causing PCBs, including dioxin, into the Hudson River. This dumping endangered human life, destroyed the thriving Hudson fishing industry, and crushed real estate values in the vicinity of the dumping sites.

This history demonstrates that the power industry

- has a clear track record, so that when making decisions or crafting regulations, we as a community must examine closely their statements and those of the state agencies under a mandate to support them.
- standards are driven by a concern to maximize investor profits. This is done partly by harvesting taxpayer subsidies.
- has spent millions over decades to avoid responsibility, which prolongs negative effects on towns.
- knows the risks and costs, and does everything possible to enhance the bottom line.
- campaigns to create local regulations that minimize power companies' liabilities by shifting as much cost and risk as possible to townspeople and local government.

FINANCIAL RISK TO TOWNS — TAX BREAKS FOR WHOM?

The present rush and pressure to install wind turbines is created by tax laws passed in Washington and Albany. These laws have created tax subsidies that are available or useful only to large corporations.

The money behind these projects flows to the for-profit power companies, and especially to Wall Street investment banks and wealthy investors. For instance, Goldman Sachs is the owner of the wind-power project at Tug Hill. A staffer for a state assemblyman on the Energy Committee reports being lobbied recently over the state laws by Goldman Sachs — a common occurrence.

Only a tiny fraction of the money generated by this type of project will stay in Meredith. On top of that, these companies then ask for tax breaks from small towns like ours.

KEY QUESTION FOR MEREDITH RESIDENTS

During the present period of maximum Wall Street profits, should for-profit power companies, investment banks, and wealthy investors pay property and school taxes at much lower rates than town residents?

Power companies receive three revenue streams

- power sales to the grid
- direct federal tax credit on electricity generated
- accelerated depreciation: 6 years — instead of the usual 20 — weighted toward the first year

Most investor value in such companies comes from the second and third items — taxpayer subsidies.

These same companies and investors are asking us for a huge tax break on Meredith property taxes, in addition to their federal and state tax subsidies.

Payment in Lieu of Taxes — PILOT — is a tax break a town can provide and negotiate with a corporation.

Power companies are asking Meredith to waive the usual property taxes, and instead negotiate a PILOT agreement.

A project's PILOT payment is a fraction of what town taxes would normally be.

This is a substantial tax abatement given by the townspeople to the corporation and its investors. in addition to federal and state tax subsidies.

— Property Tax–Exemptions and PILOT, page 4, NYSERTA, 2005

But PILOT payment has a downside risk for the town.

- many PILOTs depend on the amount of power generated
- local companies project that power will be generated at 30% of capacity
  - *eg,* for turbines rated at 1.5 megawatts, they project revenue to the town and landowners based on 0.45 megawatts of power generated.
- the reality is closer to 10% of capacity, as stated in the GE Energy 2005 report to NYSERTA

Capacity factors of inland wind sites in New York are on the order of 30% of their rated capacity. Their effective capacities, however, are about 10%, due to both seasonal and daily patterns of the wind generation.

— The Effects of Integrated Wind Power on Transmission
System Planning, Reliability and Operations
By GE Energy

THEREFORE, THE TOWN'S PORTION OF THE PILOT BASED ON POWER GENERATION COULD BE MORE THAN TWO THIRDS *LESS* THAN INDUSTRY PROJECTIONS.

RISK OF ABANDONMENT — WHO GETS STUCK WITH DECOMMISSIONING?

Removing a single wind turbine costs about $300,000. There is a risk that the town or landowners will be stuck with the bill. If 100 turbines (and many more than 100 are proposed in Delaware County) were abandoned, the cleanup cost could be $30,000,000 in today's dollars.

After several years, if the project becomes unprofitable the risk of abandonment increases

- as maintenance costs climb
- after depreciation benefits are gone
- if congress does not extend the production tax credit when it expires

After reaping several years of profits, the LLC (limited liability corporation) or other type of corporation, drained of cash, can declare bankruptcy and walk away, leaving turbines intact.

