

1.0 EXECUTIVE SUMMARY

This Draft Environmental Impact Statement (DEIS) has been prepared for a proposed action known as the Horse Creek Wind Farm (Project). Provided below is a brief Project description, along with summaries of the regulatory process; the Project's purpose, need and benefits; its potential environmental impacts; and proposed mitigation measures. Finally, as required by the State Environmental Quality Review Act (SEQRA), an introduction to the alternatives considered for the Project and the potential impacts on energy use and the Project's impact on climate change are presented.

Project Description

Atlantic Wind, LLC (Atlantic Wind/Project sponsor), a wholly-owned subsidiary of Iberdrola Renewables, Inc., is proposing to develop an up to 96 megawatt (MW) wind-powered generating facility on 9,450 acres of leased private land in the Town of Clayton, Jefferson County New York. The Project is anticipated to include up to 48 wind turbines manufactured by Gamesa, each with a generating capacity of 2.0 MW. The maximum proposed height of the wind turbines is 476 feet. The proposed turbine locations are located a minimum of 500 feet from existing roads and 1,250 feet from off-site residential structures, as required by local zoning, except where the affected property owner has provided written consent for a reduced setback. One permanent meteorological tower will also be installed, along with an operations and maintenance (O&M) facility, a system of gravel access road, buried and overhead electrical collection or gathering lines (electrical interconnect), a collector voltage step-up substation and an interconnection switching station adjacent to the existing National Grid Lyme Tap (Perch Lake) – Lyme (Rockledge) 115 kV transmission line. .

The Project will be constructed in one continuous phase anticipated to commence in the spring of 2013 and be completed in December 2013, pending receipt of all required permits and approvals. Site restoration may also occur in the spring following completion of construction. Once built, the wind turbines and associated components will operate in almost completely automated fashion. The Project will, however, employ approximately eight to eleven operations and maintenance personnel. Each wind turbine has a computer to control critical functions, monitor wind conditions, and report data.

SEQRA Overview

The Town of Clayton Planning Board is the Lead Agency pursuant to SEQRA (6 NYCRR Part 617). The Town of Clayton Planning Board has required the preparation of this DEIS. The DEIS is

intended to facilitate the environmental review process and provide a basis for informed public comment and decision-making.

Project design is based upon site developability, landowner participation, a wind resource assessment, environmental resource factors, and review of the site's zoning constraints. Various plans and support studies have also been prepared in support of the Project, which provide detailed information on discrete topical areas in furtherance of the SEQRA evaluation. These studies include the following:

- Preliminary Karst Condition Assessment
- Preliminary Subsurface Investigation and Geotechnical Evaluation
- Preliminary Geotechnical Engineering Assessment
- Draft Storm Water Pollution Prevention Plan
- Agricultural Protection Measures
- Wetland Delineation Report
- Phase IA Cultural Resources Investigation
- Shadow Flicker Assessment
- Transportation Route Evaluation and Structures Inventory
- Off-Air Television Reception Analysis
- Licensed Microwave Search & Worst Case Fresnel Zone Study
- Phase I Avian Risk Assessment
- Spring and Fall 2005 Radar and Acoustic Surveys of Birds and Bats
- Summer 2005 Breeding Bird Surveys
- 2006 Rare Bird Survey
- 2007 Breeding Bird and Rare Bird Survey
- 2008 Raptor Survey
- Summer 2006 Indiana Bat Survey
- Visual Impact Analysis
- Noise Analysis

