

Drafted by	Deputy City Clerk
Sponsored by/Referred by	Environmental Advisory Council
Introduced on	September 28, 2015
Advertised on	October 5 and 12, 2015
Public Hearing on	October 19, 2015

BILL NO. 58 - 2015

**AN ORDINANCE OF THE CITY OF READING
AMENDING THE CODE OF ORDINANCES CHAPTER 600 ZONING
BY AMENDING PART 8 DISTRICTS TO ADD ALTERNATIVE ENERGY SYSTEMS AS
ACCESSORY USES, PART 10 ACCESSORY USES BY RENAMING SECTION 1012 WIND
TURBINES TO ALTERNATIVE ENERGY SYSTEMS, AND AMENDING SECTION 2202
DEFINITIONS**

THE COUNCIL OF THE CITY OF READING HEREBY ORDAINS AS FOLLOWS:

WHEREAS, The City of Reading seeks to provide opportunities for Alternative Energy Systems while regulating the use of potentially intrusive facilities, equipment and machinery; and

WHEREAS, City Council desires to provide for, promote and regulate the use of alternative energy sources in the City of Reading; and

WHEREAS, The purpose of this Ordinance is to establish provisions for the design, permitting, construction and operation of Alternative Energy Systems within the City of Reading, subject to reasonable conditions that will protect the public health, safety and/or general welfare of the City's residents and environment.

SECTION 1: The Code of Ordinances of the City of Reading Chapter 600 Zoning is hereby amended to address Alternative Energy Systems.

SECTION 2: All relevant ordinances, regulations and policies of the City of Reading, Pennsylvania not amended per the attached shall remain in full force and effect.

SECTION 3: If any section, subsection, sentence or clause of this ordinance is held for any reason to be invalid such decision shall not affect the validity of the remaining portions of the Ordinance.

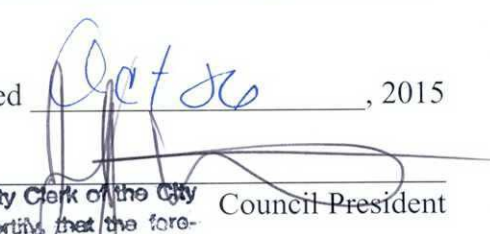
SECTION 4: This Ordinance shall become effective in ten (10) days in accordance with Charter Section 219 after passage.

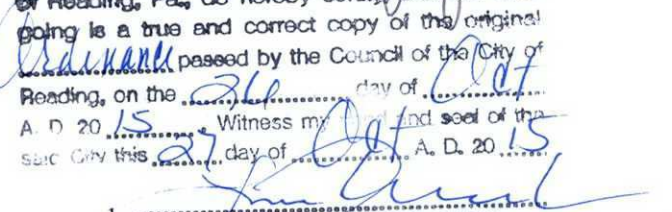
Enacted Oct 26, 2015

Attest:



I, **LINDA A. KELLEHER**, City Clerk of the City of Reading, Pa., do hereby certify that the foregoing is a true and correct copy of the original Ordinance passed by the Council of the City of Reading, on the 26 day of Oct, A. D. 2015. Witness my hand and seal of the said City this 27 day of Oct, A. D. 2015.


Council President


CITY CLERK


City Clerk

Submitted to Mayor: 

Date: 10/27/15

Received by the Mayor's Office: 

Date: 10/27/15

Approved by Mayor: 

Date: 10/27/15

Vetoed by Mayor: _____

Date: _____

Chapter 600 – Zoning

Part 8 Districts

§600-801. R-1-A Residential District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (g) Geothermal Heat Pumps
- (h) Solar Energy Systems
- (i) Water Powered Energy Systems

§600-802. R-1 Residential District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (g) Geothermal Heat Pumps
- (h) Solar Energy Systems
- (i) Water Powered Energy Systems

§600-803. R-2 Residential District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (g) Geothermal Heat Pumps
- (h) Solar Energy Systems
- (i) Water Powered Energy Systems

§600-804. R-3 Residential District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (g) Geothermal Heat Pumps
- (h) Solar Energy Systems
- (i) Water Powered Energy Systems

§600-805. (Reserved).