The current contract being offered by one of the local developers includes a schedule for contributions to a decommissioning fund. In this contract

- there are no payments till year 6
- funding is at 20% after 10 years and only 35% after 15 years

— Exhibit D, Airtricity Lease Agreement, page 26

RECOMMENDATIONS TO THE PLANNING BOARD

IF THERE IS A WIND POWER PROJECT

- The town should not assume any penalty in any agreement for lower than projected power production.
- Power companies and their investors should not pay lower real-property tax rates than the rates paid by local residents.
- The cost of the risk of decommissioning should be placed squarely with the power company.
- To protect the town from decommissioning costs, the decommissioning fund should receive payments at the project outset and be fully financed by the end of the depreciation period (six years).

PUBLIC HEALTH — OUR HEALTH

NOISE

Rural areas are quiet, and this quiet is a major part of the rural environment that our townspeople value as expressed in the Meredith Vision.

Wind turbines are very large power-generating machines. They are over 400 feet tall, with blades 230–250 feet in diameter. Noise is generated by blade tips cutting through the air at close to 200 mph, and by gears and machinery that create electric power in a hub that weighs over 36 tons. (GE 1.5 kW turbine; http://www.trentmesa.com/techdetails.htm#Technical)

"Noise has health effects, can affect sleep, and can affect well being. Noise which disrupts sleep has measurable economic effects through absenteeism from work and school, lost productivity, accidents."

— World Health Organization Guidelines on Community Noise
http://www.adc40.org/docs/schwela.pdf

The industry position on noise can be summed up as: "it's not so bad", and "you'll get used to it."

A worthwhile discussion on the health effects of noise should include

- recommendations from local and international governmental agencies for "community noise" (ambient) levels and wind-turbine noise
- studies on the effect on people of noise from wind-power installations
- the industry approach to noise
- existing town regulations and recommendations for appropriate rules

A FEW BASICS ON NOISE

- We measure noise in decibels (dB).
- Absolute silence is 0 decibels.
- We talk about ambient noise as the sound level without a wind turbine.
- A quiet rural area at night will often have noise in the low 20 dB range, according to wind-industry documents

— American Wind Energy Ass'n
http://www.awea.org/pubs/factsheets/WE_Noise.pdf page 2

We can notice and be bothered by noise that is 5 to 6 dB louder than ambient noise.

— "Assessing and Mitigating Noise Impacts "

— NY State Dept. of Environmental Conservation www.dec.state.ny.us/website/dcs/policy/noise2000.pdf

In other words, if the ambient noise is 24 dB, you can hear and can be annoyed by a wind turbine creating 30 dB where you are.

- Each 10 dB represents a doubling of noise level.
- Over 65 dB makes it hard to hear a conversation at three feet.

— NY State DEC--above

- Most turbine industry sources recommend 50 dB for homes.
- Most government and health agency standards are much lower (see below).
- Studies on humans demonstrate significant problems at 40 dB (see below).
- A wind turbine can create 100 dB at the turbine itself, but the sound becomes less with distance.

"Wind Turbine Noise Issues," p. 15, white paper by Renewable Energy Research Laboratory, U. Mass, 2004

www.ceere.org/rerl/publications/whitepapers/WindTurbineNoiseIssues.pdf

GOVERNMENT RECOMMENDATIONS AND REGULATIONS

The New York State Department of Environmental Conservation recommends: "In non-industrial settings the noise level should probably not exceed ambient noise by more than 6 dB. An increase of 6 dB may cause complaints."

— "Assessing and Mitigating Noise Impacts," NY State Dept of Environmental Conservation

The World Health Organization Community Noise guidelines recommend that, to avoid sleep disturbance, night noise should not exceed more than 30 dB.

In the UK, the Dep't of Trade and Industry, which sets the standard used for local regulation, recommends that "sound at night from wind turbines should not exceed the background sound by more than 5 dB."

— "Assessment and Rating of Noise from Wind Farms," Department of Trade and Industry, UK http://www.dti.gov.uk/renewables/publications/pdfs/noiseassessmentpart1.pdf

Australian wind-turbine regulations mandate that night sound not exceed 35 dB or 5 dB over background. They add: "As noise from wind turbines has special characteristics (amplitude modulation, swishing) it may be easily detected in normal background noise and this may increase the probability for annoyance and sleep disturbance."

