

## **Marble River Wind Farm Town of Clinton Summary**

### **I. Description of Proposed Action**

Marble River, LLC (the Applicant) has prepared this Supplemental Draft Environmental Impact Statement (SDEIS) for a proposed action known as the Marble River Wind Farm (the Project). This 109 turbine project is located in the Towns of Clinton and Ellenburg in Clinton County, New York. Eighty eight of the turbines are proposed to be located in the Town of Clinton and 21 in Ellenburg.

In accordance with the regulations and guidelines governing the State Environmental Quality Review Act (SEQRA), this SDEIS is intended to supplement the Draft Environmental Impact Statement (DEIS). The DEIS (submitted March 2006) described the purpose and need of the Project, its potential environmental impacts and proposed mitigation measures. This SDEIS has been updated to reflect Project layout revisions, new information that has become available since the DEIS filing, and respond to certain comments that were received from the DEIS submittal.

At the request of the Town Clinton Town Board, the Co-Lead agency for the SEQRA process, the Applicant has prepared the following summary section that describes the Marble River Wind Farm along with its associated actions, impacts and mitigation strategies, from the perspective of the Town of Clinton.

### **II. Introduction**

Marble River, LLC is proposing to develop a wind-powered electric generating facility of 88 turbines (each generating a capacity of up to 2.0 megawatts) within the Town of Clinton, Clinton County, New York. The proposed wind turbines are the model G87 manufactured by Gamesa Eólica (or equivalent machines). Each turbine consists of a 78-meter (approximately 256-foot) tall tubular steel tower; a 87-meter (285-foot) diameter rotor consisting of three 42.5-meter (approximately 139-foot) long composite blades; and a nacelle which houses the generator, gearbox, and power train. Each turbine has a maximum height of 399 feet above ground level when a rotor blade is oriented in the twelve o'clock position.

In addition to the wind turbines within the Town of Clinton, the Project will involve construction of 42.3 miles of gravel access roads, 9.9 miles of overhead electric lines, 421 transmission line poles, 50.7 miles of underground electric collection cable and an Operation and Maintenance building at 148 State Route 189, the "Clookey Farm". The Project will also require a substation to interconnect the wind turbines to the existing electric grid. This substation will be primarily within the Town of Clinton approximately 325 feet to the east of Patnode Road on the north side of the New York Power Authority (NYPA) right of way for the Willis-Plattsburgh 230 kV transmission Line in the Town of Clinton.

The Project in the Town of Clinton represents approximately 16,896 acres on 110 parcels. The Applicant has signed exclusive wind easement leases with 56 landowners within the Town of Clinton. Each land owner is familiar with the Project and has consented to the presence of the Project components. The Project layout within the Town of Clinton can generally be described as running north from the 230 kV

transmission line along Patnode Road and Campbell Road to NYS Route 11 and continuing north along either side of NYS Route 189, and between Whalen Road and NYS Route 189 until it reaches Liberty Pole Road. At Liberty Pole Road, the Project boundary generally runs east-west (just south of the Canadian border) from the intersection of NYS Route 189 and Liberty Pole Road to the Clinton-Mooers town border. Within this general Project area the land is primarily in forest and agricultural use, but also includes significant wetland acreage.

Within the Town of Clinton, the southern portion of the Project (i.e. south of Looby Road, between Brandy Brook Road and Campbell Road) can be characterized as largely agricultural with a number of rural residences. The northern portion of the Project (i.e. north and north east of the Hamlet of Churubusco) can be characterized largely as forest use. Much of the land within the northern portion of the Project boundary was once farmland that is now mostly overgrown brush and secondary growth forest that is primarily used for recreational hunting and commercial logging.

### **III. Summary of Potential Impacts to the Town of Clinton**

The following section provides a brief summary of the potential impact to the Town of Clinton as a result of the Marble River Wind Farm. Only those areas where there are town-specific differences in the type or levels of impact are addressed. This information is the result of scientific studies and field review that are further elaborated on in Section 3.0 and the appendices of this document. Specific mitigation strategies are not detailed in this section as appropriate mitigation is being proposed at a Project level. Mitigation strategies are set forth in Section 3.0 of this document.

#### **Soils, Topography and Geological Resources**

Soils, topography and geologic resources are as described in the DEIS, with the exceptions cited below.

Approximately 727 acres of surface soils will be disturbed during Project construction in the Town of Clinton. Of this area, approximately 145 acres will be permanently occupied by Project structures including permanent access roads, turbine foundations, the substation and an O&M facility. Approximate areas of temporary and permanent impacts to surface soils are detailed in Section 3.1.2 of this document.

