

RESOLUTION 19-\_\_

RESOLUTION ADOPTING AND APPROVING TOWN OF ENFIELD  
WIND ENERGY FACILITIES LOCAL LAW  
- LOCAL LAW # \_\_\_\_ OF 2019

At a Regular Meeting of the Town Board of the Town of Enfield, held in and for the Town of Enfield at the Enfield Community Building, upon the \_\_\_\_\_, 2019, the following Town Board members were present:

- Virginia Bryant, Councilperson;
- Michael Carpenter, Councilperson;
- Mimi Mehaffey, Councilperson;
- Becky Sims, Councilperson; and
- Beth McGee, Supervisor.

Upon discussion and deliberation thereupon, the following resolutions were duly made by motion of \_\_\_\_\_, and duly seconded by \_\_\_\_\_; and the vote was as follows:

- Virginia Bryant, Councilperson \_\_\_\_\_
- Michael Carpenter, Councilperson \_\_\_\_\_
- Mimi Mehaffey, Councilperson \_\_\_\_\_
- Becky Sims, Councilperson \_\_\_\_\_
- Beth McGee, Supervisor \_\_\_\_\_

And, accordingly, the following resolutions were therefore duly approved and so adopted:

**WHEREAS**, since the original adoption of the Town of Enfield’s 2009 Local Law #1 WIND ENERGY FACILITIES LOCAL LAW (the “current law”), there have been substantial developments in the understanding of the health, safety and property rights issues related to wind energy facilities that are not adequately addressed in the current law;

**WHEREAS**, the current law was found to contain deficiencies and ambiguities with respect to the processes and deadlines to be followed when reviewing a wind energy facilities project that need to be addressed;

**WHEREAS** the current law did not adequately protect the Town from incurring costs that should have been borne by the applicant; and

**WHEREAS**, the current law did not protect the Town from further financially adverse impacts by adequately addressing items such as decommissioning costs, damaged roads and infrastructure;

**WHEREAS**, the Town Board formed a committee of public officers, employees, and citizens to study alternative energy, and such committee worked with several agencies and persons to develop and propose revisions to the wind law, including enhanced requirements for large-scale facilities: and

**WHEREAS**, this matter was duly referred under General Municipal Law § 239-1, et, seq, and the Tompkins County Department of Planning and Sustainability duly responded making ten official recommendations, and the Town Board has responded as follows:

1. **Tompkins County recommendation:**

*ARTICLE II - PERMITS*

- 1) *Page 9, Section 2B, Agricultural Use Exemption. We recommend that the setback from property lines for wind facilities of a scale suited to support agricultural operations on a single farm be reduced from 2 times the total height of the installation to 1.5 times the total height of the installation. We recommend that setbacks from existing RESIDENCES (as defined in the proposed law) be 2 times the total height of the installation unless the affected adjoining property owner agrees otherwise in writing.*

**Enfield response:** No change. The County has failed to provide any support for this recommendation. The Town Board, on the other hand, has debated at some length regarding the use of setbacks to protect Town residents' health and safety. Given concerns regarding ice throw, blade throw, component separation and/or disintegration, turbine collapse, fires and other potential adverse events, the Board believes that setbacks from property lines that are 2 times the total height of the installation for wind facilities of a scale suited to support agricultural operations on a single farm constitute reasonable provisions to protect neighboring properties and any persons on those properties. Defining setbacks in relation to residences instead of in relation to property lines may result in uncompensated easements by non-participating landowners who may be deprived of the free use of their property due to safety and health concerns. Use of property lines for setbacks mitigates this concern.

2. **Tompkins County recommendation:**

*ARTICLE III - PERMITS AND PERMITTING PROCESS*

- 1) *Page 13, Section 1A14, Environmental Monitoring Plan. We recommend that all bird and bat studies be performed in accordance with NYSDEC guidelines: Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects (June 2016), and that the geographic extent of those studies comply with the recommendations in those guidelines.*

**Enfield response:** The draft law states that "All studies will conform to applicable state and federal agency guidelines." To address the County's concerns, the Board will add the following sentence to the end of the section: "Should these guidelines conflict with the geographic extent outlined in this 2019 Local Law, the greatest of the geographic extent of this 2019 Local Law, the applicable federal law or the applicable state law shall apply."