— "Wind Farms, Environmental Noise Guidelines" page 7 Government of South Australia, 2003 www.epa.sa.gov.au/pdfs/windfarms.pdf

European regulations limit nighttime rural noise to

- 30 dB in the Netherlands and 35 dB in Germany

— "Wind Turbine Noise Issues," p. 15, white paper by
Renewable Energy Research Laboratory, U. Mass, 2004

http://www.ceere.org/rerl/publications/whitepapers/WindTurbineNoiseIssues.pdf

STUDIES OF THE EFFECT OF WIND-TURBINE NOISE ON COMMUNITIES

A detailed study in a peer-reviewed journal of noise after installation shows that *actual noise often far exceeds predicted noise levels*, especially at night.

- Wind speed at hub height at night is up to 2.6 times higher than expected, causing up to 15 dB higher sound levels than the hub-height wind speed in daytime.
- Moreover, especially at high rotational speeds, the turbines produce a thumping sound, increasing annoyance further.

— Van den Berg, *Journal of Sound and Vibration*, 2003

Noise has serious effects on people at levels much lower than US power-industry standards. In the only systematic study that looks at the effect on the community of large installed turbines — which are less than half the size of those proposed for Meredith — 500 randomly selected people reported their level of noise annoyance in sites where the sound level was well below US industry standards from nearby wind turbines.

- at 40 dB 36% reported maximum annoyance
- at 37.5–40 dB 20% reported maximum annoyance

— "Noise Annoyance from Wind Turbines–A Review," page 13
Swedish Environmental Protection Agency, 2003
http://www.naturvardsverket.se/bokhandeln/pdf/620-5308-6.pdf

Residents living up to 1,640 feet and more have reacted strongly to the noise; residents up to 6,200 feet (1.2 miles) distance expressed annoyance.

— Van den Berg, *Journal of Sound and Vibration*, 2003

A survey on the noise impacts of the wind turbines in Lincoln Township, Wisconsin, showed significant negative community impact. The survey was sent out to all property owners two years after turbine operation began. Each household received one vote.

Question: In the last year, have you been awakened by sound coming from the wind turbines?

residents within	800 ft–1,320 ft	1,320 ft–2,640 ft
	67% yes	35% yes

INDUSTRY APPROACH TO NOISE

Local industry representatives are proposing these turbine placements in relation to dwellings:

- 1,200–1,300 feet from nonparticipating landowners' homes
- 650 feet from participating landowners' homes

A representative of one of the local power companies indicated its standard was a 50 dB limit at residences.

Power-industry documents generally recommend a standard of 50 dB, with no rules for assessing ambient noise levels.

US wind-power industry recommendations exclude consideration of the literature on intrusiveness of sound as well as existing international standards.

Local landowners are being asked to sign contracts stating: "(X) hereby accepts such nuisance and waives their right to object to such nuisance."

— Airtricity contract, clause 9, page 10

This means that if two homeowners cannot carry on their conversation across the table because there turns out to be 65 dB of noise in their house that is 650 feet from the turbine, they'll just have to "get used to it."

NEW YORK STATE TOWN REGULATIONS

Most town regulations are inadequate. They ignore

- DEC recommendations
- international standards from countries with extensive experience and large installations of wind turbines — Germany, the Netherlands, and Australia
- scientific data on post-installation intrusiveness of noise

Typical town noise regulations limit noise to 50 dB, with no relation to ambient noise.

In fact, in NY State, lax town noise regulations have already proven inadequate and have had to be amended due to complaints after turbine installation.

"We met with officials from the Town of Fenner — in north central New York. On the basis of complaints about noise from the first facility permitted by the town, the local planning board now requires that turbines be located a certain distance from residences."

— United States Government Accountability Office Report, 2005
http://www.gao.gov/new.items/d05906.pdf

TWO QUESTIONS ARISE

- What is the power company's responsibility to the people affected by those first failed rules? Do they just have to "get used to" excessive noise?
- Will the town get it right the second time?

RECOMMENDATIONS TO THE PLANNING BOARD

IT IS MOST REASONABLE TO WRITE RULES THAT

– Create standards that protect the health and well-being of all residents and guarantee the preservation of the existing quiet rural environment of Meredith.

