

Small Wind Energy System Ordinance



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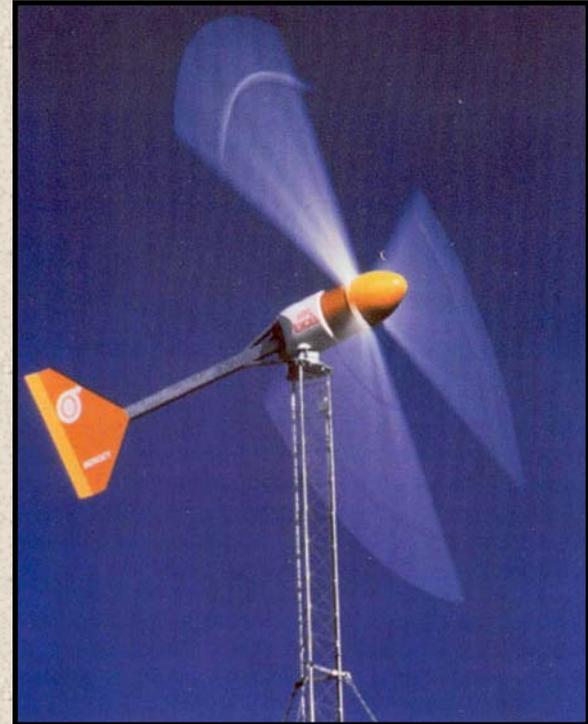
The Origins of HB310

1. Growing Demand to go 'GREEN'

- Bedford, Kensington, New Durham, Hampton, Newington, Kittery, ME
- Private property rights to use wind resource on property

2. Inadequate Public Review Process

- ZBA Variance Hearing
- Minimal inclusion of issues other than height



HB310 Overview

RSA 674:62-66

- **Municipal Regulations:** Cannot unreasonably limit, hinder small wind energy systems
 - Outright Prohibition
 - Restrict height via generic structure height
 - Setback requirements > 150% system height
 - Sound requirements < 55 decibels
 - Stricter electrical or structural requirements
- **Aviation:** Meet FAA requirements
- **Abandonment:** Establishes framework
- **Abutter Notification:** Building Inspector, Building Permit Process
- **Regional Impact:** Building Inspector determination



RSA 672:1, III-a: Clarifies municipalities requirement to encourage renewable energy

RSA 672:1, III-d: Renewable energy added to definition of unreasonable interpretation of municipal regulations.

Wind Turbines

Small Scale

- Rated Under 100 kilowatts (kW)
- Height: 40' – 150'
- Rotor Diameter: 4' – 46'
- Size of Units:
 - 1-10 kW (Residential)
 - 20 kW (Agricultural)
 - 50 kW (Municipal/Industrial)