3. **Tompkins County recommendation:**

*ARTICLE III - PERMITS AND PERMITTING PROCESS*

- 3) *Page 15, Section 1C, WEF Economic Impact Study. We recommend deleting this requirement as a prerequisite for submitting an application. If the Town, in conducting the environmental review of a proposed WEF under SEQRA, identifies the need to address potential economic impacts as part of the*

*scope of its environmental review, that would be the appropriate time for the applicant to submit an Economic Impact Study.*

**Enfield response:** No change. First, the draft law specifically provides that the study is to be done “**following** the submission of a completed application and as a condition to the issuance of any Wind Energy Permit for a WEF” under the law. Thus, it is not a prerequisite for the submission of an application.

Secondly, this provision is not intended to address environmental issues; it is intended to address economic issues. The purpose of a SEQRA review is only to identify and explore environmental issues but there are many other impacts of a wind energy facility beyond those that a SEQRA review is intended to address. While consideration of environmental issues are critical when reviewing a wind energy facility project, it is equally important to weigh any adverse economic impacts on the Town and/or its residents against the economic benefits of the project to the Town and/or its residents as part of any decision to approve a project. This cost/benefit analysis is particularly important since, according to ratings generated by the National Renewable Energy Laboratory (the principal research laboratory for the U.S. Department of Defense’s Office of Energy Efficiency and Renewable Energy), most of Enfield has wind resource ratings of Class 1 or 2, with a small area rated as Class 3. Generally, wind resources below Class 4 are considered not economical to develop.

4. **Tompkins County recommendation:**

*ARTICLE III - PERMITS AND PERMITTING PROCESS*

- 4) *Page 17, Section 1E, Environmental Studies. We recommend deleting this section, as the appropriate studies would be identified as part of any Environmental Impact Statement scoping process. We believe that is the appropriate forum to identify a need for such studies.*

**Enfield response:** No change. While we agree that these provisions will be addressed as part of the scoping process, we believe it is important for the Town’s law to require certain minimum provisions be addressed as part of that scoping document. The Town has a very limited window to produce a scoping document which then becomes the controlling document for any environmental analysis of the project under the SEQRA process. We want to be sure that in that very limited window, the Town Board has clear minimum guidelines for what must be included in the scoping document.

5. **Tompkins County recommendation:**

*ARTICLE IV - STANDARDS FOR WIND ENERGY FACILITIES*

- 5) *Page 26, Section 5, Visual Impact Mitigation. We recommend modifying item (iv) to state that Large WTGs shall be subject to a preliminary (and, if indicated, a more comprehensive) shadow flicker analysis and that, if shadow flicker will occur for more than 30 hours per year on any one nearby residence or facility, mitigation steps will be required.*

**Enfield response:** No change. First of all, there is no scientific basis for the 30 hour per year standard that is recommended by the County although it is commonly recommended in many wind laws today. Furthermore, available technology makes it feasible to automatically stop turbine operation for the

minutes at sunrise and sunset where exposure is calculated to occur with very limited economic impact to the operator. And, with this provision, Article VI.C.1 (complaints and enforcement) then has a legal basis for enforcing complaints about shadow flicker. Zero exposure is simpler and easier to enforce; the Town can allow reasonable compromise to occur in a dialogue among the violator, the code enforcement officer and the complainant during the complaint resolution process.

The U.S. Department of Interior - Bureau of Land Management notes that flickering effect may be considered an annoyance. The World Health Organization defines annoyance as “a feeling of discomfort which is related to adverse influencing of an individual or a group by any substances or circumstances. Annoyance expresses itself by malaise, fear, threat, trouble, uncertainty restricted liberty experience, excitability or defenselessness.” Given that current technology will allow a complete mitigation of flicker, we see no reason not to require it in our Town’s law.

6. **Tompkins County recommendation:**

*ARTICLE IV - STANDARDS FOR WIND ENERGY FACILITIES*

- 6) *Page 29, Section 17A, Sound Levels. We recommend adopting noise standards that do not vary between night and day as wind movement is outside the control of the applicant and it is more difficult for the Town to enforce standards that vary based on time of day. We recommend either of two options: a) establishing a setback of 1,150 feet from residences, schools, churches and libraries to account for potential noise impacts and to make enforcement and administration of the local law more manageable, or b) adopting the following noise standards and clarify that measurements be taken at RESIDENCES, not property lines:*
- *a design goal of 40 dBA;*
  - *a long-term average sound limit of 45 dBA; and*
  - *a short-term (10-20 minute) maximum sound limit of 50 dBA;*

**Enfield response:** No change. The noise levels chosen were based upon a careful evaluation of noise guidelines from the World Health Organization (“WHO”), the U.S Environmental Protection Agency (“EPA”) and the New York State Department of Environmental Conservation (“NYDEC”) as well as data from noise studies done in Enfield, NY and Chautauqua County, NY and a review of the available literature in this area.

