



WIND ENERGY DEVELOPMENT

And The Comprehensive Plan

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This document is one of a series of reports and guides that are all part of the NYSERDA Wind Energy Tool Kit. Interested parties can find all the components of the kit at: www.powernaturally.org. All sections are free and downloadable, and we encourage their production in hard copy for distribution to interested parties, for use in public meetings on wind, etc.

Any questions about the tool kit, its use and availability should be directed to: Vicki Colello; vac@nyserdera.org; 518-862-1090, ext. 3273.

In addition, other reports and information about Wind Energy can be found at www.powernaturally.org in the on-line library under “Large Wind.”

NOTICE

This report was prepared Katherine Daniels of the NY Planning Federation in the course of performing work contracted for and sponsored by the New York State Energy Research and Development Authority (hereafter “NYSERDA”). Substantial contributions to the report were made by the NYS Department of Environmental Conservation.

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Wind Energy Development and the Comprehensive Plan

Introduction

Comprehensive planning is key to the development of local wind energy resources. About 64% of New York municipalities have adopted comprehensive plans to guide their communities' future growth and development. Comprehensive plans allow municipalities to envision the kind of future they want and put together a strategy to achieve it. That strategy is then carried out through a community's zoning ordinance and other implementing measures. New York communities that use zoning must base that zoning on an adopted comprehensive plan. When local zoning is challenged, courts will look to a community's comprehensive plan for guidance on the rationale for and intent behind local regulations. All of this lends real weight to the critical role of the comprehensive plan in harnessing wind energy for the future.

Community planning is a proactive tool because it anticipates and prepares for, rather than reacts to, potential future opportunities. It works in any community's favor because it can be used to manage development in growing areas, attract development to slow-growth areas, and preserve open spaces. One of the important roles of the comprehensive plan is to identify natural resources that can be managed in ways that will benefit the community as a whole. Communities that lack comprehensive plans and are unprepared for change may miss critical opportunities to direct changes according to a larger community vision.

A comprehensive plan should have four parts: 1) inventory, 2) analysis, 3) goals and objectives and 4) an action strategy. The comprehensive plan may also include a generic environmental impact statement (GEIS).

Inventory

The inventory is the primary building block of the plan because it can identify unique natural resource capabilities and constraints that are helpful in guiding local development, management and protection efforts. Most rural comprehensive plans identify farm land, forest land, wildlife habitat and water resources as key natural resources. These resources usually represent a mix of working landscapes with economic utility and natural landscapes that provide environmental, cultural or scenic benefits to the community. Communities with high wind energy potential should also identify such sites in their comprehensive plans because they represent an important natural resource and opportunity to create a new kind of working landscape. These sites should be inventoried and mapped and a text provided that describes the resource and its level of

wind energy potential. GIS mapping and information on wind energy potential for particular sites can be obtained from NYSERDA.

Analysis

The next step should involve looking at the wind sites in the context of other natural and cultural resources, existing and adjacent land uses and other relevant factors. Because planning involves balancing a variety of needs and priorities, proposed future land uses and activities must be analyzed and evaluated for their respective advantages and drawbacks. That way, decisions that benefit the community as a whole can be reached. The place to start is to compare mapping to see what the existing uses underlying wind resource sites are.

In comparison to other forms of power generation facilities, wind energy projects are land intensive. Wind projects require large tracks of land to obtain good wind exposure while minimizing inefficiencies. Acreage for a wind energy facility can vary from 15 to 30 acres per MW of installed capacity, depending on many factors such as topography, existing land use and vegetation cover. However, the specific footprint of the turbines is very small – only approximately 3% to 5% of the total acreage is used by the facility.

Wind energy facilities are compatible with agricultural and livestock grazing land uses, usually with little significant impact. In fact, wind projects can provide an important supplemental form of income to farmers that can encourage them to continue farming rather than convert their land to residential uses.

Already-developed or highly-parcelized areas that are likely to be developed for residential uses are less compatible scenarios for wind energy development because of potential conflicts. Some communities will find windy sites close to developing areas that they would like to protect for future wind energy uses. Other communities will decide that protecting scenic vistas is a higher priority. These decisions may require local officials to rethink underlying zoning, permitted uses and plans for extending infrastructure to minimize the potential for future conflicts.

Keep in mind that the windiest spots aren't always the only ones of interest to wind developers. Buildings or large structures placed upwind of wind farms may adversely impact energy production from the turbines. While wind developers often obtain land lease options on crucial upwind land parcels, communities can also help by assuring that the comprehensive plan designates upwind lands for low-density uses only.

Wind projects can sometimes have impacts on nearby recreational land use, historic and scenic landscapes and avian and bat populations. The location of any inventoried wetland or water areas that are home to birds (particularly any rare or endangered species) within or adjacent to identified wind sites should be a factor for consideration in evaluating the potential for these sites, as there can in some cases be conflicts between

these uses. Audubon New York has identified Important Bird Areas across the State and provided digital mapping of these to many counties. See also the *Avian and Bat Issues* discussion paper.

Similarly, the location of any inventoried scenic viewshed or historic district within or adjacent to identified wind sites should also be a factor for consideration. The Preservation League of New York State is producing a series of 18 GIS layers that show the locations of state- and federally-identified significant natural, scenic and historic resources as overlaid with high-priority wind sites across the State. These maps will likely be available to communities for a small fee and could be useful to local officials in the comprehensive planning process.

The location of prime bird habitat, scenic vistas or historic sites within identified wind resource areas may persuade local officials to designate only part of the identified wind area for the development of this use.

Goals and Objectives

Goals and objectives set forth the broad values and specific intentions of the community. They are often drawn from public input as part of a citizen participation process, from community surveys and from the input of a local planning advisory group. Wind energy goals and objectives should meld public opinion with the factual information derived from the inventory and analysis to guide the plan's final recommendations for action. A sample goal might be "To protect high-priority wind energy sites for wind energy development." A sample objective intended to follow through with this goal might be "Revise the zoning ordinance to permit wind energy facilities."

An Action Strategy

An action strategy identifies the comprehensive plan's specific recommendations. This should include a Future Land Use Map. If the community wishes to promote wind energy development, the map would identify those areas local officials believe have the greatest potential for wind energy development with the lowest potential for adverse environmental or other impacts. This might consist of one large area or a few smaller areas, but should not consist of many very small areas. The map should be the basis for applying consistent zoning that will facilitate and promote the use of these sites for wind energy. The action strategy should also include a series of specific recommendations for implementing the objectives of the plan with respect to developing wind energy resources.

New York State's Environmental Quality Review Act (SEQRA) provides municipalities the opportunity to anticipate potential adverse environmental impacts of proposed development and land use actions and avoid these through mitigating measures. Towns with significant wind energy resources could consider preparing a generic environmental

impact statement (GEIS) for wind energy development as part of a comprehensive plan. A GEIS would include the identification of mitigating measures that would then be implemented through zoning standards, such as setbacks or noise controls. This would eliminate the need for SEQRA review of individual proposed wind projects (if local officials choose), thereby streamlining the review process for all parties down the road.

For more information, see the other sections of the tool kit at: www.powernaturally.org.