#### **Water Resources**

Within the Marble River Project site, protected streams in the Town of Clinton include the headwaters and tributaries of the Marble River and English River. This area also includes 7,515 acres of NYSDEC-regulated wetlands, and 5,551 acres of wetlands as mapped by the National Wetland Inventory. The majority of these wetlands are scrub-shrub or forest.

During construction, the proposed Project will temporarily impact approximately 82 acres of state and/or federally-regulated wetlands within the Town of Clinton. Most of the wetland impacts will be temporary in nature, with permanent wetland filling totaling 14.9 acres within the Town of Clinton.

**Ecological Resources**

Ecological communities within the Town of Clinton portion of the Marble River Project site include forest land, agricultural land, and successional communities. Two unique natural communities were identified within the town. These include sandstone pavement barrens (in the vicinity of proposed Turbines 116 and 5A) and perched bogs (along the access roads to Turbines 120-126 [Bootleg Road] and Turbine 10A).

Within the Town of Clinton portion of the Project site, temporary and permanent impacts to ecological communities are summarized in Table 1 below:

**Table 1: Impacts to Vegetative Communities in the Town of Clinton (in Acres)**

Community <sup>1</sup>	Total Disturbance	Temporary Disturbance	Permanent Loss
Agricultural Land	198	164	34
Successional Old Field	5	4	1
Successional Shrubland	57	47	10
Forest land	450	353	97
Disturbed/Developed	15	13	2
<b>TOTAL</b>	<b>725</b>	<b>581</b>	<b>144</b>

<sup>1</sup> Excludes wetland and open water communities

As this table indicates, the greatest disturbance will occur in forested areas. However, many of these areas have already been significantly disturbed by past and on-going logging activities. No permanent impacts to the unique ecological communities identified in the Town are anticipated.

**Traffic and Transportation**

Subsequent to the DEIS, an updated material and equipment delivery route assessment was conducted based on the current Project layout. The Project site within the Town of Clinton is as described in the Introduction above. The Laydown Yard is proposed to be located at 148 Route (the "Clookey Farm") 189 approximately one mile south of the Hamlet of Churubusco.

The local roads included in the proposed delivery routes within the Town of Clinton include Looby Road, Clinton Mills Road, Patnode Road, Rogers Road, Brandy Brook Road, Lagree Road, Frontier Road, Merchia Road, Gagnier Road, Liberty Pole Road, Campbell Road, Whalen Road and State Route 189. The additional traffic of 10,384 materials and components deliveries anticipated for Wind Energy Conversion System (WECS) construction within the Town of Clinton (88 wind turbines x 118

trips per wind turbine) is split roughly evenly amongst these 13 local roads and thus, each local road can expect additional construction traffic of approximately 799 trips during the construction period in 2008 and 2009.

The anticipated impact of Project-related traffic on local roads may be classified as moderate to significant and has the potential to result in temporary delays and road damage. Prior to the commencement of construction, the Applicant will consult closely with the Town of Clinton's Highway superintendent as well as the local New York State Department of Transportation to reach a "Road Use Agreement." The Road Use Agreement is a mechanism that will be used by the Applicant and the Town to formalize the transportation relationship and provide a process and agreed upon compensation for specific road wear and usage.

Among the important constraints considered while planning the preferred delivery and transportation routes for the Marble River Wind Farm was the local School Bus Routes. Proposed delivery routes do, in some cases, correspond with specific school bus routes. To minimize and mitigate any potential interference with school busses, the Applicant will avoid scheduling deliveries during school bus hours. When deliveries during these hours are absolutely necessary notice will be provided to the Northern Adirondack School Committee officials at least 1 day ahead of time. School bus routes will continue to be taken into account during all construction activities to minimize any interference.

### **Land Use and Zoning**

Project development and operation will be guided by the Town of Clinton Wind Energy Facilities Law (Local Law No. 1 of 2005). The requirements of this law are summarized in the DEIS.

The maximum height of the proposed Gamesa G87 wind turbines are less than 400 feet and therefore are in compliance with the Town of Clinton's Local Law No. 1 of 2005, Section 12.A.13.

The current Project layout has been developed to ensure that all proposed turbines comply with the setbacks outlined in Table 3.5.1.2-1 of the DEIS. Figure S4, Revised Setback Map identifies the required setback for the Town of Clinton.

The proposed Project is compatible with existing land uses within the Project site (e.g., active agricultural, forest management, hunting, and private recreational, although the turbines may be construed to change community character in some locations.