The WHO recently published its “Environmental Noise Guidelines for the European Region (2018).” For average noise exposure, the report conditionally recommends reducing noise levels produced by wind turbines below 45 dB Lden (Day/Evening/Night levels), as wind turbine noise above this level is associated with adverse health effects. No recommendation is made for average night noise exposure of wind turbines because the quality of evidence of night-time exposure to wind turbine noise is too low to allow a recommendation. *Furthermore, the report stressed that there might be an increased risk for annoyance below this noise exposure level, but it could not state whether there was an increased risk for the other health outcomes below this level owing to a lack of evidence.* The report also specifically identifies infrasound as an area of concern and recommends further studies to determine the impacts of wind turbines on the health of residents in the area given the paucity of available studies.

Next, we turned to NYDEC's Program Policy: "Assessing and Mitigating Noise Impacts" which provides that an increase in sound pressure (dB) above the local ambient noise level of 5-10 dB is intrusive; of 10-15 dB is very noticeable; of 15-20 dB is objectionable; and above 20 dB is intolerable. That policy also states: "Most objective attempts to assess nuisance noise adopt the technique of comparing the noise with actual ambient sound levels or with some derived criterion." *It also states: "The property line should be the point of reference when adjacent land use is proximal to the property line."* A noise study conducted by the Noise Pollution Clearinghouse, Montpelier, VT in April 2016 in the vicinity of the Connecticut Hill area of Enfield resulted in daytime ambient noise measurements between 30.1 and 35.9 dBA and nighttime ambient noise measurements between 25.2 and 37.3 dBA. A noise study conducted by Cassadaga Wind LLC in April 2016 in the vicinity of the company's wind project in Chautauqua County, New York resulted in daytime ambient noise measurements between 21 and 32 dBA and nighttime ambient noise measurements between 19 and 32 dBA, and found the area measured "is typical of rural use."

We note that the EPA's recommendation of 55 dBA which is found in the NYSDEC criterion of significance, is a recommendation for *urban* residential neighborhoods. For Enfield, New York, one would subtract 10 dBA from 55 because it is a quiet rural area, 5 dBA because it has no prior experience with wind turbine noise, and 5 dBA because of the character of turbine noise. Thus, under EPA guidelines, a noise level of 35 dBA is necessary to protect the rural area.

But the more important criterion of significance in the NYSDEC document is the 6 dBA increase criterion. The EPA noted that, "[its] data... indicates that widespread complaints may be expected when the normalized value of the outdoor day-night sound level of the intruding noise exceeds that existing without the intruding noise by approximately 5 dB, and vigorous community reaction may be expected when the excess approaches 20 dB. The standard deviation of these data is 3.3 dB about their means and an envelope of +5 dB encloses approximately 90 percent of the cases. Hence, this relationship between the normalized outdoor day-night sound level and community reaction appears to be a reasonably accurate and useful tool in assessing the probable reaction of a community to an intruding noise and in obtaining one type of measure of the impact of an intruding noise on a community." (EPA, 1974, D-20.)

When we put all this together along with the precautionary approach in assessing risk management, we concluded:

- Noise measurements should be made at the property line – not the residence, especially in light of the reasons outlined in the responses in this letter to recommendations number 1 and 7;
- Noise limits should be differentiated between night-time and day-time because the ambient sound levels vary significantly between night and day;
- Noise measurements should include limitations on infrasound as well as audible sound; and
- Using the NYDEC guidelines, noise limits should not exceed measurements above the local ambient noise level of 5-10 dB for audible sound.

## 7. **Tompkins County recommendation:**

*ARTICLE IV - STANDARDS FOR WIND ENERGY FACILITIES*

7) Page 29, Section 17B, Paragraphs 1 and 2, Setbacks. The setbacks included in this section would effectively ban large WTG in the Town, contrary to the stated intent of the law. Namely:

- There is no property within the Town of Enfield that would be allowed to be developed for Large WTG under the current setback proposal, as it is not possible to site a tower within the proposed setbacks from public, seasonal and limited use roadways in Enfield.
- There is no individual property within the Town of Enfield that would be allowed to be developed under the current setback proposal of 2,640 feet from property lines without the developer establishing agreements with all property owners within a given "block" in the Town.
  - We recommend that the following standards replace the requirements listed above.
- Large WTG Towers should be set back from lot lines 1.5 times the total height of the tower.
  - ' Towers should be set back from neighboring RESIDENCES 2 times the total height of the tower, unless the affected adjoining property owner agrees otherwise in writing.

