

## **Town of Lyme Renewable Energy Law**

Modifications to Town of Lyme Zoning Ordinance; Local Law No. 1 for the Year 1989, Rev 0:  
Dated 2-08-2012; hereinafter referred to as **LL #1**

### **1. PURPOSE and INTENT**

The Lyme Town Board recognizes the increased demand for renewable energy throughout the region and the state. This Law provides standards for Renewable Energy Systems designed for home, farm, and commercial use that are intended to reduce on-site consumption of utility power. The purpose of this law is to regulate the construction, installation, and operation of Renewable Energy Systems in the Town of Lyme to protect the public health and safety and the Town environs while ensuring the rights of property owners to build and operate a wide range of renewable energy systems.

Conformance with this Law will protect citizens from potential negative impacts associated with the construction and operation of Renewable Energy Systems and will protect the Town's valued natural resources and properties.

### **2. APPLICABILITY**

The requirements set forth in this law shall govern the construction, installation, and operation of Renewable Energy Systems used to generate electricity or perform work as an independent source of **energy for on-site use**. Another section of LL #1 addresses applications for commercial wind energy permits. Any Biomass Energy System or Solar Energy System that is designed to contribute electrical energy to the grid is regarded as a commercial enterprise and will be considered on a case-by-case basis. For this Law, a Renewable Energy System (RES) is defined as follows:

Biomass Energy System (BES)

Small Wind Energy Conversion System (SWECS)

Solar Energy System (SES)

The requirements in the following sections apply to RESs proposed after the effective date of this law. Any RES for which a required permit has been issued prior to the effective date of this law will not be required to meet the requirements of this law, subject to the following condition: any RES approved prior to the imposition of this law that does not operate for twelve consecutive months must re-apply for a special permit that fulfills the requirements of this law prior to restart.

**Biomass Energy System (Hydronic Systems only):** Any device or combination of devices or components which burn wood for the source of heat to supply energy to liquid heat exchange

media such as water that is circulated to the heating load and returned to the heat source through pipes.

**Building-Integrated Photovoltaic (BIPV) Systems:** A solar energy system that consists of photovoltaic arrays attached to the building such as the roof or the façade.

**Free Standing Tower:** A vertical mount for wind powered generators that is not attached to a building or other structure and may or may not use guy wires for additional stability.

**Net Metering:** A billing arrangement that allows solar customers to get credit for excess electricity generated on-site and delivered back to the grid.

**Owner:** The individual or entity that intends to own and operate the renewable energy system in accordance with this law, typically the owner of the property on which the system resides.

**Photovoltaic (PV) Systems:** A solar energy system that produces electricity by the use of semiconductor devices (photovoltaic cells) that produce electricity when exposed to light.

**Qualified Solar Installer:** A person listed as an eligible photovoltaic installer by the New York State Energy Research and Development Authority (NYSERDA) or who is listed as a certified solar installer by the North American Board of Certified Energy Practitioners (NABCEP), shall be deemed to be a qualified solar installer for the purpose of this definition. Persons who are not on NYSEERDA's nor NABCEP's list of certified installers may be allowed to install solar equipment if the Town of Lyme determines that the person has had adequate training to perform the installation safely and effectively. Training shall include, as a minimum, the proper use of personal protective equipment and the practice of special precautionary techniques. The skills and techniques necessary to distinguish exposed energized parts from other parts of electrical equipment and to determine the nominal voltage of the exposed parts must also be demonstrated.

**Small Wind Energy Conversion System (SWECS):** A system that uses wind to spin an electrical generator with a capacity of 50 kW or less.

**Solar Access Area:** Space open to the sun, mostly clear of overhangs or shade that allows the use of active and/or passive solar energy systems on individual properties.

**Solar Array:** A group of multiple solar panels or modules linked into a single unit.

**Solar Collector:** A photovoltaic cell, panel, array, or other device that converts solar radiation to electricity or transfers solar energy to air, water, or another storage media.

**Solar Easement:** An easement recorded pursuant to the NY Real Property Law§335-b, the purpose of which is to secure the right to receive direct sunlight across neighboring property to operate a solar energy system.