### **Cultural Resources**

As presented in the DEIS, a Phase 1A cultural resources survey was conducted in the Project site within the Town of Clinton to identify previously recorded archeological or historic sites that may be affected by the construction and/or operation of the proposed Project

Subsequent to the DEIS, a Phase 1B archeological survey was conducted to determine the presence or absence of previously unrecorded archeological deposits within the Project site of physical disturbance. In addition, a historic architectural resources survey was conducted to identify and document historically significant structures that may be located in the Project viewshed within five miles of the limits of the Project site.

No Native American prehistoric sites were identified within the Town of Clinton during the Phase 1B archeological survey. However, the Phase 1B archeological survey resulted in the identification of 11 historic archeological sites located within the Town of Clinton. Of these, three sites have the potential to be impacted by Project components. These sites include:

1. The Clinton Mills Site – remains of former residence and mill
2. The former route of the Ogdensburg & Lake Champlain Railroad
3. The Merchia Road Site – remains of abandoned farmstead foundation

As a result of Project layout changes and additions that occurred subsequent to the Phase 1B survey fieldwork, the archeological APE (Area of Potential Effect) for the Project is larger than the level of effort expended during the Phase 1B Survey. A supplemental Phase 1B archeological survey is being conducted to make up the shortfall and will be presented in an addendum report included with the Final Environmental Impact Statement (FEIS).

The Applicant has relocated Project facilities in the vicinity of the Merchia Road Site to insure that the documented features at the site are not impacted. Supplemental field work is underway at the Clinton Mills Site and the Applicant anticipates that construction activities and facilities along and near the former route of the Ogdensburg and Lake Champlain Railroad will allow it to continue to be a readily apparent landscape feature.

Seventy three historic properties were identified within the Project's 5-mile viewshed during the historic architectural resources survey (Appendix J, Historic Architectural Resource Survey Table 2, Figure 1). Of these, 20 properties were within the Town of Clinton.

Within the Town of Clinton, eight properties are expected to incur significant adverse visual impacts (i.e., likely to have some portion of their visual context affected on a year-round basis). An additional six properties within the Town of Clinton will be adversely affected to a lesser extent (e.g., effects will be moderated by distances, and/or the presence of intervening forest cover, and/or landscaping and/or structures), and six properties within the Town of Clinton will not be adversely affected because views of these properties from public rights-of-way will not include views of the Project.

### **Visual Resources**

Subsequent to the DEIS, a supplemental visual impact assessment (SVIA) and revised shadow flicker study were conducted based on the current Project layout. Landscapes within the Town of Clinton portion of the visual study area include rural/agricultural, village/hamlet, forestland, and

water/waterfront zones. Visually-sensitive resources within the Town are as described in the DEIS, plus 72 sites that are eligible for listing on the National Register of Historic Places.

The SVIA (Appendix K) concluded that topography in the area will offer very little project screening. However, factoring vegetation into the viewshed analysis significantly reduces potential project visibility. Within the 5-mile radius study area (excluding Canada), vegetation, in combination with topography, will serve to screen the Project from approximately 69% of the area (i.e., potential visibility is limited to 31% of the area). Visibility will essentially be restricted to open field and wetland areas, which are concentrated in the immediate vicinity of the turbines and some sizeable areas east of Route 374 in the western portion of the study area. Almost the entire 5 to 10 mile ring (95%) is shown as being screened from view of the Project by vegetation and topography. Most of the sensitive sites within 5 miles of the Project are indicated as being screened from view by vegetation and topography, except the hamlet of Churubusco, isolated State Forest Preserve parcels, and significant portions of Routes 11 and 189.

The cumulative topographic viewshed analysis of the proposed Marble River and Noble projects indicates that within the area of overlapping 10-mile radius viewsheds, approximately 69% of the area has the potential to see one or more turbines from each project. Factoring vegetation into this analysis reduces potential cumulative visibility (i.e., areas where at least one turbine from each project can be seen) to 9% of the overlapping 10-mile study areas. These areas of potential cumulative visibility are concentrated in open fields and wetlands in close proximity to the projects, and in some broader open areas to the northwest and southeast (similar to the results of the vegetation viewshed for the Marble River Project alone).

Areas of actual visibility within the visual study area are anticipated to be much more limited than indicated by the viewshed analyses. This is due to the slender profile of the turbines (especially the blades, which make up the top 139 feet of the turbine), their light color, and screening provided by structures, street trees, and hedgerows, which are not considered in the viewshed analyses.

