

Overview: Zoning for Small Wind Turbines

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Zoning Basics

- Zoning is one form of land use law
- Based on legal principle of “police power:” the power to regulate in order to promote the health, morals, safety, and general welfare of the community
- Zoning authority originates from state laws called “zoning enabling legislation”
 - *Standard Zoning Enabling Act*, Dept. of Commerce, 1920s
- Enabling legislation delegates land use authority to local jurisdictions, “Home Rule”
 - counties, parishes, boroughs, townships, municipalities, cities, villages, etc.



Zoning is Daunting

- 3,034 counties (National Association of Counties)
- 16,504 townships
- 19,429 municipalities (National League of Cities)

Total: 38,967



Estimated # of local zoning jurisdictions:

> 20,000

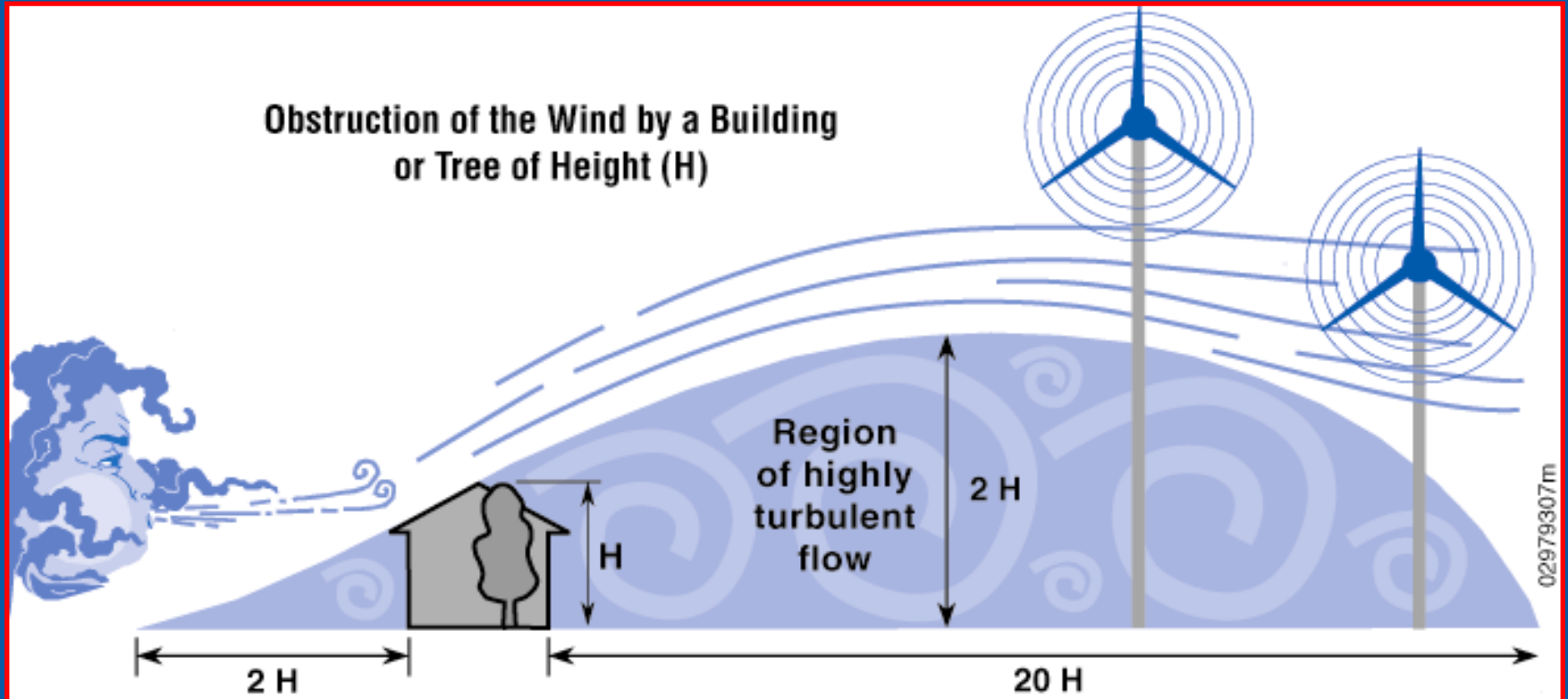
Zoning Is Not the Same as Permitting

- Zoning controls *whether* you can install a wind turbine
- Permitting controls *how* you install a wind turbine
 - Building permit (structural safety)
 - Electrical permit (electrical safety)
 - Permitting is also done locally
- ... but they may be “joined at the hip”
 - The procedures for zoning and permitting may be integrated at the local level

