



MID - C O A S T

REGIONAL PLANNING COMMISSION

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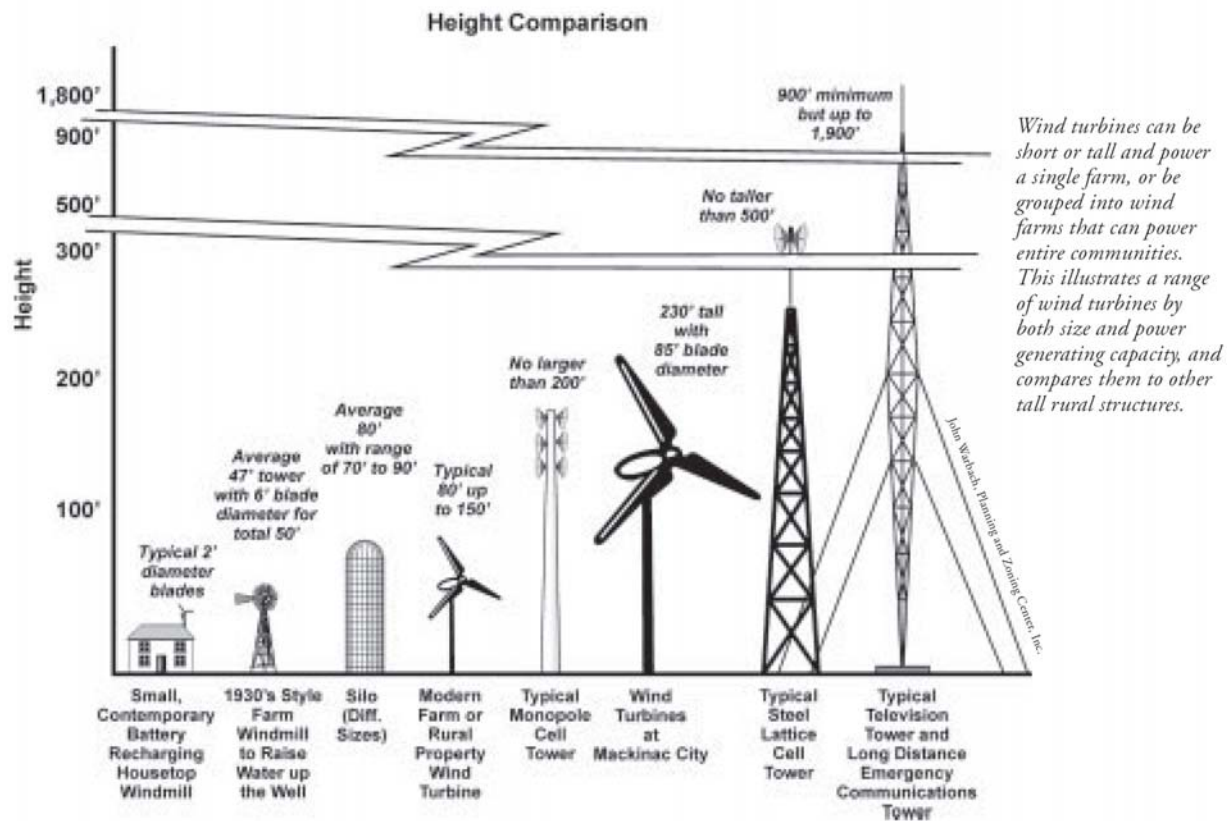
Introduction to the Local Regulation of Wind Power Facilities

It is the policy of the State that its political subdivisions, agencies and public officials take every reasonable action to encourage the attraction of appropriately sited wind-energy-related development consistent with all state and federal environmental standards; the permitting and financing of wind energy projects; and the siting, permitting, financing and construction of wind energy research and manufacturing facilities. Title 35 MRSA §3404.

Maine municipalities have the authority to regulate the location of large-scale and small-scale wind power facilities through the use of municipal land use, site plan review and zoning ordinances. State and federal regulations also apply. Municipal officials should begin the discussion on where such facilities might be best located in their communities, taking into account current land uses, residential neighborhoods, comprehensive planning goals, scenic viewsheds, public opinion, and existing natural constraints to development.

Wind power facility ordinance provisions might include:

- Test tower allowance to determine wind speed and direction (feasibility)
- Maximum permitted height and height of blade from the ground
- Number of permitted wind turbines/towers
- Specify whether regulated as a use by right or by a conditional use permit (may vary with tower height and number of towers)
- Site plan review requirements (design, buffers, vehicular access)
- Minimum site size (may vary with tower height and number of towers)
- Setbacks from property line (fall zone 150% of tower height recommended) and from inhabited structures (minimum of 3,500 feet recommended)
- Noise limits (in decibels at a particular distance from the tower)
- Ground vibration requirements at the property line
- Lighting requirements
- Security measures around the tower base
- Non-commercial, small-scale wind turbines serving an individual property (up to 65 feet in height)
- Financial resources to construct facility, connect to the grid/upgrade grid and maintenance
- Removal requirements if the facility is abandoned



Of the various issues raised during the review of wind power facilities, the following are of especial public interest:

Noise. Because noise emitted by wind turbines tends to be masked by the ambient (background) noise of the wind and falls off sharply with distance, noise-related concerns are likely to center on residences closest to the site, particularly those within 3,500 feet and those sheltered from prevailing winds. Typically, noise from a large, newer wind turbine is about 45 to 60 decibels. Any sound above 85 dB can cause hearing loss, and the loss is related both to the power of the sound as well as the length of exposure. As a reference, normal conversation = 60 dB, while a lawnmower = 90 dB.

Visual resources. Visual impacts near important public lands and other scenic vistas should be given special consideration. There are a number of ways to reduce the visual impact of wind turbine projects, but there also are tradeoffs to consider. One of the best tools for assessing project impact is the use of visual simulations. By inserting an image of the proposed wind turbine(s) onto existing photos of the site from a variety of different viewing locations, it is often much easier for the public and decision makers to imagine what the site would look like if the wind turbine(s) were approved.

Lighting and ground vibration. All structures more than 200 feet in height must have aircraft warning lights and comply with Federal Aviation Administration (FAA) requirements. These lights can be objectionable, particularly in rural areas. The simplest way to address these issues in the zoning ordinance is to require conformance with FAA lighting requirements and to prohibit human-detectable ground vibrations at the property line of the wind power site.

Connections to the Energy Grid. Does the proposed facility require upgrades to the existing energy grid and if so, who pays for those upgrades? New transmission lines may have as much or more impact on natural and visual resources as would the wind power facility.

Sources: Excerpted from *APA Zoning News*, Planning and Zoning for Wind Power Facilities. *Wind Energy Siting Handbook*, February 2008, American Wind Energy Association.