– Understand that, within guidelines that protect the public, the wind-power industry in Germany and Holland has been able to install far more turbines than in the US.

FOLLOW THE GUIDELINES OF NY State DEC and international regulatory agencies with extensive experience of wind-turbine noise

– Apply the actual experience of intrusiveness of wind turbine noise that is in the scientific literature.

– Ensure that a wind-power company should assume the risks of exceeding town noise standards.

RECOMMENDED NOISE REGULATIONS SHOULD INCLUDE

– Preinstallation planning that protects both landowners with turbines and their neighbors.

– Daytime noise should not exceed 35 dB, or greater than 6 dB above ambient noise, whichever is less, at any home, property line or public place.

– Nighttime noise should not exceed 30 dB, or 6 dB above ambient noise level, whichever is less.

– If noise exceeds the standard, the wind turbine should be shut down. If the sound cannot be mitigated, the turbine should be decommissioned at the power company's expense.

PUBLIC SAFETY

STRUCTURAL FAILURE OF BLADES OR TOWER

In Germany, in 2003, parts landed 1,650 feet from a wind-tower base after brakes failed in high winds and a blade hit the tower.

— http://www.pbase.com/wp/wind_turbine_photos&page=1

FLICKER

Rotating blades create a strobe-like effect when a turbine blocks the sun. Such flicker can trigger seizures and migraine headaches, in addition to the obvious annoyance.

ICING and THROWN ICE

In northern climates, ice forms on the turbine blade. This ice can break loose in large pieces and be thrown from the turbine, endangering human life, property, livestock and wildlife.

These quotes are from the US Dept. of Energy's National Renewable Energy Laboratory Report, "Ice and Snow the Winds Will Blow":

"Ice is an issue"
"[Ice] increases safety risk for the staff and public"
"The latest on ice throw — an inexact science" (page 4)
"Little data has been collected in the US on impacts of cold and ice." (page 7)
"de-icing technology is a work in progress" (pages 7–14)

— http://www.nationalwind.org/events/siting/presentations/baring-gould.pdf

WHAT WE KNOW

We are in an ice zone.

Very few large turbines have been installed in inhabited areas where icing is a risk — especially in the US.

— US Dep't of Energy Report (above), page 5

Pieces of ice falling from blades vary in size from tiny to hundreds of pounds.

— American Wind Energy Ass'n correspondence, page 35
http://www.mollica.com/windfarm/ICE%20-%20WACHUSETT%20EENF%20COMM.pdf

- The tip of the blade can turn at 170–200 mph. Basic calculations tell us that the maximum distance

an object can be thrown from the height of a blade at that speed is 2000 feet.

— http://xray.rutgers.edu/%7Ematilsky/windmills/throw.html

- Such an object hitting a human in the head or chest carries a high risk of death.
- Ice detection and removal from turbines is a very complex process.
- Workers have been killed by falling ice.

— OSHA Report, US Dept of Labor, page 38

— http://www.mollica.com/windfarm/ICE%20-%20WACHUSETT%20EENF%20COMM.pdf

The industry standard is to place homes or roads at a distance of 1.5 times the height of tower plus diameter of blades. This is simply an often repeated industry guess at the risk zone.

We do not know

- whether thrown ice will travel a distance shorter than 1/2 mile due to air friction
- whether thrown ice can travel a distance greater than 1/2 mile due to a Frisbee-type lift effect
- the effectiveness of ice detection and de-icing tools
- the true frequency of ice throws

HOW WE TREAT OTHER TYPES OF RISK

There is no question — even within the industry — that icing occurs and carries the risk of serious injury or death. The only real question: What is the appropriate setback to protect human life? Since there are few data on the safety of wind turbines in icing climates where people live nearby, setback safety regulations should work from the worst-case scenario rather than an industry-generated best-case scenario — *ie,* protect people rather than the power company.

We spend billions on car-safety systems and all wear seat belts, even though almost 300,000,000 of us don't need them in any given year.

We spend billions on vaccines, like meningococcus or chicken pox, even though the risk of death is under 1 in 1,000,000. This costs over $22,000,000 for each life saved.