*In addition, establishing a standard setback from all Unique Natural Areas (UNAs) does not make sense as the distinctive characteristics of each UNA vary greatly, with some not being affected if located immediately adjacent to a wind turbine and others possibly requiring greater distances. The potential impact on nearby UNAs should be evaluated on a case by case basis as part of the SEQRA review process to determine appropriate setback requirements.*

**Enfield response:** To address the County's comment regarding the proposed setbacks from public, seasonal and limited use roadways, the proposed law will be modified provide for a minimum setback for Large WTG's from public, seasonal and limited use roadways of 2 times the Total Height of the WTG.

With respect to the County's comment that "there is no individual property within the Town of Enfield that would be allowed to be developed under the current setback proposal of 2,640 feet from property lines without the developer establishing agreements with all property owners within a given 'block' in the Town," we acknowledge that this is true. But we dispute that this equates to an effective ban on Large-Scale WEF's within Enfield. As the County points out, the developer will need to establish agreements with all property owners within a given "block" to meet the setback requirements which means that a developer will have to offer compensation that makes it worthwhile for those landowners to enter into agreement if the developer wants to piece together the property they need for the project. This may make the project more expensive but does not constitute a ban. The Town Board has a responsibility to protect its residents' rights and well-being; not to meet project needs for developers. This provision will require the developer to engage with non-participating landowners to make sure they are adequately compensated.

There are a number of justifications for the setback distance of 2,640 feet. First and foremost, setbacks are designed to provide safety zones for landowners (and others) to protect against bodily harm and property damage in the event something goes wrong with a WTG. The types of events that could occur include ice throw, blade throw, component separation and/or disintegration, turbine collapse, and fires.

Peer reviewed studies have shown that the potential safety zone for ice throw and blade throw could be quite large (i.e., up to 1,950 feet in the case of the GE 2.3MW-107 turbines proposed by

the Black Oak Wind Farm). The German turbine manufacturer, Vestas, advises its workers to stay back at least 400 meters (~1,300 feet) from an operating turbine in its safety regulations. And, while GE's literature recommends much shorter setbacks from property lines (i.e., 1.1 times the blade length), it is specifically limited to vacant areas of land "where there is a remote chance of any future development or inhabitation during the life of the wind farm." Residents in Enfield use their property extensively for hiking, camping, hunting, and other recreational uses. They also frequently build secondary housing on their lands for family members and hunting lodges. Short setbacks such as the County is proposing effectively deprive non-participating landowners of the use of portions of their property with no compensation as a result of the risk of bodily harm and property damage.

In addition to protecting residents from bodily harm and property damage, the setbacks serve as a backstop measure for enforcing the noise limitations under the law. Noise limits can be expensive and difficult to enforce, with complaints oftentimes dragging on for months and even years with unsatisfactory resolutions. Setbacks, on the other hand, are straightforward and simple to enforce as part of the project approval process. Based upon work done in Enfield by a noise expert during the Black Oak Wind Farm project, a half-mile setback from property lines roughly equates to a noise measurement of 35 dBA at the property line which is in line with the noise limitations proposed in this law.

With respect to UNA's, we note that there are relatively few UNA's in the Town of which only Robert Treman Park and the Connecticut Hill Wildlife Management Area are material and the waiver provisions under the law can be used to modify or waive provisions with respect to the other UNA's, if necessary.

**8. Tompkins County recommendation:**

*ARTICLE IV - STANDARDS FOR WIND ENERGY FACILITIES*

8) Page 29, Section 17B. Setbacks. We note that the ordinance is silent on placement of Large-Scale Wind Energy Systems near streams. We recommend that individual Wind Turbine Generators be prohibited within 100 feet from the edge of perennial streams and 50 feet from the centerline of intermittent streams.

**Enfield response:** We agree with this comment and have incorporated it into the setback requirements.

**9. Tompkins County recommendation:**

*ARTICLE VIII - SMALL WTG*

9) Page 51, Section 4A, Setbacks. We recommend that Setbacks from lot lines for Small WTG systems should be the total height of the installation plus 10 feet, unless the affected adjoining property owner agrees otherwise in writing.

**Enfield response:** No change for all the reasons outlined above regarding setbacks. We point out that ice throw and blade throw distances are, in fact, an even larger concern with respect to smaller turbines because the controlling factor is tip speed and the tip speed of smaller turbines is faster than that of

larger commercial turbines.<sup>1</sup> Therefore, we believe that 2 times the height of the turbine is a minimum distance for setbacks for Small WTG's.