**Solar Energy System:** A combination of components that uses radiant energy (direct, diffuse, or reflected) from the sun to generate electricity or other forms of energy such as heat.

**Solar Thermal Systems:** Systems that directly heat water or other liquids using solar radiation.

## A. Application Requirements

1. No RES shall be constructed or installed without first receiving a special permit from the Town of Lyme Zoning Board of Appeals (ZBA). A special permit shall also be required for a major physical modification to an existing RES.
2. The Town of Lyme Zoning Enforcement Officer (ZEO) will provide application forms specific to the RES to be built. The applicant may request a pre-meeting with the ZBA or ZEO or any consultants retained by the ZBA for the purpose of reviewing the application.
3. The property owner must submit the completed application for a RES special permit to the ZEO. The application must be on a form provided by the ZEO and must include, as a minimum, the following information:
  - a. Name, address, telephone number of the applicant. If the applicant will be represented by an agent, the name, address and telephone number of the agent as well as an original signature of the applicant authorizing the agent to represent the applicant.
  - b. Name, address, telephone number of the property owner. If the property owner is not the applicant, the application shall include a letter or other written permission signed by the property owner (i) confirming that the property owner is familiar with the proposed applications and (ii) authorizing the submission of the application.
  - c. A description of the project, including the manufacturer, output power rating, technical specifications, and other details of the RES. If the RES is a custom design, a full engineering review performed by a NYS licensed professional engineer with certification in the technical area associated with the RES must be presented with the application. The engineering review must include a certification that the custom design meets all of the requirements and standards applicable to a comparable commercially manufactured unit.
  - d. Provide a drawing of the property, indicating property lines and physical dimensions, the location of the proposed RES, and the locations with approximate dimensions of major on-site structures. If applicable, indicate the locations of all on-site utility lines, transformers and other ancillary facilities, and the RES interconnection point.
  - e. For BES and SWECS only, identify public roads, rights of way, and properties within 1250 feet of the property lines on which the proposed RES will be located.

Include ownership, land use information, and locations of residences on the identified properties.

f. If applicable, provide a site map describing land cover, wetlands, streams, water bodies, and areas proposed to be temporarily or permanently cleared of vegetation, areas to be graded, and areas to be cut and filled sufficient to demonstrate that there will no adverse impact on neighboring properties.

g. Provide a description of the system electrical components in sufficient detail to demonstrate that the installation conforms to the most recent version of the NEC electric code requirements.

h. For any system with an electrical output capacity equal to or greater than 10kw, provide written certification that the electric utility service provider has been informed of the applicant's intent to install an interconnected customer-owned electricity generator, unless the applicant does not plan to connect the system to the electric grid and so states in the application.

i. Detailed manufacturer's installation specifications must be submitted with the application to provide the code inspector with sufficient information to ensure conformation with all applicable NYS fire and building codes, all industry and manufacturer requirements, and all requirements of this local law.

4. The ZEO, after a completeness review, will refer the application to the ZBA for action.

5. The owner shall conspicuously post the special permit at the construction site until construction and installation of the RES is complete.

6. The special permit shall lapse if construction does not commence and be substantially complete within one year from date of permit issuance.

## **B. Biomass Energy System (BES)**

(1) Special permit applications must include an engineering analysis demonstrating compliance with the Uniform Statewide Building Code. This analysis may be supplied by the manufacturer. Wet stamps shall not be required.

(2) In addition to all other applicable construction codes, the provisions of the applicable, system-specific requirements within NYS DEC Regulation, Part 247: **Outdoor Wood Boilers**, must be met.

(3) BESs must comply with all building and structure setbacks and height requirements for the zoning district in which the system is to be installed. Setbacks shall be adjusted to

ensure that there is sufficient distance between the BES and adjacent properties to prevent unhealthy or unpleasant effects from BES emissions on neighboring residences. Emission effects from the BES on adjacent properties can be mitigated in several acceptable ways including but not limited to the following: increasing the setback between the BES and the property lines; installing taller smokestacks; installing catalytic converters in smokestacks; incorporating emission-mitigating engineered solutions provided by the manufacturer or other technically qualified firms. The most up-to-date safety standards adopted by New York State at the time of application review shall be used by the ZBA in determining the acceptance of BES applications for a special permit. The ZBA shall exercise judgment in requiring mitigation equipment to ensure that adjacent property owners are sufficiently protected from any harmful effects of BES emissions. Regardless of technology employed, no BES can be sited less than 200 feet away from all adjacent property lines.