Supplemental field work concluded that sensitive sites in the Town of Clinton with clear views of the Project include portions of the Clinton Mills area (including the Ogdensburg and Lake Champlain Railroad). Simulations were not prepared from sensitive viewpoints where the turbines would not be visible, or where existing simulations better illustrate "worst-case" visual impact from these areas. Field review also indicated that views of the proposed overhead collection line will generally be limited to sections of Clinton Mills Road, Route 189, Route 11, LaFrancis Road, and Gagnier Road. Screening provided by adjacent trees typically limits views to relatively short sections of the line. Views from Route 11 are essentially restricted to the immediate crossing location. The area of greatest potential visibility appears most likely to occur along Clinton Mills.

Table 2 in the SVIA summarizes the results of the visibility analyses described above, in regard to aesthetic resources of statewide and local significance. The majority of visually sensitive sites with potential Project visibility will only have partial views and/or views from limited areas.

The SVIA included five simulations of the Marble River Wind Farm from viewpoints within the Town of Clinton. These simulations included Project turbines as well as the overhead collection line. Three representative simulations from the town are presented in Figure 25. As these simulations show, Project visibility and visual impact will be variable, based on the number of turbines visible, their proximity to the viewer, and the extent of screening provided by vegetation and structures. As concluded in the DEIS, in Clinton the greatest impact will occur when turbines are close to the viewer, and/or extend across the full field of view. However, there will be few opportunities to view the full extent of the Project due to level topography and significant tree screening.

Contrast ratings for the overhead collection line indicate that the line, on its own, will have low to moderate visual impact. The relatively modest height of the poles and their natural color minimize contrast with existing landform, vegetation, and roadside utility lines. The patchwork of fields, woodlots and hedgerows that characterize the study area minimize the impact of right-of-way (ROW) clearing. Forest vegetation and level topography also limit the availability of long distance views of the line or the cleared ROW corridor.

Based on the results of the Marble River SVIA, it can be concluded that from previously evaluated viewpoints, the revised Project's overall contrast with the visual/aesthetic character of the area will be similar to that reported in the original VIA, and generally low to moderate. The only significant changes (reduction in contrast) were noted in viewpoints where the revised Project layout resulted in the removal of a foreground turbine from the view.

Of the new turbine simulations prepared for the SVIA, two (Viewpoints 36 and 205) received a contrast score over 2 on the scale of 1 to 5. These simulations received composite scores of 3.79 and 2.71, respectively. Most of the impact from these viewpoints relates to the proximity, number, and/or density of visible turbines, and their contrast with the existing landscape in terms of line, form, scale, and land use. This is consistent with the findings of the original VIA.

### **Air Quality**

The Applicant is proposing 88 wind turbine sites within the Town of Clinton for a total nameplate capacity within the Clinton of 176 MW. The operations phase of the Project is expected to generate a net reduction in in-state air emissions based on the assumption that for every Megawatt hour (MWhr) generated from the Marble River Wind Farm an equivalent MWhr generated by an in-state, fossil fuel fired power generator will not be required. The positive impact to in-state air emissions from the Clinton portion of the Marble River Wind Farm is anticipated to decrease emissions as described in the following table.

**Table 2: Estimate Emission Reduction from Wind Turbine Generation in Clinton**

Compound	Emission Factor (lbs/MW hr)	Total Annual Reductions (tons/year) <sup>1</sup>
Nitrogen oxides	1.363	305
Sulfur dioxide	1.765	395
Carbon dioxide	1,274	285,428
Particulate matter less than 10 microns in diameter	0.041	9
Volatile organic compounds	0.035	8
Mercury	2 E-06	0.0004

<sup>1</sup> Assumes approximately 448,100 MW hrs of electrical power generated by the Marble River wind turbines located in the Town of Clinton during the year.

The construction phase of the Marble River Wind Farm is anticipated to cause some minor impact due to increased emissions and generation of fugitive dust from construction and delivery vehicles traveling on un-paved roads. The increased dust and emissions will not be sufficient to significantly impact local air quality.

**Noise**

Subsequent to the DEIS, an updated noise modeling study was conducted based on the current Project layout. Existing noise levels and noise modeling techniques used in the revised study within the Town of Clinton are as described in the DEIS.

