

# New York League of Conservation Voters' Report Misunderstands Rural Resistance to Siting Industrial Wind Projects

By Gary A. Abraham

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## **Executive Summary**

The New York League of Conservation Voters has issued a new policy statement, "Breaking the Barriers to Siting Renewable Energy in New York".

(<https://nylcvef.org/wp-content/uploads/2019/02/renewable-siting-whitepaper.pdf>) The purpose of the report is to promote large-scale wind and solar energy projects. The report misunderstands rural resistance to siting industrial projects of unprecedented size and adverse impact.

Large scale renewables industrialize rural communities in violation of land use plans and zoning laws focused on rural preservation. Nighttime noise has health effects. Rural communities trying to preserve and develop rural amenities reasonably see the spoliation of the night sky with dozens of elevated blinking red FAA warning lights, the fragmentation of forested lands, and the introduction of an industrial noise source as the wrong kind of development.

A typical upstate wind project will reduce New York's carbon dioxide emissions by about 0.05%, according to information developed in the State siting process. This means that it will take 20 industrial wind projects to reduce the State's emissions by 1%. Considering the small contribution industrial wind projects can make to New York's emissions reduction goals, this report's emphasis on overcoming rural resistance is misplaced.

The major flaws and shortcomings of the NYLCV document are:

- Failure to acknowledge that 88% of upstate energy is generated from zero emission sources (including nuclear power).
- Failure to address the unintended consequences of wind turbines' dependence on natural gas-fueled power sources.
- Failure to acknowledge the absence of any plan to build new bulk transmission lines to move power to the New York City region.
- Ignores the significant environmental harm of large-scale renewables.
- Ignores the inability of such projects to create full-time permanent jobs.
- Ignores the important distinction between power generation and power utilization.
- In calling for more public education and engagement, the report ignores the fact that the current Article 10 process requires both.
- Ignores how the Renewable Energy Credit process incentivizes electricity generation instead of emissions reduction.
- Ignores other alternatives available to achieve the State's energy goals.

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### **Detailed Analysis**

The New York League of Conservation Voters has issued a new policy statement, "Breaking the Barriers to Siting Renewable Energy in New York." The statement is seriously flawed because it fails to tackle the reasons for rural resistance to siting industrial projects of unprecedented size and adverse impact. The statement assumes this resistance is the principle problem that must be solved.

Most people will agree with the League that "[a]ddressing climate change by shifting to renewable forms of energy production is more important than ever." However, this way of stating the problem is overly narrow. If climate change is the main concern (and we agree it is), we should be shifting to zero- and low-emissions forms of energy production. However, relying on large-scale renewable energy projects prolongs our dependence on natural gas. This is the result of physical constraints on large-scale renewables: because they operate intermittently, but the electric grid requires steady voltage, fast ramp-up of backup power plants is necessary to utilize these sources. In New York, these plants are almost always fueled by natural gas. Unfortunately, the report ignores this consequence and neglects other ways to reduce emissions. (Rooftop solar is gaining ground but is generally not counted as renewable generation because it is "behind the meter" and cannot yet be well quantified.)

The report also ignores the massive costs associated with over-reliance on large-scale renewable energy projects, especially in New York. Because they must be sited in rural areas far away from urban centers that need electricity, costly new bulk transmission lines must be built, but are not planned for.

The report fails to recognize that we could succeed in populating upstate New York with wind and solar projects without having much beneficial impact on the state's greenhouse gas emissions. That's because in 2017, 88% of upstate electricity was generated by zero-emissions sources (including nuclear), while no more than 30 percent of downstate electricity was zero-emissions. Closure of Indian Point Nuclear will reduce downstate zero-emissions electricity even more. *NYISO Power Trends 2018*, Fig. 15 (p. 25). One would never learn this from the report, which states, "In 2017, 28% of New York's in-state electricity generation came from renewable sources."

It is important to understand that these are percentages of electricity *generated*, since the actual utilization rate for large wind and solar is quite low. We can utilize no more than about 26% and 14%, respectively, of what wind and solar can generate. For hydropower and nuclear power, respectively, the utilization rate is 79% and 89%. *NYISO Power Trends 2018* (p. 26). Accordingly, a large increase in large-scale renewable generation does not ensure a correspondingly large rate of renewably-generated electricity will be used. Nor does it mean that a correspondingly large amount of conventional generation will be displaced. Nevertheless, the report consistently looks to increased generation rates and never asks what rate of emissions reduction from the electric grid would occur.

In addition to its low utilization rate, we should also discount the ability of large-scale renewables to contribute to the State's emissions reduction goal by taking into account the inability to send any renewable power to the New York City metro area. "It is no secret that there is not enough existing transmission capacity to support the amount of renewable generation to meet the CES in a cost-effective manner", according to the report (p. 16). But it's not cost-effectiveness that is the central problem. There is not even a plan to alleviate upstate-downstate transmission constraints. *NYISO Power Trends 2018* (pp. 11, 52-54). The aversion to new bulk transmission lines from Albany to New York City, not rural upstate aversion to industrial wind and solar projects, will have to be overcome to alleviate those constraints.

The report does not recommend infrastructure investment to fully utilize renewables. Instead, the report concludes barriers to siting renewables will be overcome if we can persuade rural upstate communities that their "aversion to the (real or perceived) impacts of renewables" is unfounded. Accordingly, a "strategy for quelling this aversion and addressing underlying concerns may be through targeted public education and engagement." *Breaking the Barriers* (p. 15). However, New York's power plant siting law (Public Service Law, Article 10) requires targeted public education and engagement by project applicants. The Article 10 process closely monitors the applicant's success in achieving public involvement.