Industry guesses, convenience, and desire to control cost should not be the basis of public safety regulations.

RECOMMENDATIONS TO THE PLANNING BOARD

- To protect public health and safety, setbacks from roads, property lines, and dwellings should be protected against ice that is thrown the maximum distance an object would travel at the speed and height of the blade tip.
- Only contractors with extensive direct experience of safe operation of wind turbines in icing zones should be considered.
- For the 400-foot turbines with 250-foot diameter blades rotating every three seconds, the setback should be 2,800 feet from all dwellings, roads, property boundaries, and public places.
- All financial risk of injury from ice throws should be assumed by the wind-power companies, not the town or landowners.
- Design and siting should avoid strobe effect to the homes and land of nonparticipating property owners.

EFFECTS ON PROPERTY VALUE

Landowners rely on the value of their property
- for their retirement and for their heirs
- to borrow against for farm and business purposes
- to sell in an emergency or if they become sick

Property in Meredith derives value from its
- agricultural value
- scenic and aesthetic value

While this may be thought of as subjective, the loss of scenic value can have objective effects on property value.

Falling property values
- will negatively effect all landowners, both full-time and second homeowners
- can raise taxes for unaffected parties, or lower the assessed tax base for affected properties and thus lower the tax revenues for the town

WHAT IS KNOWN?

There is enough information available to know that there is a clear risk to property values, but not enough to know how much risk. We also know that the power companies want local property owners to assume all the risk to their land values.

NATIONAL AND INTERNATIONAL

A good review of the evidence is the "Study of Wind Energy Development in Wisconsin" by the Energy Center of Wisconsin, an industry-sponsored group. (*See* especially page 119, http://www.ecw.org/prod/231-1.pdf)

Some highlights:

- In Denmark and England, studies show that people near wind turbines would be willing to pay a yearly fee to have them removed.
- There is a reduction of 6–10% on property values with a direct view of power lines, but larger reductions with a direct view of wind towers.
- Invenergy (a Midwest power company) has agreed to pay landowners who have a view of their wind turbines.
- The study often quoted by the industry, the "Renewable Energy Project Report" (REPP), attempted to look at resale value in the areas where there are wind turbines.
  1. It failed to evaluate whether property sold had a view of the turbines (it included all properties in the surrounding area).
  2. It found an **average** stable pricing across all nine projects studied.

But in the REPP study, two locales —

> Kern County, California, which is 115 miles from LA and has hills rising to 4,000 feet
> Fayette County, Pennsylvania, a hilly area with ski resorts located 60 miles from Pittsburgh

suffered a reduction in land values and share characteristics with Meredith. They are:

- hilly rural areas
- land near large metropolitan areas
- countryside valued for tourism and second homes

In a British study of the Royal Institute of Chartered Surveyors most reported a drop in real estate values near industrial wind turbines. (www.rics.org/NR/rdonlyres/66225A93-840F-49F2-8820-0EBCCC29E8A4/0/Windfarmsfinalreport.pdf)

In Wisconsin, an independent survey of residents of Lincoln Township, Wisconsin, taken after two

years of living near wind turbines, reported on actual homeowner experience. Residents were asked,
How close to the wind turbines would you consider buying or building a home?

The results for all survey respondents in the study, including those living over two miles away, are:

– 61% would not build or buy within a half mile of turbines
– 41% would have to be two or more miles from turbines for them to build or buy
– 74% would not build or buy within a quarter mile of turbines

— http://www.hcwind.com/closetohome.html

LOCAL EFFECTS

At a public forum, Frank Lumia, a prominent local real estate broker, stated: "There is no doubt that real estate values will be affected."

A representative of one of the local power companies said the same in a phone conversation: "There is no doubt that land values will go down for property around the wind turbines."

Two additional local real estate brokers privately predict a drop in prices.

A broker from Cooperstown stated that, during the years after a proposal to install wind turbines but *before* they were built, Cherry Valley property values appreciated at a rate 100% to 200% less than surrounding areas.