Atlantic Wind commenced the initial SEQRA review of the Project in 2005, with the submittal of a local application that contemplated a 62-turbine wind powered electric generating facility producing up to 130 MW. Atlantic Wind prepared a Draft Generic Environmental Impact Study (DGEIS), which was deemed complete by the Town of Clayton on February 22, 2007 and was subsequently released for public review. Atlantic Wind placed the Project application on hold and as a result, the

application expired with the Town. As presently envisioned, the Project consists of a 48-turbine wind powered electric generating facility capable of producing up to 96 MW. As described in Sections 2.5 Project Siting Criteria and 5.0 Alternatives Analysis, the site planning and development process involves the evaluation of numerous project turbine site and layout iterations. In order to determine the preferred project configuration, various studies are conducted to determine which project alternatives result in the best balance between project benefits and adverse impacts. As a result, various studies are prepared that evaluate either a range of alternatives, or an alternative that considers a maximum number of turbine locations. In many of the studies conducted between 2005 and 2008, a larger project alternative was evaluated than the presently proposed preferred alternative. The environmental studies that were conducted which evaluated an alternative project are still relevant and included in this DEIS, even though they included a larger project. The results of these studies are applicable for evaluating and quantifying overall project benefits and potential adverse impacts. As a result of the process conducted to assess alternatives and develop the best practicable project, wind turbine numbering references are not sequential. For example, turbine number references range between 1 and 55, although only 48 turbines are presently proposed. Retention of the turbine numbering references allows for appropriate documentation of the alternative turbine locations that were considered, and ultimately remain a part of the Project or become removed.

Purpose, Need, and Benefit

The purpose of the Project is to:

- Create an economically viable wind-powered electric-generating facility;
- Provide renewable energy to the New York market at a competitive, low-cost price;
- Take maximum advantage of the unique wind resource within the Project area;
- Assist New York State in meeting its proposed Renewable Portfolio Standard goals for the generation of renewable energy in the State;
- Assist New York State in meeting the goals of the State Energy Plan and combating climate change;
- Promote the long-term economic viability of the host community located in a rural area of Upstate New York;
- Reduce the use and price volatility of fossil-fuel electricity generation in the region;
- Increase the amount of “in-state” electricity generated to lower New York’s dependence on imported energy from other states and foreign nations;
- Satisfy regional energy needs in an efficient and environmentally sound manner;

- Develop a wind powered electric-generation facility consistent with environmental and cultural requirements and community goals; and
- Create jobs and create revenue through PILOT payments to local taxing jurisdictions.

The need for the Project is well established in both State and Federal policy promoting wind powered electric generating facilities. The Project assists the State in meeting these policy objectives (including the State Energy Plan, Renewable Portfolio Standard targets and other Executive Orders) while minimizing potential environmental impacts and impacts of local concern typically associated with wind-powered electric generating facility siting, including visual and noise impacts, and development in New York State. In addition, the benefits of the proposed action include positive impacts on socioeconomics (e.g., payment-in-lieu of tax [PILOT] revenues to local municipalities and lease revenues to participating landowners), air quality (through reduction of emissions from fossil-fuel-burning power plants), and climate (reduction of greenhouse gases that contribute to global warming).

Summary of Potential Impacts

In accordance with requirements of the SEQRA process, potential impacts arising from the proposed Project were evaluated with respect to environmental and cultural resources. The analysis of potential impacts is summarized below.

Environmental Factor	Potential Impacts
Physiography, Geology, and Soils	Soil disturbance Soil erosion Soil compaction Loss of agricultural land
Water Resources	Temporary disturbance Siltation/sedimentation Stream crossings Wetland filling
Biological Resources	Vegetation clearing/disturbance Incidental wildlife injury and mortality Impacts to threatened or endangered species Loss or alteration of habitat
Climate and Air Quality	Construction vehicle emissions Dust during construction Reduced air pollutants and greenhouse gases
Aesthetic/Visual Resources	Visual change to the landscape Visual impact on sensitive sites/viewers Shadow-flicker impact on adjacent residents

Environmental Factor	Potential Impacts
Cultural Resources	Visual impacts on architectural resources Disturbance of archaeological resources
Sound	Construction noise Operational impacts on adjacent residents
Transportation	Road wear/damage Traffic congestion/delays Road system improvements/upgrades
Socioeconomic	Host communities payment/PILOT Revenue to participating landowners Expenditures on goods and services Tourism Short-term and long-term employment
Public Safety	Construction concerns related to large equipment, falling objects, open excavations, electrocution Possible ice shedding concerns
Communication Facilities	Temporary interference to communication signals Degraded reception to off-air television signals
Community Facilities and Services	Demands on police and emergency services
Land Use and Zoning	Adverse and beneficial impacts on farming Changes in community character and land use trends