If rural communities' "aversion" remains after implementing Article 10's public involvement policy, the fault may be with applicants, or with the public's growing understanding of impacts that make aversion reasonable, or both. That is, the ability to quell well-founded concerns about the impacts of industrial wind projects on rural amenities may be limited.

The report's concern that "the absence of comprehensive plan elements or zoning requirements that expressly address renewables can present an effective barrier to large-scale renewable facility development" is quite

misplaced in this regard. It is just as likely that the *presence* of land use plans that protect rural amenities has the same effect.

The Cattaraugus County Comprehensive Plan, for example, targets the county's cities and large towns for industrial development and its rural areas for preservation, avoiding industrial development. If, as the report also notes, some towns prohibit meteorological towers needed to study the wind resource available for energy production, the question is whether it is reasonable to do so under the circumstances. The report assumes it never is.

The report also notes that "project economics hinge on a minimum scale of capacity", but never really addresses concretely what this means. It can mean a 102-square-mile footprint, or "project area" for which impacts must be evaluated within a five-mile radius of that footprint, termed the "study area." That's the size of the Alle-Catt wind project proposal sponsored by Invenergy in Cattaraugus, Wyoming and Allegany counties, and that's the review required by Article 10. The report suggests that the affected rural communities must accept the economy of scale wind projects need. Resistance is futile, and always unreasonable.

Another concern that is not addressed in the report is the effectiveness of current pricing signals, which are now led by the awarding of Renewable Energy Credits (RECs) by New York State Energy Research and Development Authority (NYSERDA). RECs incentivize generation without regard to whether it is actually utilized. NYSERDA awards one REC to a developer that generates one megawatt-hour of electricity from a renewable energy project. In New York utilities are required to purchase a certain number of RECs from developers. This creates a "price signal" that results in negative bids into the electricity market by owners of renewable energy projects, just to get the right to generate and thus obtain RECs. Excess generation, in turn, results in curtailment of other renewable energy generators (further reducing their ability to reduce emissions). The use of negative bids shows that at times renewable energy is worth less than nothing.

How much do large-scale renewables reduce greenhouse gas emissions? This should be the touchstone for evaluating this technology. The report relegates one of two CES goals to a footnote: reducing New York State's greenhouse gas emissions by 40% from 1990 levels by 2030. This should be the primary goal, which is served by the second CES goal, achieving 50% of electricity generation from renewables by 2030. If the second goal could be achieved without advancing the first goal, the policy should be deemed a failure.

There is evidence that New York is currently experiencing precisely this

result. In a recent information request under Article 10 directed to Number Three Wind, the applicant was asked how much the project will reduce New York's carbon dioxide emissions. The applicant responded, "The project will reduce carbon dioxide emissions by approximately 15,800 tons per year (0.05%)." Accordingly, it will require 20 more wind projects the size of Number Three Wind (over 28 square mile project area) to reduce CO2 emissions in New York by one percent. Thus, the CES 50 by 30 goal may be achieved without meaningfully contributing to the CES 40% emission reduction goal.

What other means are available to achieve the CES emissions reduction goal? Recently, the Deep Decarbonization project developed feasible scenarios for changing energy generation and demand to achieve an 80% reduction in carbon emissions compared to 1990 levels, by 2050. Emissions would be achieved across all sectors, not just the power sector. See James H. Williams, et al., *Pathways to Deep Decarbonization in the United States* (November 2015). The *Pathways* studies find there are over 1,000 technologically and legally feasible ways to meaningfully cut greenhouse gas emissions in the U.S. 80% by 2050.

"Dramatically increasing large-scale renewable generating capacity across New York State is necessary for New York to reduce power sector emissions and achieve a carbon neutral electricity system by 2040, while at the same time electrifying the transportation and building sectors." So says the League's report, (p. 26), but this is a mere assertion, belied by the limited ability of large-scale intermittent renewables to reduce emissions.

The report's five recommendations listed below also misdirect attention from the real causes of "rural aversion":

1. Improve the Article 10 process;
2. Ensure that communities proactively evaluate and incorporate large-scale renewable development into their land-use decisions;
3. Improve community engagement early in the siting process;
4. Promote public education concerning the local and regional benefits of renewable energy; and
5. Encourage developers and localities to explore revenue sharing from locally-sited facilities.

Recommendation 1 calls for speeding up the Article 10 review process, with the stipulations process identified as the worst offender. But that part of the Article 10 review is optional, and some developers have already skipped it to speed up the process.

Recommendations 2 through 4 call for better dissemination of information,

but as noted this is already required by Article 10. Achieving that goal is in the hands of Article 10 applicants. However, it appears that the more local communities learn about the burdens and benefits of large-scale renewables, the more averse they become. Very few permanent jobs are created. At the two Howard Wind projects in Steuben County, only three “full time equivalent” jobs were created, presumably with little or no benefits.

Recommendation 5 has been achieved: everywhere in New York large-scale renewable energy developers offer about \$8,000 per design megawatt, with little variation, to be spread among host towns, counties and schools. Over half of this is public money, so it may be that the ability of government to further subsidize these projects is limited.

Large scale renewables industrialize rural communities in violation of land use plans focused on rural preservation. Low frequency pulsating noise from wind turbines primarily at night is one of the impacts that elicits aversion in rural communities. Visual and noise impacts together can be expected to diminish rural property values by 15 to 30% on average, eroding towns’, counties’ and school districts’ tax base.

Rural communities trying to preserve and develop rural amenities reasonably see the spoliation of the night sky with dozens of elevated blinking red FAA warning lights, the fragmentation of forested lands, and the introduction of an industrial noise source as the wrong kind of development. In light of the small contribution they can make to New York’s emissions reduction goals, this report’s emphasis on developing large-scale renewables upstate is at best misplaced.

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