Based on the conservative assumptions used by Hessler Associates to assure that a “worse case” scenario was depicted, the results of the noise study show that the Town of Clinton and Hamlet of Churubusco have 15 and seven residences, respectively, which have the potential to experience sound levels between the 45 and 48 dBA. Residences falling between the 45 and 48 dBA contours may hear the turbines at times but because of modeling conservatism and seasonal considerations the probability of a significant adverse impact due to noise alone is low. Three residences in the Town of Clinton and one residence in the Hamlet of Churubusco are located in areas where their theoretical exposure is 48 dBA or greater. It is important to note that all four of these properties are Project participants. It is likely that sound from the nearest turbine will be audible when outside these homes and when wind and atmospheric conditions favor noise propagation from that turbine towards the house. However, continuous audibility seems unlikely given the conservative assumptions inherent in the model. In addition, because noise reduction afforded by any common residence is at least 15 to 20 dB with the windows closed, operational sounds from the Project would be inconsequential, if not completely inaudible, inside any residence in the site area. The modeling study demonstrates that the Town of Clinton local law limit of 50 dBA at any residence will not be exceeded and therefore the Project will be in compliance.

Within the Town of Clinton, 17 of the 22 residences are participating as hosts to the Marble River Wind Farm. Table 4 identifies these residences.



**Table 3: Clinton Residences Where Project Sound Levels May be Above 45 dBA**

Identification Number	Address/Location	Project Participant Status
01	52 Nichols Road, Clinton, NY	Yes
03	6649 Route 11, Clinton, NY	Yes
02	AES-EHN NyWindpower, Route 189, Churubusco, NY	Owned by Project
04	Gagnier Rd., Churubusco, NY	Yes
05	228 Route 189, Churubusco, NY	Yes
07	Patnode & Gagnier Roads, Churubusco, NY	Yes
08	Campbell Road, Churubusco, NY	Yes
11	876 Route 198, Clinton, NY	Yes
12	238 Liberty Pole Road, Clinton, NY	Yes
13	Patnode Road, Churubusco, NY	No
14	Liberty Pole Road, Churubusco, NY	Yes
15	6977 Route 11, Clinton, NY	No
16	6985 Route 11, Clinton, NY	Yes
17	157 Route 189, Clinton, NY	No
18	206 Route 189, Clinton, NY	Yes
19	Route 189, Clinton, NY	Yes
20	Route 11, Clinton, NY	Yes
22	238 Liberty Pole Road, Clinton, NY	Yes
25	6922 Route 11, Clinton, NY	No
26	293 Gagnier Road, Clinton, NY	Yes
27	327 Gagnier Road, Clinton, NY	Yes
28	444 Gagnier Road, Clinton, NY	No

**Socioeconomics**

The Applicant has optioned 16,896 acres of land within the Town of Clinton. The Town of Clinton represents the largest portion of the Marble River Project. A total of 88 2-MW turbines are proposed within the Town of Clinton with over half located in the more sparsely populated northeast section of the town. The potential municipal revenues to the Town of Clinton can be quantified as follows:

1. PILOT: The Town of Clinton can expect to receive approximately 32% of the PILOT payments as per the Clinton County IDA. This represents an annual payment of \$280,000, or almost \$7 million over the life of the Project.
2. Host Community Agreement: The Town of Clinton may opt to sign a Host community agreement. Based on past precedent within New York State, this agreement pays approximately \$1,000 per installed MW. This equates to an additional payment of approximately \$178,000 per year

3. Road Use Agreement: Given the importance of the local roads to the operations of the Project, the Applicant will propose to enter into a road use agreement with Clinton. The road use agreement will seek to agree on responsibilities and considerations the Applicant owes the town for use of the local roads. Benefits often include road improvement and major upgrades of roads, including culverts, bridges and seasonal roads.
4. Total Direct Municipal Revenue: The total revenue to the town of Clinton is estimated to be approximately \$458,000 per year or \$11,450,000 over the life of the Project.

### **Telecommunications**

Telecommunication is an issue that is more regional in nature. The Applicant has conducted baseline studies in the Town of Clinton and will therefore be in a position to address any interference issues that may arise. A complaint resolution process has also been developed to assure that any potential impacts on television reception are identified and corrected.

Marble River, LLC has directed electromagnetic interference consultant Comsearch to proceed with a supplemental notification of the National Telecommunications and Information Administration of the revised turbine locations so that the Interdepartmental Radio Advisory Committee can determine whether there is still no obstruction or interference to federal government links and radars. A reply is expected by August 2007 and will be provided for review as a supplement to the FEIS.

### **IV. Conclusion**

The Applicant has been actively studying the potential impacts of the proposed Marble River Wind Farm since 2002. During that time multiple years worth of wind, environmental and local data has been collected. Based on the results of the studies in this SDEIS, and based on the Applicant's past experience in developing and constructing wind projects in the state of New York, it remains the opinion of the Applicant that the Town of Clinton, by virtue of its rural character, agricultural industry base, proximity to transmission and excellent wind resource is an excellent location to host a productive wind farm.