(4) Current (i.e. at the time of application review) NYS safety standards shall be used by the ZBA in determining the acceptance of the BES special permit application.

Specifically,

a) Ensure that the system is sized for its application in accordance with NYS code requirements, in particular, Manual J.

b) Indoor units that are “exempt” per NYS Part 247 shall include thermal storage capability acceptable to the ZBA to ensure system high performance and minimal emissions.

(5) All exterior electrical and/or plumbing lines must be buried.

(6) BESs must comply with the accessory structure restrictions contained in the zoning district where the system is located.

(7) For systems using wood pellets as fuel; Bulk storage facilities for wood pellets shall be located external to habitable dwellings. In cases where this is not possible, a sealed wood pellet storage container shall be used that incorporates its own mechanical ventilation system to prevent carbon monoxide (CO) from entering the home. Exhaust from the ventilation system shall be located such that CO cannot be entrained in the dwelling or adjacent buildings. CO monitors shall be installed per NYS “Amanda’s Law” for all circumstances in which stored wood pellets could release CO into living quarters.

(8) An acceptable waste (combustion products) management plan must be in place at the time of initial BES operation and followed throughout the BES service life.

(9) Acceptable operation of a BES will be determined by the CEO using, in part, the definitions and requirements stated in NYS Part 302.6.

(10) No commercial BESs are permitted in the waterfront district.

### **C. Small Wind Energy Conversion Systems (SWECS)**

- (1) SWECS systems with an output power rating equal to or less than 50kw are allowed within the Town of Lyme except in the Waterfront District. SWECS applications must include copies of letters sent to the owners of all adjoining properties by the applicant, at least 30 days prior to the submission of an application, informing them of his/her intent to apply for a special permit to construct a SWECS. No more than one SWECS shall be permitted on parcels up to 200 acres. Applications for an additional SWECS on parcels greater than 200 acres shall be considered by the ZBA on a case-by-case basis.
- (2) Tower height is allowed to vary, dependent on the technology employed, up to a **never to exceed maximum of 125 feet**, including the upward vertical blade length.
- (3) Setbacks from all property lines shall be maintained as follows:

#### **SWECS Design**

#### **Minimum Setback to Property Line**

Free-Standing Tower, Horizontal or Vertical Axis  
Roof Mounted

5 times tower height  
Conform to building code

- (4) Exterior lighting on any structure associated with the SWECS shall be limited to a maximum height of 20 feet above the ground except lighting which is specifically required by the Federal Aviation Administration.
- (5) The system's tower and blades shall be painted a non-reflective, unobtrusive color that blends the system and its components into the surrounding landscape to the greatest extent possible and shall have non-reflective finishes on non-painted surfaces.
- (6) The system shall be operated such that no disruptive electromagnetic interference is caused. If it has been demonstrated that a system is causing harmful interference, the system operator shall promptly mitigate the harmful interference or cease operation of the system.
- (7) The system shall be operated such that no damage is caused by stray voltage. If it has been demonstrated that a system is causing stray voltage, the system operator shall promptly mitigate the damage or cease operation of the system until damage is mitigated.
- (8) At least one sign shall be posted on the tower at a height of five feet warning of electrical shock or high voltage and harm from revolving machinery. No brand names, logo or advertising shall be placed or painted on the tower, rotor, generator or tail vane

where it would be visible from the ground, except that a system or tower manufacturer's logo may be displayed on the generator housing in an unobtrusive manner.

(9) Towers shall be constructed to restrict unauthorized access. Examples: tower-climbing apparatus located no closer than 12 feet from the ground; locked anti-climb device installed on the tower; other methods subject to CEO approval.

(10) The lowest extension of any horizontal axis wind turbine blade shall be at least 30 feet above any obstacle, in any direction, within 500 feet of the turbine.

