

CHAPTER 1176
Alternative Energy Systems

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CROSS REFERENCES

1176.01 PURPOSE AND INTENT.

In order to balance the need for clean, renewable energy resources and the necessity to protect the public health, safety and welfare of the community, the following regulations are necessary to ensure that alternative energy conversion systems are appropriately designed and safely sited and installed.

This chapter establishes the regulations and criteria which allow compatible alternative energy conversion systems to be located within the various land use districts in association with a principle use or structure. In the event of a conflict between the development standards in this section and the development standards in the applicable use district, the standards of this section are to be used.

1176.02 DEFINITIONS.

- (a) *Alternative energy systems* for the purpose of this Chapter shall refer to any structure or device used to convert, generate or harness alternative energy sources on site or for private use.
- (b) *Closed loop system* shall be defined as geothermal energy system that uses a loop of buried plastic pipe as a heat exchanger. Loops can be horizontal or vertical.
- (c) A *fuel cell* is defined as a device that produces electricity by combining hydrogen and oxygen with heat and water as the only byproducts.
- (d) A *geothermal energy system* shall refer to all underground piping, heat pumps, and any other associated appurtenances that harness the Earth's constant heat for heating and energy purposes.
- (e) *Open loop system* shall refer to a geothermal energy system that utilizes water from an open source, such as a well or pond, as a heat exchanger. The water is then discharged back into its original source.
- (f) A *small wind energy system* shall be defined as a device or structure consisting of a wind turbine, tower, and associated control or conversion electronics, which is intended to primarily reduce on site consumption of utility power. A system is considered a small wind energy system only if it supplies electrical power solely for onsite use, except that when a parcel on which the system is installed also

receives electrical power supplied by a utility company, excess electrical power generated and not presently needed for onsite use may be used by the utility company.

- (g) A *solar energy system* shall refer to a solar panel or panels and all associated appurtenances used for the purposes of heating and cooling or generating electricity for a primary or accessory structure.
- (h) *Solar panel* shall be defined as solar photovoltaic panel, or solar thermal panel for heating or cooling, which relies on solar radiation as an energy source for the generation of electricity or transfer of stored heat.
- (i) The term, *tower*, for the purposes of this Section, shall refer to the vertical component of a wind energy conversion system that elevates the wind turbine generator and attached blades above the ground.

1176.03 REGULATIONS AND PERMITTING.

(a) Permitting.

- (1) No alternative energy conversion system shall be erected or installed in the City unless a permit has first been issued by the Building Department with review from the Fire Division and zoning certificate issued by the Zoning Officer.
- (2) Written application for an alternative energy conversion system shall be made to the Building Department. The application shall include:
 - A. The address of the property, and the name, address and telephone number of the owner and occupant of the property.
 - B. A site plan of the property showing the exact location of the proposed alternative energy conversion system, all existing utility lines specifically indicating overhead lines and all other structures on the premises.
 - C. A description of the proposed conversion system, including information regarding its construction, method of assembly and installation.
 - D. Plans showing the specifications and elevations of the proposed conversion system.
 - E. A landscaping plan showing the size, quantity and types of landscaping materials to be used for screening.
 - F. If the applicant is not the owner of the premises, the application shall include a statement by the owner giving the applicant written consent to install the conversion system on the premises.

(b) Regulations. No alternative energy conversion system permit shall be issued, nor shall a system be installed unless the following requirements are met:

- (1) No energy system shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.
- (2) All ground mounted electrical and control equipment shall be labeled or secured to prevent unauthorized access.

- (3) All alternative energy conversion systems shall be designed to conform to all the requirements of the National Electric Code.
- (4) Whenever the Chief Building Official determines that good engineering practice has not been used in the preparation of construction plans, he/she may require that the plans be sealed by a registered professional engineer of the State of Ohio.
- (5) No alternative energy systems shall be installed without the approval of the City Engineer and review of the Fire Chief.
- (6) Removal of an alternative energy system shall require notification to the utility company and demolition permits from the Chief Building Official.

1176.04 APPEALS AND VARIANCES.

Applications for variances from the development standards of this chapter and appeals to the decision of the Zoning Officer shall be filed for determination by the Board of Zoning Appeals pursuant to Chapter 1113.