Utility Scale

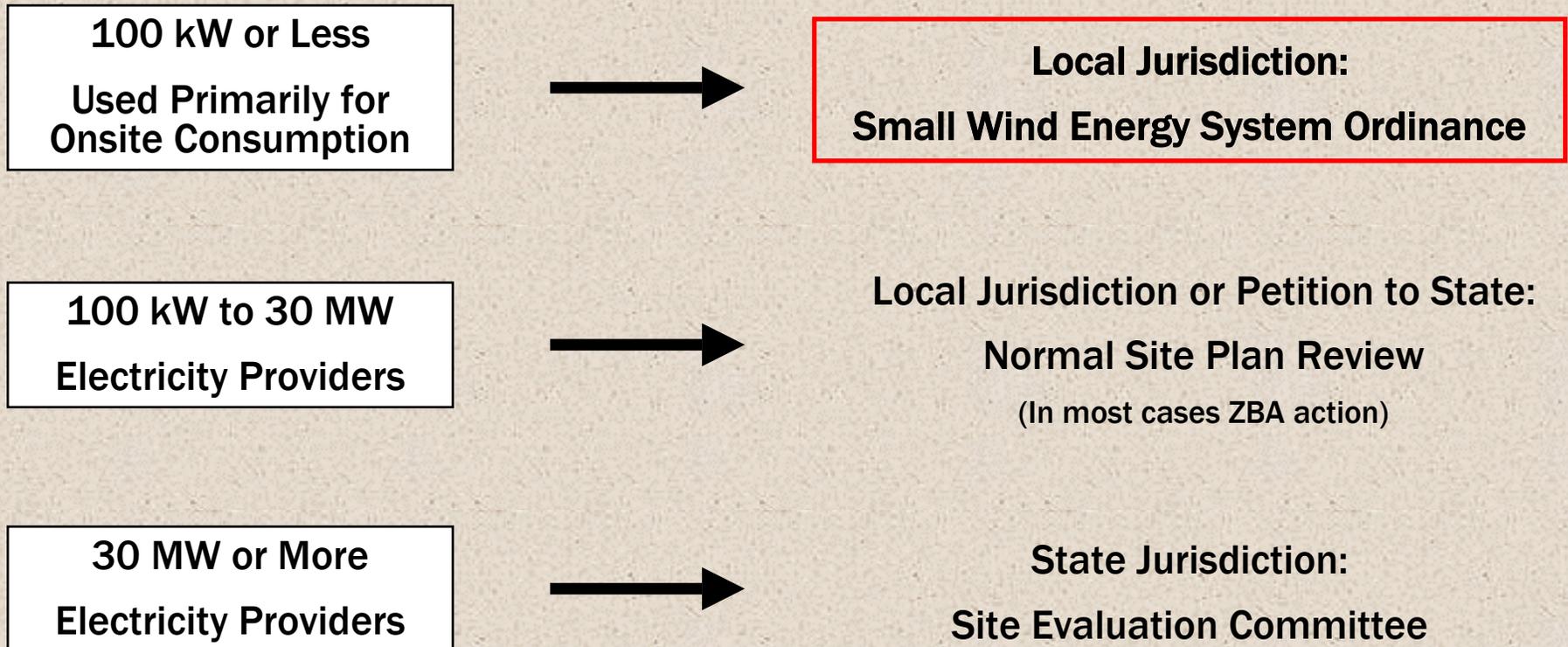
- Height: 100' – 250'
- Rotor Diameter: 70' – 350'
- Size of Units:
 - 660 kW (MMA- Bourne, MA)
 - 1.8 MW (Landfill site- Hull, MA)
 - 3.6 MW (Cape Wind, MA)



Regulatory Process

Turbine(s) Capacity

Organizational Oversight



Review Procedure

- **Reviewed by Building Inspector**
 - Requires Building Permit
 - Permitted in all Zoning Districts
- **Application Requirements**
- **Abutter Notification**
 - Building Inspector required to notify abutters, including Governing Body
 - 30 day comment period
- **Regional Impact Assessment**
 - Determined by Building Inspector via RSA 36:55
 - RPC, Governing Body and Planning Board



Siting Standards

Setbacks

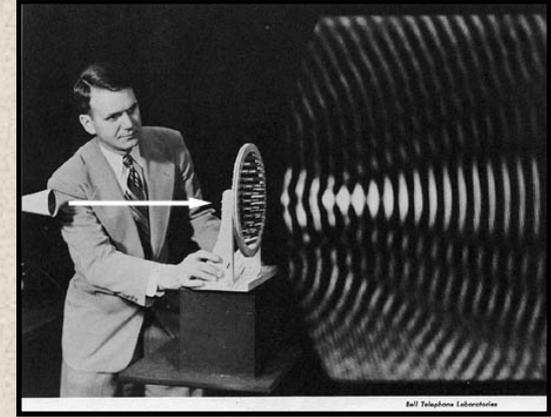
- The minimum setback number multiplied by the system height
 - 0% to occupied buildings
 - 150% to occupied buildings on abutting properties
 - 110% to property lines and utility lines
 - 150% to public roads

Minimum Setback Requirements			
Occupied Buildings on Participating Landowner Property	Occupied Buildings on Abutting Property	Property Lines of Abutting Property and Utility Lines	Public Roads
0	1.5	1.1	1.5

Siting Standards

Tower Height

- 35 feet above surrounding tree canopy within 300 feet.
- 150 feet maximum



Sound Levels

- Sound vs. Noise
- 55 decibels using "A" filter (dBA)
- Measured at Property Line
- **CANNOT** be less than 55 decibels
- Allow for short-term events
(wind storms and utility outages)

Siting Standards

Shadow Flicker

- Not a major concern with small scale turbines
- Cannot have significant affect.
 - Significant = > 30 hours/year