(11) All SWECS, including tower structures, shall be designed and constructed to comply with pertinent provisions of the Uniform Building Code and National Electric Code under the National Fire Protection Association (NFPA).

(12) All SWECS shall be equipped with manual and automatic over-speed controls. The conformance of rotor and over-speed control design and fabrication with good engineering practices shall be certified by the manufacturer.

(13) New York State Department of Agriculture and Markets guidelines for agricultural mitigation for wind power projects shall be followed both inside and outside of agricultural districts.

(14) SWECS shall be designed, installed, and operated so that noise generated by the system shall not exceed 35 decibels, A-weighted (dBA) from 9:00pm to 7:00am and 50 decibels, A-weighted (dBA) from 7:00am to 9:00pm, as measured at the SWECS site property lines.

#### **D. Solar Energy Systems (SES)**

(1) Rooftop and Building-Mounted Solar Collectors are permitted in all zoning districts in the Town of Lyme subject to the following conditions:

a. Height limitations shall not be applicable to solar collectors that extend three feet or less above the peak of the roof.

b. Rooftop solar units must be set back at least three feet from all roof boundaries.

c. Roof structures must be engineered to support the solar collector weight in addition to other weight bearing requirements.

(2) Building-Integrated Photovoltaic (BIPV) Systems are allowed in all zoning districts. No separate special permit is required if the system is designed and installed as part of the original construction and the plans are reviewed and approved.

(3) Ground-Mounted Racks and Free Standing Solar Collectors mounted on a pole are permitted as accessory structures in all zoning districts, subject to the following conditions:

a. Special permits are required for all Ground-Mounted and Free Standing Solar Collectors 10 feet or less in height above the ground. Height above ground is determined by the highest extension of any part of the solar array. For solar arrays that move to maintain optimal exposure to the sun, the highest extension of any array component in any attainable orientation shall serve as the limiting height.

b. For residential lots less than or equal to 5 acres, **one** 100 square foot solar array is permitted for each 10,000 square feet of lot area. For lot sizes greater than 5 acres, one 100 square foot solar array is permitted for each 5,000 square feet of lot area. The total capacity of the solar arrays cannot exceed 125% of the estimated site electrical needs.

c. The arrays must be installed in accordance with all setback standards applicable to residences.

d. Solar systems with an output less than 1 kilowatt do not require any permit.

e. Solar arrays mounted on motor-driven mounts that allow optimal orientation toward the sun must meet environmental safety requirements including but not limited to, wind and snow loads appropriate for the local climate. Setback requirements must be met for any and all orientations of motor-driven arrays.

(4) Solar-Thermal Systems are permitted in all zoning districts and require a special permit prior to installation.

(5) No commercial solar farms are permitted in the waterfront district.

#### **E. Additional Considerations**

(1) RESs must be maintained in accordance with all applicable manufacturers' requirements. Failure to abide by and faithfully comply with any and all conditions attached to the granting of the RES permit shall constitute grounds for revocation.

(2) The CEO may issue a “Notice of Unsafe Energy System” (“Notice”) to the owner of a RES that is determined to be unsafe. The owner shall repair or remove the RES at his/her expense within three (3) months of receipt of the “Notice”. The Owner has the right to respond, in writing, to the “Notice” within 30 days from receipt. If the owner demonstrates that the RES has been repaired or removed, the CEO shall withdraw the “Notice”.

(3) Any RES not used for twelve (12) consecutive months shall be deemed abandoned, shall be dismantled, and shall be removed from the property at the expense of the property owner within six months from the declaration of abandonment. If the owner fails to repair or remove the RES, the Town Board shall pursue legal action, as necessary.

(4) Agricultural structures in a County Agricultural District will be subject to review under this law, as may be modified by NYS Agriculture and Markets guidelines.

#### **F. Fees**

The most recent Town of Lyme fee chart will be used to determine charges for renewable energy system applications.

#### **G. Effective Date**

This local law shall become effective after certification by the Town Clerk and the Town Attorney and upon filing and acceptance by the Office of the Secretary of State.