Construction of the Project will result in total (temporary and permanent) disturbance of up to 467.5 acres of soil and 498.5 acres of vegetation, most of which is in agricultural fields. These acreages include, approximately 48.5 acres of forest and 5 acres of wetland that could be disturbed by Project construction. However, most of this disturbance will be temporary. A total of approximately 34.5 acres of agricultural land will be converted to non-agricultural use/built facilities (e.g., roads, turbines, substation, etc.), and a total of approximately 3 acres of forest will be converted to built facilities. Permanent wetland impacts are estimated to be approximately 0.5 acre with an additional 0.5 acre of conversion of forested wetlands to other wetland community types. Project construction will also result in some level of temporary disturbance and area roadway impacts.

Project operation is expected to result in some level of avian and bat collision mortality, including the potential for impacts to threatened or endangered species. Based on data from operating wind farms in New York, bird mortality is expected to be in the range of 1.1 to 5.8 birds per installed MW per year, while bat mortality is expected to be in the range of 0.5 to 15.0 bats per installed MW per year.

The turbines will be visible from many locations within the surrounding area, but will also be fully or partially screened from viewers in many locations. The turbines will result in a perceived change in land use from some locations, but may actually help keep land in active agricultural use by supplementing farmers' income.

Predicted noise and shadow flicker impacts have been assessed and determined to be modest. Only five receptors have the potential to experience over 30 hours of shadow flicker annually, and turbine-related sound is not predicted to exceed 50 decibels at adjacent residences.

The Project is expected to generate approximately \$768,000 per year (more than \$15 million over the life of the Project) in PILOT revenues to local taxing jurisdictions, while requiring very little in terms of municipal services.

Summary of Mitigation Measures

Various measures will be taken to avoid, minimize and/or mitigate potential environmental impacts. General mitigation measures will include adhering to requirements of various local, state, and federal ordinances and regulations. Atlantic Wind will also employ environmental monitors to assure compliance with permit requirements and environmental protection commitments during construction. The proposed Project will result in significant environmental and economic benefits to the area. These benefits also serve to mitigate unavoidable adverse impacts associated with Project construction and operation.

Specific measures designed to mitigate or avoid adverse potential environmental impacts during final Project siting, Project construction or operation include:

- Siting the Project away from population centers and areas of residential development.
- Siting turbines primarily in open field areas to minimize required clearing of mature forestland to the extent practicable.
- Siting turbines and access roads so as to avoid impacts to wetlands and streams.
- Continued consultation with New York State Department of Environmental Conservation (NYSDEC) and U.S. Fish and Wildlife Service (USFWS) to develop siting and operational measures to minimize or avoid impacts to wildlife including threatened and endangered species to the maximum extent practicable.

- Keeping turbines a minimum of 1,250 feet from off-site residences to minimize noise, shadow flicker, and public safety concerns (unless the affected property owner provides written consent for a reduced setback).
- Using existing farm/logging roads or other level areas for turbine access whenever possible to minimize disturbance to agricultural land.
- Utilizing construction techniques that minimize disturbance to vegetation, streams, and wetlands including restricted use areas (e.g. in appropriate areas use of low pressure vehicles, no vehicle access areas, no herbicide application areas, minimal clearing requirements etc.).
- Continuing consultation with New York State Department of Agriculture and Markets (NYS&M) representatives and implementing agricultural protection measures to avoid, minimize, or mitigate impacts on agricultural land and farm operations.
- Limiting turbine lighting to the minimum allowed by the Federal Aviation Administration (FAA) to reduce nighttime visual impacts, and following lighting guidelines to reduce the potential for bird collisions.
- Developing and implementing various plans to minimize adverse impacts to air, soil, and water resources, including a dust control plan, sediment and erosion control plan, and Spill Prevention, Control, and Countermeasure plan.
- Entering into a PILOT agreement with the local taxing jurisdictions to provide a significant predictable level of funding for the town, county, and school districts over the first 20 years of the Project's operations.
- Development of an emergency response plan with local first responders.