1176.05 SOLAR ENERGY SYSTEMS.

(a) Permitted Use. The following shall be considered as a permitted use should the performance and design standards of this section be met:

- (1) Roof mounted solar photovoltaic and thermal panels or tubing.
- (2) Ground mounted solar photovoltaic or thermal panels are permitted uses in all zoning districts on lots of at least one-half acre in size that adhere to the following performance and design standards. Ground mounted thermal tubing is not permitted.

(b) Conditional Use. Ground mounted solar panels shall be conditional uses in all zoning districts on lots less than one-half acre in size and shall adhere to the following performance and design standards.

(c) Performance and Design Standards.

- (1) Minimum lot size. There is no minimum lot size requirement for roof mounted solar energy systems. Permitted ground mounted panels have a minimum lot size of 1/2 acre.
- (2) Location. Ground mounted solar panels shall be placed in the rear or side yard only.
- (3) Height. Ground mounted solar panels shall not exceed 8 feet in height. Roof mounted solar panels shall be either integrated into the roof layer or a separate flush mounted panel attached to the roof surface and shall not project vertically if installed on a pitched roof. Panels or tubing installed on flat roofs may project vertically if not visible from any street.
- (4) Maximum panel size and lot coverage. Ground mounted solar panels shall not exceed a total surface area of 250 square feet.
- (5) Setbacks. All ground mounted solar panels shall meet all setbacks of the applicable zoning district. In residential zoning districts, ground mounted panels shall meet the applicable setbacks for an accessory structure.
- (7) All solar panels must have a non-reflective coating to minimize glare.

- (8) Roof mounted panel color must be uniform in appearance and color.

1176.06 SMALL WIND ENERGY SYSTEMS.

Small wind energy systems are not permitted within City limits.

1176.07 GEOTHERMAL ENERGY SYSTEMS.

(a) Permitted Use. Geothermal energy systems adhering to the performance and design standards of this section are permitted uses within all zoning districts.

(b) Performance and Design Standards.

- (1) All geothermal energy systems must be closed loop systems. Open loop systems are not permitted.
- (2) All above ground geothermal appurtenances must be located indoors.
- (3) Landscaping: All excavation areas must be returned to their original condition within thirty (30) days of the completion of installation.

1176.08 OUTDOOR FURNACES AND BOILERS.

Outdoor furnaces or boilers are not permitted within City limits.

1176.09 OUTDOOR FUEL CELLS AND GENERATOR UNITS.

(a) Permitted Use. Outdoor fuel cells and generators shall be considered permitted uses in all zoning districts if the following performance and design standards of this Section are met.

(b) Performance and Design Standards.

- (1) Minimum lot size: There is no minimum lot size for fuel cells and generator units.
- (2) Location: Outdoor fuel cells and generators shall be located in the rear or side yard only.
- (3) No more than two (2) outdoor units are allowed per non-residential building and multi-family buildings and no more than one per single-family dwelling.
- (4) Setbacks: All setbacks of the applicable zoning district shall be met.
- (5) Outdoor units shall be installed at grade and in accordance with manufacturer standards.
- (6) Emissions shall be controlled so as not to create a public nuisance.
- (7) Outdoor fuel cells and generator units shall not exceed four (4) feet in height in residential districts. This height may be exceeded in nonresidential districts if the unit is appropriately screened.
- (8) Noise generated by generators or fuel cells shall not exceed 60 dBA, as measured from the nearest property line except during short-term events including utility outages.

1176.10 MAINTENANCE AND ABANDONMENT.

All alternative energy systems and related components shall be properly maintained and kept in operation. Any alternative energy system that remains nonfunctional or inoperative for a

continuous period of 120 days shall be deemed to be abandoned and shall constitute a public nuisance. This shall not include functioning systems used for backup power or emergency situations. The owner shall be notified of the violation and shall be responsible for the removal of the abandoned system and all associated structures and equipment within thirty (60) days.

1176.11 PENALTY.

Any person, firm or corporation violating any regulation, prohibition or provision of this Chapter, or failing to obey any lawful order of the Zoning Officer issued pursuant to the provisions of this Zoning Ordinance shall be fined not more than five hundred dollars (\$500.00). Each day during which such violation continues shall be deemed a separate offense.

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