

Marbletown Solar and Wind Energy Feasibility Studies

Solar Study

Identify solar vendors

As part of the Solarize Rondout Valley campaign, Marbletown ECC chair reviewed proposals from 3 commercial solar installers (Solar Liberty, Apex Solar, and Hudson Solar.)

Solar Liberty was selected as a vendor for the Solarize campaign. The vendor's commercial pricing was far superior to the other two installers, and the vendor demonstrated the ability to take on potentially large projects.

Identify sites

Marbletown has 7 wholly owned sites with electric bills, and one shared site. The following sites and sample electric bills were provided to Solar Liberty and Hudson Solar. Inside Track Solar and Borrego Solar were also contacted with the details of the RMC for possible quotes.

The Rondout Municipal Center (RMC) is a shared site with Rosendale. The electric bill is in Rosnedale's name, but costs are shared between towns. The property is leased from the Rondout Valley School District, but will be transferred to the Towns in 2019.

- Marbletown Community Center
- Marbletown Community Center Annex
- Old Town Hall
- Highway Department
- Tongore Park
- Shale Quarry
- Transfer Station.

Solar Liberty responded with 2 possible solar installations at the RMC, as well as layouts for the Community Center, Old Town Hall, Highway Department, Tongore Park, and the Transfer station. Inside Track Solar, Hudson Solar, and Borrego Solar chose not to provide any proposals In the expectation that their bids would not be competitive.

Eliminating Sites

The following sites were quickly eliminated from consideration for the following reasons:

- Community Center: Roof too old
- Community Center Annex: shaded roof, small electric demand
- Old Town Hall: building soon to be unoccupied, unknown future electric demand.
- Tongore park: shaded roof.
- Share quarry: no suitable roof, small electric load
- Highway department: Demand metered building makes economics problematic. Highway department building is at end of useful life. While the salt shed on the same property has an excellent roof to service the demand at either the Highway Department or the Old Town hall, the uncertain future occupancy of this site creates uncertainty.
- The Transfer station has a suitable roof, but a small electric load. There seems to be significant potential for reducing this load further, making a solar installation premature.

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Remaining sites for consideration.

Remote net metered arrays at the Highway department salt shed and two options at the RMC were given further consideration with detailed quotes. A final decision was delayed until rules for pricing of remote net metering were finalized.

A preliminary discussion with a Rosendale councilwoman was held regarding how a joint installation at the RMC would be financed and how the benefits would be shared. The two town's widely varying financial strengths complicated the discussion, and little progress was made.

Financing

An investigation of possible financing solar using a municipal loan led to discussions with Key Bank, which indicated its willingness to finance such an installation once a concrete proposal was on the table. Key Bank has a working relationship both with Marbletown and Solar Liberty.

Solar Power Purchase Agreements (PPAs) were investigated to allow the Town to monetize the federal solar investment tax credit. Conventional PPAs are typically only available for very large installations, with the only the RMC possibly qualifying. An alternative "pre-paid PPA" is available from Collective Sun which allows the town to essentially convert the 30% ITC (for which it is ineligible) into a 15% discount. This is available for installations over 10kW.

Community solar

While the Town was waiting for remote net metering rules to be finalized, a new option became available for non-demand sites in November 2017. This option is incompatible with net metering because Central Hudson's computer system can not handle the complexity. A community solar farm in Wappingers by Nexamp offers a guaranteed 10% discount on bill credits with out a long term contract. The town elected to sign up all the non-demand metered sites for this option given the simplicity and obviously beneficial economics.

Community Hydro

In January 2018, the Town became aware of a small hydropower operator (Natural Power Inc) offering similar terms to NexAmp's community solar offering with a one year term. Natural Power was willing to work with demand metered sites. The town is waiting for contracts with Natural Power for the Highway Department and (through Rosendale) the RMC.