Zoning Scenarios (I)

- 1) No Zoning Code – a few local jurisdictions have not yet exercised their authority to regulate land use
- 2) With Zoning Code
 - In residential zones, structures up to ~ 35 ft are a “permitted use”
 - Based on firefighting limitations in the early 1900s
 - Very few locations have wind-specific ordinances
 - A taller tower may require a “special use” or “conditional use” permit
 - Public hearing process can cost thousands of dollars and may take several months

Importance of “Micro-Siting”





For Wind Power, Height Matters

- Power in the wind = $k^{1/2} \rho A V^3$
 - Wind speed, V
 - Swept area, A
 - Air density, ρ
 - Constant for units conversion, k
- The wind resource increases with height above the ground
 - The wind power available at 100 ft is typically twice that at 30 ft. (above open ground)

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Zoning Difficulties

- Dave & Jan Blittersdorf of Charlotte, Vermont, 2000
 - Obtained approval from the state Public Service Board for a 10-kW wind turbine, same process as large power plants
 - Required 11 months and \$6,250 in legal fees, plus an estimated \$4,250 in personal time
- Bob Loebelenz of Dover, Massachusetts, 2001
 - Received building permit only to have it revoked 3 months later just days before installing his wind turbine
 - The following public hearing process lasted several months
 - Turbine was eventually permitted and installed

Zoning Scenarios (II)

- 3) State Preemption – legislation has been used to preempt home rule in 3 states (at least)
- 4) Federal Preemption – federal authority has been used to preempt home rule for cell phone towers and HAM radio towers
 - Zoning approval for wind turbines may be difficult or impossible to get for urban and suburban locations
 - Zoning is usually easier to obtain in rural areas



Precedent for State Preemption (1)

- Wisconsin (66.0401), 1993
No restriction on wind systems allowed unless it satisfies one of the following:
 1. Serves to protect public health or safety
 2. Does not significantly increase the cost of the system or significantly decrease its efficiency
 3. Allows for an alternative of comparable cost and efficiency
- Has effect of “turning the tables” by putting the burden of proof on the zoning authority
- The law has been upheld in 2 court challenges



Precedent for State Preemption (2)

- California (AB 1207), 2001
 - Implemented consistent state-wide standards for permitting small wind turbines by setting limits on restrictions including: tower height, notifications, setbacks, noise, turbine approval, etc.
 - In jurisdictions without small wind zoning ordinances after July 1, 2002:
 - ➔ Mandates approval of applications compliant with default terms in the statute
 - Sunset clause: statute inoperative on July 1, 2005



Precedent for State Preemption (3)

- Massachusetts (Ch. 40A, Sec. 3), 2007
 - No zoning ordinance or by-law shall ... prohibit, unreasonably regulate, or require a special permit for the use of land for the primary purpose of commercial agriculture, ...
 - Commercial farms, nurseries, and greenhouses, > 5 acres, are substantially exempt from local zoning control.



Precedent for Federal Preemption (1)

- The Telecommunications Act of 1996
- Precludes:
 1. Regulations that prohibit wireless services entirely, either directly or in effect
 2. Regulations based on environmental (health) effects if the facility complies with FCC rules
- “Limited Preemption” - The act also addresses “preservation of local zoning authority”
- Motive
 - Public interest in promoting expanded telecommunications services

Precedent for Federal Preemption (2)

- Federal Communications Commission (FCC) rule, PRB-1 (1985), protects the rights of amateur radio users to erect antenna towers
 - “Nevertheless, local regulations which involve placement, screening, or height of antennas based on health, safety, or aesthetic considerations must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose.”
- Limited Preemption
 - “must reasonably accommodate”
 - “minimum practicable regulation”
- Motive
 - Public interest in promoting an amateur radio network that can assist during regional or national emergencies

Information Sources

- The RENEW Wisconsin Small Wind Toolbox
 - www.renewwisconsin.org/wind/windtoolbox.html
- The AWEA Small Wind Website
 - www.awea.org/smallwind/
- Overview of small wind zoning in the US
 - www.nrel.gov/docs/fy05osti/38167.pdf