



**BUFFALO
RENEWABLES INC.**

Distributed Wind Permitting in NY

Spring 2017 Regional Local Government Workshop

PADMA KASTHURIRANGAN, MSEE

SMALL WIND & SOLAR PV INSTALLER

PHONE: (716) 833-0114
EMAIL: PADMA@BUFFALO-RENEWABLES.COM

700 PORTER ROAD, SUITE 4
SARGENT, ILLINOIS, NY 14224

Distributed Wind (DW)

- One or more wind turbines installed typically thru a net metering agreement
- Also includes off-grid systems
- Size varies from ~400 W to 2 MW
- Usually for private or community use



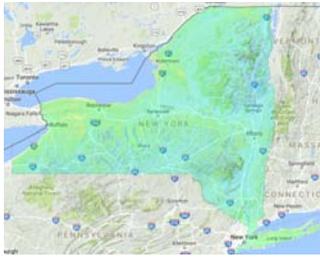
DW Technology

- Class III or lower winds
- Turbine Technology
 - Permanent Magnet/Direct Drive
 - Induction Generator
- Tower types:
 - Lattice
 - Monopole
 - Guyed
 - Self-supporting
 - Tilt-up



Distributed Wind in NY State

- <http://nyswe.awstruepower.com/>
- NYSERDA Small Wind PON 2439 funds up to 50% of a project cost or \$1 million for grid connected systems in participating utilities



Grid Interconnection

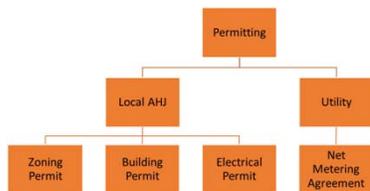
Net Metering: Conventional “ Behind the meter” set up for on site generation

Remote Net Metering: Allows farm and non residential customers to install DG system at one site and transfer kWh as paper credits to unlimited satellite meters under the same entity

Community Distributed Generation: Allows unrelated entities to share the energy generated from a DG system



Permit Time!!

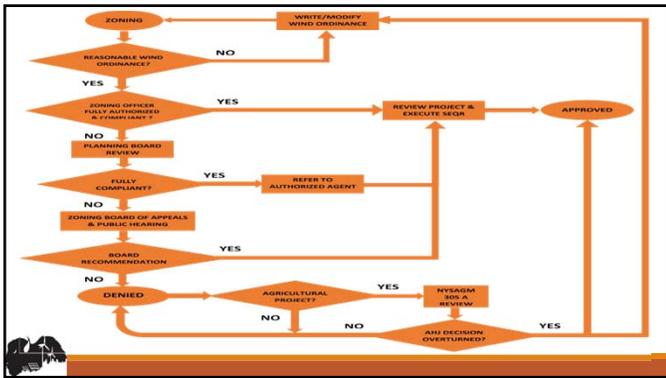




Zoning & Permitting

- Processing time varies with AHJ and nature of installation
- Influencing Factors
 - Town's Zoning Ordinance
 - Neighbor Relations
- Installation Type
 - Residential / Commercial
 - Farm





NYS Department of Agriculture & Markets

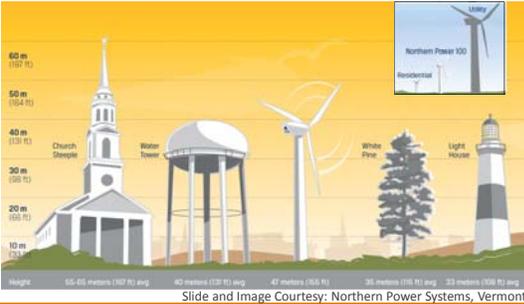


Article 25 AA – Section 305 A of the NYS Ag & Markets law:

- Small Wind & Solar PV are considered farm operation or structure
- Permit application for any farm project cannot be denied for:
 - Height
 - Sound
 - Smell
 - Public Comment
 - SEQR – Type 2 Action
 - NYS Education law exempts PE Stamp for farms

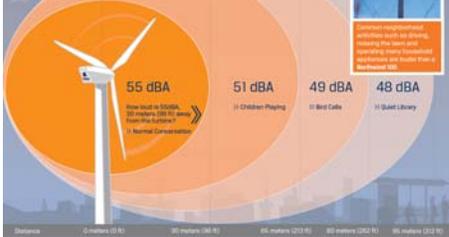


Visual Impact



Slide and Image Courtesy: Northern Power Systems, Vermont

What is the sound profile of the Northwind 100? ...Quiet.



Slide and Image Courtesy: Northern Power Systems, Vermont

Reasonable Ordinance

- Setbacks:**
- 1.1 – 1.5 times total height from property line
 - 5 times rotor diameter from buildings
 - 6 – 8 times rotor diameter
- Height**
- Typically < 190' (FAA requirement)
- SEQR - Short EAF**
- Certification:**
- Turbine – AWEA 9.1, IEC 614100
 - Tower – ANSI/TIA 222-G



Unreasonable Restrictions

- Birds!!
- Noise on a summer day
- Cabbage Smell
- Epileptic Attacks
- EMP attacks



Property Taxes

Authorization for exemption

Real Property Tax Law section 487 exempts from taxation, but not special ad valorem levies or special assessments, real property which includes a solar or wind energy system or farm waste energy system satisfying guidelines established by the New York State Energy Research and Development Authority. The solar or wind energy system or farm waste energy system must be existing or constructed before July 1, 1988, or constructed after January 1, 1991, and before January 1, 2025. (A county, city, town or village may adopt a local law or a school district (except the city school district of New York City, Buffalo, Rochester, Syracuse or Yonkers) may by resolution provide that no solar or wind exemption or farm waste energy system shall apply within its jurisdiction for systems constructed after January 1, 1991, or the date of such local law or resolution, whichever is later. Structures that satisfy the requirements for exemption under Real Property Tax Law §483-e (Anaerobic Digestion Facilities) cannot receive this exemption.



How Municipalities can participate?

Lead By Example!!
Contact us to sign up for a turbine for your municipality!!

PACE NY

- New York State's Property Assessed Clean Energy (PACE) finance program, offers long-term, affordable financing to commercial building owners and not-for-profits for energy efficiency and renewable energy projects.



Resources

DWEA:

• <http://distributedwind.org/zoning-resource-center/>

NYS Agriculture and Markets:

• <http://www.agriculture.ny.gov/ap/aeservices/agdistricts.html>

NYSERDA:

https://portal.nyserdera.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt0000000Qn7nAAC



QUESTIONS??

PADMA KASTHURIRANAGN, MSEE
 NYSERDA SMALL WIND INSTALLER #3218
 NYSERDA SOLAR PV INSTALLER #5006
 NABCEP CERTIFIED PV INSTALLATION PROFESSIONAL # PV-041115-011562
 Email: PADMA@BUFFALORENEWABLES.GREEN
 PHONE: 7165130114
 WEBSITE: WWW.BUFFALORENEWABLES.GREEN