HOW LOWER PROPERTY PRICES WOULD AFFECT RESIDENTS

According to Frank Bachler, Meredith Town Supervison**,** the full assessed value of all Meredith real property is $100,000,000. If half of Meredith were in view of wind turbines, a

- 10% reduction of value would mean a loss of $5,000,000 for homeowners
- 20% reduction of value would mean a loss of $10,000,000 for homeowners

In considering rules concerning industrial-scale wind power, the Planning Board should bear in mind that, even with the uncertainties, experience elsewhere indicates that there is significant risk of a negative effect on real estate values. It might also ask these questions:

– Does this type of potential loss makes any utility-sized wind project too risky for the town and its residents' financial stability?

– Is it reasonable or appropriate to expect uninvolved landowners to assume this risk?

– Is this level of risk and potential impact compatible with the goal of "furthering the Meredith Vision in a cost-effective manner"?

RECOMMENDATIONS TO THE PLANNING BOARD

- Incorporate an objective third-party assessment of risk of property value loss in the review process of any wind project.
- Create regulations that place the risk to property values squarely on the owners of any wind project.
- Create an objective third-party panel (chosen by the town and paid by the power company) that will compare property values in the project viewshed to comparable areas, and make the power company responsible for reimbursing property owners for shortfalls in the price of property sales.

LOCAL ECONOMY

Three of the Comprehensive Plan's four goals for the local economy are

- support development of small and home-based businesses
- encourage organic agriculture in Meredith
- encourage second homeowners to relocate businesses to Meredith

Since progress toward these goals involves attracting new entrepreneurial residents who are drawn by the existing scenic beauty of Meredith, altering the landscape can work against the Comprehensive Plan's economic goals.

Tourism is a significant local industry and provides a base for local businesses and employment.

We have seen restrictions on snowmobiling and hunting surrounding the Tug Hill Project in New York. These activities draw the business of tourists.

Second home ownership is a major contributor to the local tax base, the loss of which drive up taxes for long term and permanent residents.

An official survey done of visitors to the Scottish countryside for VisitScotland, the Scottish Tourism Bureau predicted the loss of over 10,000 tourism jobs in **rural** Scotland as a direct result wind turbines. Tourists were asked about the effect of wind turbines on tourism.
windfarm_report_final/**wind**farm_report_summary.htm

In that study:

38% of respondents felt that wind turbines 'spoil the scenery'

26% would be 'steer clear' or be 'less likely to return' to an area with wind turbines (1% more likely)

79% **disagreed** that wind turbines would be add appeal to tourists (9% agreed)

HISTORIC RESOURCES

The comprehensive plan's goals for historic resources states: "The rural and historic character of Meredith is something to be preserved." The plan includes the intention to use historic resources to increase tourism locally.

RECOMMENDATIONS TO THE PLANNING BOARD

- As part of the review process for any proposed utility wind project, the Planning Board should a commission a third-party study to assess and project the impact and risk to the furtherance of these goals.
- This comprehensive study should include as assessment of the likely impact of wind turbines on tourism and second home ownership.
- The study should be funded by the project owner and be factored into the Board's decision of the impact of a wind-power project on the Comprehensive Plan.

ENVIRONMENTAL IMPACT

WILDLIFE

It turns out that Meredith is directly south of Franklin Mountain, an important transit point for the southward migration of enormous numbers of eagles, hawks, and other raptors.

The Delaware-Otsego Audubon Society reports that Franklin Mountain is one of the largest transit sites in the east for Golden Eagles migrating south in the fall.

During their last reported autumn Hawkwatch at the east end of Franklin Mountain, society members spotted 204 golden eagles (protected by the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty) and 185 bald eagles (protected by the Endangered Species Act) migrating south. There may well have been more.

It is not known how many of these raptors, and the thousands of other birds (observed and unobserved) during the Hawkwatch continue south across Meredith and would be endangered by wind turbines.

