



**GREEN
COMMUNITIES
DESIGNATION &
GRANT
PROGRAM**

Criterion 1

*Guidance for Meeting
Criterion 1 via
Renewable/Alternative
Energy R&D and/or
Manufacturing
Facilities*



Guidance - Complying with the Green Communities Act through the as-of-right siting of renewable or alternative energy research and development or manufacturing facilities

This Guidance was prepared by the Department of Energy Resources (DOER) to help cities and towns enact zoning that satisfies a requirement of the Green Communities Program by facilitating development of renewable or alternative energy research and development facilities or renewable or alternative energy manufacturing facilities.

The Green Communities Act requires compliance with five criteria to qualify as a Green Community (*see Section 22 of the Green Communities Act, codified at [M.G.L. ch. 25A § 10\(c\)](#)*). This document provides cities and towns with guidance in meeting the underlined alternatives for complying with criterion one (#1):

To qualify as a Green Community, a municipality or other local governmental body shall: . . . (2) provide for the as-of-right siting of renewable or alternative energy generating facilities, renewable or alternative energy research and development facilities, or renewable or alternative energy manufacturing facilities in designated locations . . .

As stated, municipalities or local government bodies seeking to qualify as Green Communities may satisfy the as-of-right criterion one (#1) by providing for as-of-right siting of renewable or alternative energy research and development (R&D) facilities or as-of-right siting for renewable or alternative energy manufacturing facilities. This document provides communities with guidance on the standards against which their zoning will be evaluated, and on how to document compliance with these standards.

It is important to recognize that municipalities may permit uses in various types of districts to satisfy criterion one (#1). For example, industrial, light industrial, commercial, and mixed-use districts often allow R&D and manufacturing facilities. Key questions in regard to qualification as a Green Community are whether:

1. Development is permitted **as of right**;
2. Construction of a qualifying “renewable or alternative energy” R&D or manufacturing facility is **allowed** in the zoning district; AND
3. If additional development is **feasible** in the zoning district.

Question #1: Does the bylaw or ordinance permit development as-of-right?

First, to qualify as a Green Community under this provision, a bylaw/ordinance must permit a qualifying facility as-of-right. This type of zoning, otherwise commonly known as “by right,” allows a landowner/developer to build the pertinent facility without the need for a special permit or any other type of discretionary permit. DOER will utilize the following definition when evaluating zoning for compliance:

As-of-Right Siting: As-of-Right siting shall mean that development may proceed without the need for a special permit, variance, amendment, waiver, or other discretionary approval. As-of-right development may be subject to non-discretionary site plan review to determine conformance with local zoning bylaws

as well as state and federal law. As-of-right development projects that are consistent with zoning bylaws and with state and federal law cannot be prohibited.

Question #2: Does the bylaw or ordinance clearly allow the construction of facilities that will engage in “renewable or alternative energy” R&D or manufacturing?

To qualify, a municipality’s zoning must specify as an allowed use construction of one of the following facilities:

Research and Development Facilities are those used primarily for research, development and/or testing of innovative information, concepts, methods, processes, materials, or products. This can include the design, development, and testing of biological, chemical, electrical, magnetic, mechanical, and/or optical components in advance of product manufacturing. The accessory development, fabrication, and light manufacturing of prototypes, or specialized machinery and devices integral to research or testing may be associated with these uses.

Manufacturing Facilities are those used primarily for heavy or light industry or the manufacture or assembly of a product including processing, blending, fabrication, assembly, treatment and packaging.