Alternatives

Alternatives to the proposed Project that were considered and evaluated include no action, alternative project siting, alternative project design/layout, alternative construction phasing, and alternative technologies. Three alternative project designs were compared, 1) the preferred alternative (48 turbines); 2) a larger project site (62 turbines); and 3) a fewer turbine alternative (25 turbines). Analysis of these alternatives revealed that both the size of the Project and the configuration of the turbines as currently proposed are necessary to produce a commercially feasible project that minimizes adverse impacts to the extent practicable. A smaller project would not fully capture the available wind resource and would not generate enough power to be economically viable given the project development and construction costs, including the expense of connecting to the power grid. A significantly larger facility within the same Project area might theoretically provide more economic return, but it would force location of towers into areas with more marginal wind

power resources and greater proximity to residents, shallow bedrock, and/or forested areas. This would result in more numerous potential adverse environmental impacts than currently anticipated. A larger number of smaller turbines, while perhaps reducing visibility from some areas, would not change the overall visual impact of the Project and would increase impacts associated with the more extensive road and interconnect systems required. Alternative technologies (e.g., different sources of generation) eliminate many of the environmental advantages associated with the proposed Project. In summary, the alternatives analysis concluded that the Project as proposed offers the optimum use of resources with the fewest potential adverse impacts.

Effects on Use and Conservation of Energy Resource

Although the Project uses energy resources during construction, the operating Project will have significant, long-term beneficial effects on the use and conservation of energy resources and combating global climate change. Energy will be expended during the construction phases of the Project (transportation/mobilization), as well as for the maintenance of the wind turbines and support facilities within the Project area. However, the operating Project will generate up to 96 MW of electricity without any fossil-fuel emissions. This greatly exceeds the energy required to construct and operate the Project, and the output is enough to power between 22,500-35,000 homes in New York State (on an average annual basis).

The Project will add to and diversify the state's sources of power generation, accommodate growing power demand through the use of a renewable resource (wind), and over the long term will displace some of the state's older, less efficient, and dirtier sources of power. Wind energy generation results in reductions in air emissions because of the way the electric power system works. Generally, the most expensive power sources will be "backed down" when there is a sufficient source of wind energy available. Wind energy is a preferred power source on an economic basis because the operating costs to run the turbines are so low and there are no fuel costs. Therefore, wind turbines produce power that reduces the need for generation from individual fossil fuel-fired power plants or units, thereby reducing fuel consumption and the resulting air emissions that would have otherwise occurred (Jacobson and High, 2008).

Finally, the New York State Energy Plan contains a series of mandatory policy objectives that the Project will assist in achieving. Among these objectives is to increase the use of energy systems that enable the State to significantly reduce greenhouse gas emissions while stabilizing energy costs and improving the State's energy independence through development of in-state energy supply resources. The State Energy Plan recognizes that wind energy projects will play a role in fulfilling this objective.

Based on the State Energy Plan, other public benefits of the Project related to energy use include the following:

- Production and use of in-state energy resources can increase the reliability and security of energy systems, reduce energy costs, and contribute to meeting climate change and environmental objectives.
- To the extent that renewable resources and natural gas are able to displace the use of higher emitting fossil fuels, relying more heavily on these in-state resources will also reduce public health and environmental risks posed by all sectors that produce and use energy.
- By focusing energy investments on in-state opportunities, New York can reduce the amount of dollars “exported” out of the State to pay for energy resources.
- By re-directing those dollars back into the State economy, New York can start to increase its economic competitiveness with other states that are less dependent on energy supply imports to support their local economies.
- Increasing the percentage of energy derived from renewable resources will reduce the net retail price of electricity for all customers.
- Renewable energy contributes to the reduction of energy price volatility in the long-term.