Conclusion

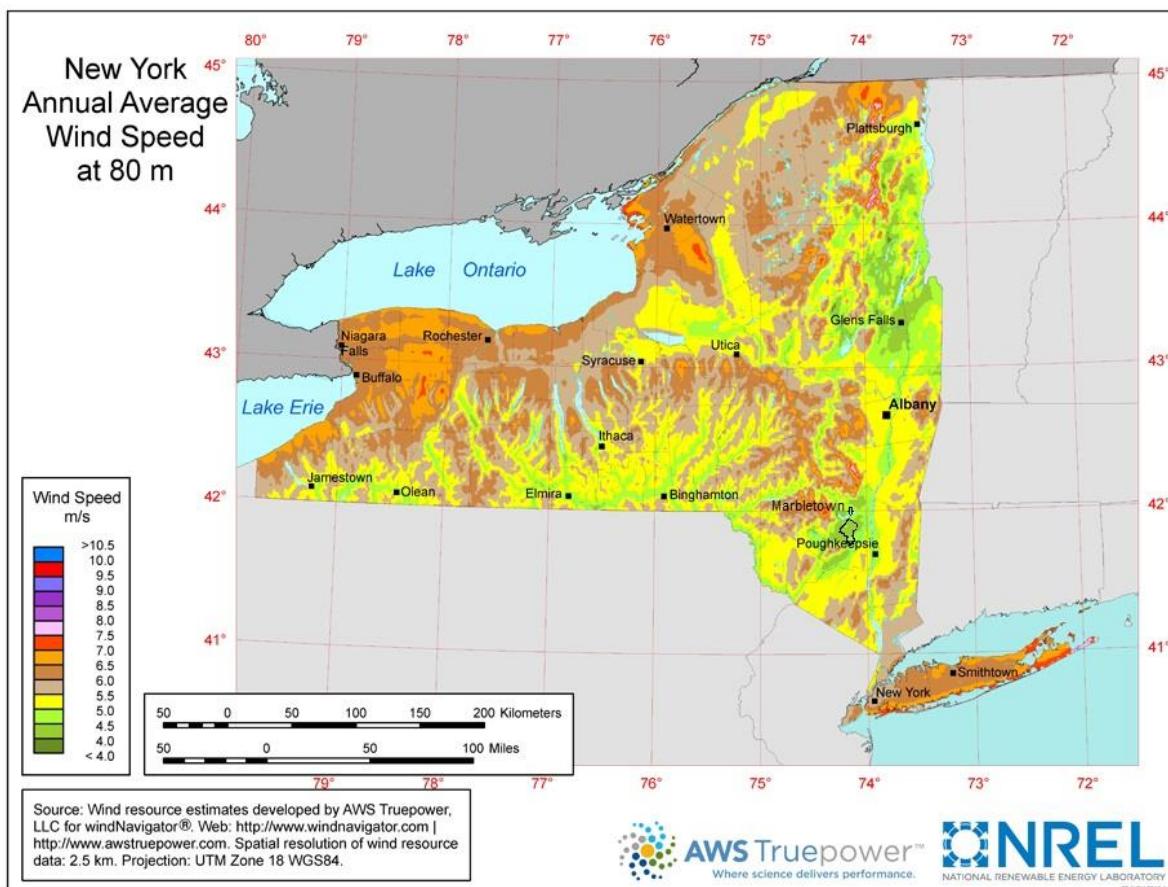
Given the attractive economics of an immediate 10% discount and the incompatibility of these options with net metering, the investigation of solar for Marbletown buildings has been put on hold until such time as it becomes compatible with community solar or community hydropower.

Wind Study

A review of NREL's map of average wind speeds at 80 meter hub height shows that Marbletown has one of the lowest wind resources in NY. Average wind speeds of over 4 m/s are generally considered economic. All Town-owned sites have average wind speeds well below 4 m/s. The only part of town with even marginal 5m/s resource is Marbletown's iconic Shawungunk ridge, a center of local outdoor oriented recreation and tourism. The landowners (Mohonk Mountain House and Mohonk Preserve) are a tourism oriented business and a nature preserve. Neither is interested in wind development.

Wind development is not feasible on Marbletown town-owned sites, and is unlikely to be feasible anywhere in Marbletown given the scenic and recreational uses of the best wind sites in the Town.

New York State Wind Map



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Marbletown Wind Energy Potential