10. **Tompkins County recommendation:**

*ARTICLE VIII - SMALL WTG*

10) *Page 51, Section 4B, Noise. We recommend deleting this section, as we do not recommend establishing noise standards for Small WTG systems.*

**Enfield Response:** With respect to the issue of noise standards, we acknowledge the County's concern regarding the application of these standards to Small WTG's but we are concerned about how to protect neighboring residents from the adverse impacts of noise. We are removing the requirement in Article VIII, Section 4.B. to conduct a noise study in accordance with Appendix A but the maximum noise levels outlined in this section shall still apply.

**WHEREAS**, the /town Board as Lead Agency, has duly noted the potential impacts that may or could arise from the implementation of a local law that regulated land uses and facilities thereupon, but needs to be mindful that the action herein being reviewed is the potential passage of a local law to regulate wind energy facilities, not the placement of permitting of wind facilities: and

**WHEREAS**, a negative declaration was duly issued under SEQRA by the Lead Agency; and  
and;

**WHEREAS**, a proposed final draft of such law has been duly presented to the Town Board by the Town Supervisor, and notices of Public Hearings were published and posted in accord with law and public hearings were duly held upon October 16<sup>th</sup> 2019 and November 19, 2019 whereat the public was invited to comment upon the proposed local law and speak in favor of or against such local law, or any part thereof, and whereat all persons interested in the subject were duly heard and all evidence taken; and upon and in consideration of comments received thereat and upon due consideration thereupon, the Town Board of the Town of Enfield has hereby found that adoption of this local law is in the public interest of the Town of Enfield and, accordingly, the Town Board of the Town of Enfield has duly

**RESOLVED**, that the Town Board of the Town of Enfield be and hereby is redeclared to be the Lead Agency: and further

**RESOLVED AND DETERMINED**, that this declaration is made in accord with Article 8 of the Environmental Conservation Law of the State of New York and the New York State Environmental Quality Review Act SEQRA, and the Regulations promulgated there under, and accordingly, the Town Board of the Town of Enfield, based upon (i) its thorough review of LEAF, and any and all other documents prepared and submitted with respect to this proposed action and its environmental review,

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<sup>1</sup> J. Rogers, N. Slegers, and M. Costello, "A method for defining wind turbine setback standards," *Wind Energy*, vol. 15, no. 2, pp. 289–303, Apr. 2011, and S. Evans, D. Bradney, and P. Clausen, "Unsteady structural behaviour of small wind turbine blades," *The University of Newcastle, NSW, Australia, North American Wind Energy Academy 2015 Symposium*.



and the hearing held hereupon, and all testimony and evidence presented thereat, if any, (ii) its thorough review of the potential relevant areas of environmental concern to determine if the proposed action may have a significant adverse impact on the environment, including, but not limited to, the criteria identified in 6 NYCRR §617.7(c), and (iii) its completion of LEAF, Part II, including the findings noted thereon (which findings are incorporated herein as if set forth at length), hereby makes a negative determination of environmental significance (“Negative Declaration”) in accordance with SEQRA for the above referenced proposed action, and determines that no Environmental Impact Statement will be required: and it is further

**RESOLVED**, that the Responsible Officer of the Town Board of the Town of Enfield is hereby authorized and directed to complete and sign, as required, the determination of significance confirming the foregoing Negative Declaration, which fully completed and signed LEAF and the contained and declared determination of significance shall be incorporated by reference in this Resolution: and it is further

**RESOLVED**, that the Town Clerk deliver and/or file a copy of this Resolution with the following persons and agencies:

1. The Town Clerk of the Town of Enfield.
2. The Town Supervisor of the Town of Enfield.
3. All Involved and Interested Agencies.
4. Any person requesting a copy:

and further, that this Resolution be posted and published in accord with law, including delivery of a copy of this Resolution to the Environmental Notice Bulletin, NYS Department of Environmental Conservation, 625 Broadway, 4<sup>th</sup> floor, Albany, NY 12233-1750.

**RESOLVED**, that in accord with Town Law and §§ 21 and 27 of the Municipal Home Rule Law the final adopted version of this Local Law shall be spread upon or attached to the Minutes of this Meeting and, within 20 days after the final adoption of this Local Law, the Town Clerk shall file a certified copy of this Local Law with New York State Secretary of State, State Records and Law Bureau, Department of State, 41 State Street, Albany, New York 12231 and it is further

**RESOLVED**, that **Local Law #\_\_ of 2019**, entitled “Wind Energy Facilities Local Law”, be and hereby is approved and adopted in the form as presented to this meeting, and in such form “be it so enacted”.