Additionally, in order to qualify, the as-of-right zoning for R&D or manufacturing must clearly allow renewable or alternative energy activities defined as follows. The expectation is that the municipality will allow for all of the technology areas listed below. Given adequate justification, the Division may permit exclusion of a particular technology:

Renewable Energy:

- Solar - photovoltaic (PV) and thermal
- Wind
- Biomass power conversion or thermal technologies, including R&D related to, or the manufacture of, wood pellets
- ultra low emissions high efficiency wood pellet boilers and furnaces
- Low Impact Hydro - electric and kinetic
- Ocean thermal, wave or tidal
- Geothermal
- Landfill Gas
- Fuels Cells that use Renewable Energy
- Advanced biofuels

Alternative Energy:

- Combined Heat and Power
- Electric- and hydrogen-powered vehicles and associated technologies, including advanced batteries and recharging stations

Note: Municipalities seeking credit for zoning that authorizes R&D or manufacturing associated with other clean energy technologies or fuels should consult DOER.

Question #3: Does local zoning provide a realistic opportunity to locate renewable or alternative energy R&D or manufacturing facilities?

Finally, in order to satisfy criterion one (#1), an applicant must show one of the following:

- 1) that land is available for the construction of a facility or facilities of 50,000 square feet or larger in the aggregate; or
- 2) that there is enough available vacant space in existing buildings to provide for a facility or facilities of 50,000 square feet or larger in the aggregate, with a minimum of 5,000 square feet per unit; or
- 3) that a combination of available land for new construction and existing available vacant space in existing buildings can accommodate a facility or facilities of 50,000 square feet or larger in the aggregate.

Zoning districts with previously developed but vacant or underutilized structures or sites are preferred over those that would site clean energy facilities on land that is currently wooded, actively farmed, or otherwise undeveloped. Basic yield calculations accounting for height, floor area ratio, setback, parking, and other limits on building size will suffice as documentation of available land for new construction purposes. For available vacant space, the individual units must be identified with addresses and the associated square footage. A single unit must be at least 5,000 sq feet, and an explanation of how it was determined the space is currently vacant must be provided.

Documentation: How to demonstrate that the municipality’s zoning qualifies

Applicants must provide a letter from municipal counsel certifying that the above questions can be answered in the affirmative. In terms of specific contents:

The letter must cite and summarize the pertinent section of the zoning ordinance/bylaw:

- Applicants must include copies of:
 - The applicable section of their zoning bylaw/ordinance,
 - Important zoning definitions,
 - The relevant section of the use table and any key that will help DOER interpret the use table,
 - Any related local regulations applicable to facilities sited under the bylaw/ordinance—such as site plan review regulations—so that DOER can confirm that the related local regulations are non-discretionary; AND
- Yield calculations must be either included in the text of the letter or attached;
- Any documentation supporting the existence of available vacant space must be in the text of the letter or attached.

Sample Letter:

The town’s light industrial district, section 4.3 of the zoning bylaw, allows the by-right construction of manufacturing facilities that meet the definitions provided. The text of this section, relevant portions of the town’s site plan review regulations, and the table of uses are attached. Manufacturing of renewable/alternative energy products is clearly allowed. In fact, such a facility was permitted in 2007 and built last year. ABC Industries assembles solar panels from components produced on-site and in other locations around the globe. Finally, the light industrial district covers an area of over 250 acres near a highway interchange. Over 50 percent of the land in this district is vacant and developable. The district has no stated FAR limit, the impervious surface limit is 70 percent, buildings can be of up to three stories and only one parking space is required per 1000 square feet. Thus, as indicated in the attached calculation, plenty of space exists for 50,000 square feet of floor area to be built.

Examples of Qualifying Activities: By applying for certification as a Green Community under the R&D and manufacturing provision of criterion one (#1), legal counsel and local officials are certifying that landowners in the appropriate district are able to construct, as-of-right, facilities that can be used for renewable and alternative energy related manufacturing or R&D activities such as:

- Solar panel production
- Research and development intended to enhance geothermal systems
- Manufacture of turbines – wind or hydro
- Research related to advanced battery systems
- Manufacture of fuel cells
- Research to improve the efficiency of or reduce pollution from biomass power facilities
- Assembly of wave energy generating systems
- Manufacture of wood pellets
- Production of biofuels