Signs

- Prohibits all signs except Manufacturer's

Siting Standards

Code Compliance

- Comply with NH State Building Code



Aviation

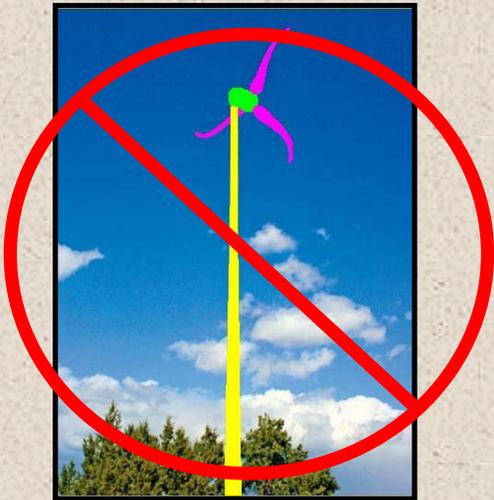
- FAA Regulations: 14 C.F.R. part 77
- NH Aviation Regulations:
 - RSA 422-b and RSA 424



Siting Standards

Visual Impacts

- Owner has right to maximum wind resource
- Must minimize visual impacts through proper siting and mitigation
- Color of turbine (stock, white, gray)
- Prohibits lights (except FAA)



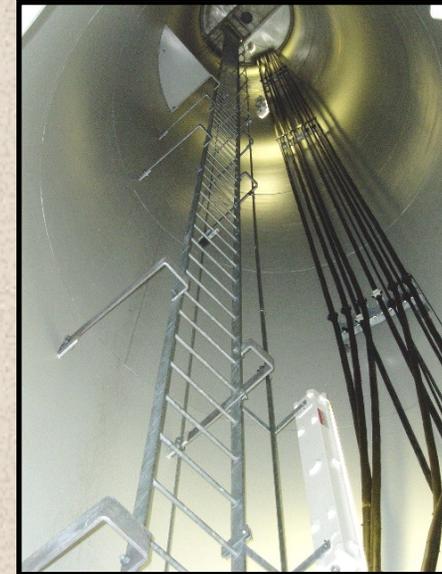
Approved Turbines

- CA Energy Commission
- NY State Energy Research and Development Authority
- NH list (if available)

Siting Standards

Utility Connection

- Adhere to Net Metering Requirements (RSA 362-A:9)



Access

- Restrict Public Access
- Secure Ground Control Equipment
- No step bolts or ladder for 8 feet

Siting Standards

Clearing

- Restricts clearing of natural vegetation



Abandonment Procedure

Abandonment or Discontinued Use: Out of service for a continuous 12 month period

Personal Removal Process

Notice to Building Inspector



90 days to physically remove



Physical removal includes:

- removal of small wind energy system
- restoration of site to natural conditions

Inspector Removal Process

After 12 months- Building Inspector may issue notice



30 days for owner to respond:
provide contrary information



90 days to physically remove
(if no response)



After 90 days: Legal Action

Small Wind Energy System Ordinance

Violation

- Unlawful to construct, install or operate small wind turbine not in compliance of ordinance
- Grandfather clause for pre-existing small wind energy systems



Penalties

- Failure to comply is subject to enforcement and penalties- NH RSA 676

Should we adopt an ordinance?

- ASSESSEMENT:

- Assess wind resource, demand within community and current zoning
- Wind resource (<http://navigator.awstruewind.com>)

- NO ordinance adopted:

- Renewable energy is an accessory use (RSA 672:1, III-d)
- Building permit and review by Building Inspector required
- Abutter notification and 30 day comment period required
- Aviation, abandonment, abutter notification will apply
- Setback of 150% required
- No height, noise or system requirements

- YES ordinance adopted:

- Standards protecting public from perceived impacts will be included

Ordinance Customization

This is a **MODEL** ordinance.

It can and should be modified to meet your community's needs.

- Review Process

- Conditional Use Permit- Planning Board (RSA 674:21)
- Special Exception- ZBA
- Building Inspector

- Siting Standards

- Size of Turbine (**Caution**)
 - RSA 674:62 Defines Small Wind Energy Systems as those systems which have a rated capacity “consistent with” net metering specifications (100 kW).
- Tower Height (**Caution**)
 - Need to allow access to wind resource (generally 30 feet above surrounding tree canopy).

Ordinance Customization

- 7 Most Important Provisions:

- **Outline Public Review Process:** Building Inspector required. Planning Board or ZBA optional
- **RSA 674:62-66:** Laws on Small Wind Energy Systems
- **Abutter Notification**
- **Regional Impact Assessment**
- **Setbacks:** Cannot exceed 150% of system height
- **Sound:** Cannot be below 55 decibels
- **Approved Wind Turbines:** CA, NY, or NH List



Questions??