— http://ny.audubon.org/iba/franklinmtn.html

US Dept of Interior Fish and Wildlife Service Guidelines for Avoiding and Minimizing Wildlife Impacts from Wind Turbines (page 3) state:

- Avoid placing turbines in documented locations of any species of wildlife, fish, or plant protected under the Federal Endangered Species Act.
- Avoid location of turbines in known local bird migration pathways or in areas where birds are highly concentrated, unless mortality is low.
- Avoid placing turbines near known bat hibernation, breeding and maternity nursery colonies, in migration corridors, or in flight paths between colonies and feeding areas.
- Configure turbine location to avoid areas or features of landscape known to attract raptors (hawks, falcons, eagles, owls)

— http://www.fws.gov/habitatconservation/wind.pdf

RECOMMENDATIONS TO THE PLANNING BOARD

- As recommended by the Audubon Society, a full, objective assessment, including night counts of birds and bats by radar, should be done of any proposed wind turbine site.
- Town regulations should include strict adherence to the intent of the above guidelines and of relevant federal and state statutes protecting migratory birds, endangered birds, and bats.

VIEW AND SOUND

The people who live in Meredith expressed their feeling about the importance of the views in a survey that was the basis for the Comprehensive Plan.

Townspeople were asked:

Do you think it is important for the town of Meredith to preserve scenic roads and vistas?

Of those who responded:

298 said Yes

41 said No

- There will be a permanent alteration in the view and sound environment for many residents.
- At 400 feet in height, wind turbines will be visible for long distances and affect the appearance of the landscape.
- For comparison, these moving structures are as tall as a 40-story building, taller than the Statue of Liberty.
- The blades are planned at 125 feet — longer than the wing of a Boeing 747.
- With up to 100 installed in Meredith, this will alter the viewshed for most residents.
- Turbines are required by FAA regulations to have powerful flashing red lights at their tops 24 hours a day.
- Turbines produce noise that can affect residents well beyond the planned setbacks (*see* discussion of noise).

A SIGNIFICANT NUMBER OF PEOPLE WILL REACT TO THE CHANGE IN THEIR LANDSCAPE AND OBJECT.

Construction will involve

– transporting and erecting turbines weighing over 200 tons each

– blasting to create concrete foundations 30–50 feet deep, each with over 360 cubic yards of concrete

– new access roads to be built up hills and mountains to all turbines, requiring 75–100 foot rights of way

– the area around turbines to be clear-cut of trees

– likely disruption of wetlands and streams due to construction

– exposing town roads to massive equipment and loads of concrete and aggregate, with potential damage that would increase town expenses for maintenance and repair

RECOMMENDATIONS TO THE PLANNING BOARD

- Avoid a project that, through its visual or sound impact, would fail to further the townspeople's goal, expressed through the Comprehensive Plan, to preserve and maintain the Town of Meredith's historic, agricultural, and rural character.
- Conduct a site review to determine the permissible height, number, and location of towers.
- Create mechanisms to protect the view of residents who do not lease to the power companies.
- Include in these mechanisms provisions that no individual tower may be installed in any location that would substantially detract from, or block the scenic view, as seen from any public road, right of way, and publicly or privately owned land, unless the affected landowner gives permission.

SUMMARY

- Current wind-power technology is not mature and not yet able to meet its green goals.
- The urgency to install wind turbines in Meredith is based on enormous federal and state tax subsidies to for-profit power companies, banks, and high income investors.
- Meredith taxpayers are being asked to give a substantial tax subsidy to these investors.
- Both the electricity from a wind project flow into the grid, and almost all of the money from a wind-power project will flow out of Meredith.
- The history of the for-profit power industry in New York should inspire caution.
- There are substantial risks to the town and the townspeople.
- There are risks to our quality of life and economic well-being that can be permanent.
- There are enormous documented risks to property owners, to land values, to tourism, to economic development goals and long term employment of Meredith.
- These risks carry substantial financial impact for all landowners and the town, and should be realistically weighed against predictions of benefit to the town and a few landowners.
- As a town, we have the power to make decisions about industrial wind projects.
- We must protect the vision of the people of Meredith as expressed through the Comprehensive Plan. This includes protecting the viewshed, the rural quiet, and historic resources.
- We have the option of saying that an industrial wind-power project in its present form has no place in Meredith.
- The financial risk to the town should not exceed the possible benefits.
- Public health and safety should be paramount. All regulations should be based on science and be strict enough to protect all of the people, not just the interests of the power companies and their investors.