§600-806. R-PO Residential/Professional Office District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (c) Geothermal Heat Pumps
- (d) Solar Energy Systems
- (e) Water Powered Energy Systems
- (f) Roof Mounted Wind Turbines

§600-807. C-C Commercial Core District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (e) Roof Mounted Wind Turbines
- (f) Geothermal Heat Pumps
- (g) Solar Energy Systems
- (h) Water Powered Energy Systems

Also delete C (6)

§600-808. C-R Commercial Residential District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (d) Geothermal Heat Pumps
- (e) Solar Energy Systems
- (f) Water Powered Energy Systems

§600-809. C-N Commercial Neighborhood District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (d) Geothermal Heat Pumps
- (e) Solar Energy Systems
- (f) Water Powered Energy Systems

Conditional Uses current (2) shall become (3) and Special Exception Uses current (3) shall become (4)

§600-810. C-H Commercial Highway District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (g) Geothermal Heat Pumps
- (h) Solar Energy Systems
- (i) Water Powered Energy Systems
- (j) Roof Mounted Wind Turbines

§600-811. M-C Manufacturing Commercial District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (f) Geothermal Heat Pumps
- (g) Solar Energy Systems
- (h) Water Powered Energy Systems
- (i) Free Standing or Roof Mounted Wind Turbines

Also delete C (8)

§600-812. H-M Heavy Manufacturing District.

B. (4) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (a) Free Standing or Roof Mounted Wind Turbines
- (b) Geothermal Heat Pumps
- (c) Solar Energy Systems
- (d) Water Powered Energy Systems

Also delete B. (1) (s)

§600-813. P Preservation District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (d) Geothermal Heat Pumps
- (e) Solar Energy Systems
- (f) Water Powered Energy Systems

§600-816. MU Municipal District.

B. (2) Accessory uses. In compliance with Part 10, unless otherwise noted.

- (a) Geothermal Heat Pumps
- (b) Solar Energy Systems
- (c) Water Powered Energy Systems
- (d) Free Standing or Roof Mounted Wind Turbines

§600-1012. Alternative Energy Systems

A. Applicability. This Section of the Zoning Ordinance shall apply to all Alternative Energy Systems that are proposed to be constructed after the effective date of this Zoning Ordinance. Alternative Energy Systems constructed prior to the effective date of this Ordinance shall not be required to meet the requirements specified under this Ordinance, except for the maintenance and removal provisions found in section 1012 J 2-5. Any physical modification to an existing Alternative Energy System that alters the size, type or generating capacities of the facilities shall require a permit and shall comply with the applicable provisions specified under this Ordinance.

B. Permitted as Accessory Use. Alternative Energy Systems designed and utilized as an accessory use, which may include Geothermal Heat Pumps, Solar Energy Systems, Wind Turbines, and Water Powered Energy, shall be permitted as an accessory use as described in Part 8, subject to the applicable provisions specified under this Zoning Ordinance.

C. Authorized as Primary or Supplemental Energy Source. Alternative Energy Systems as an accessory use may be utilized as the primary or supplemental energy source for the principal use on the lot where it is located in accordance with Zoning Ordinance Part 8 Districts. Surplus energy may be exchanged, transferred and/or sold to a public utility company, provided that such surplus energy is exchanged, transferred and/or sold in accordance with the provisions established by the Public Utility Commission and Public Utility Code.

D. General Requirements. The following provisions shall apply to all types of Alternative Energy Systems:

1. Alternative Energy Systems shall be permitted provided that such facilities are located on a lot with a permitted use in accordance with the applicable provisions of the Zoning Ordinance.
2. Alternative Energy Systems shall be located, designed and installed as per the manufacturer's specifications as well as all zoning, building code and utility requirements.
3. Alternative Energy Systems shall be setback from all property lines a distance of not less than the normal setback requirements for accessory buildings/structures in that zoning district. All Alternative Energy Systems shall comply with the building and lot coverage requirements of the zoning district in which they are located.
4. Alternative Energy Systems shall emit no noise, glare, odor, vibration, electrical disturbance, electromagnetic interference, dust, smoke, fumes, toxic gas, radiation, heat that unreasonably impacts or affects neighboring properties or creates a nuisance. The burden of proof shall be upon the property owner if a claim of nuisance arises.
5. All Alternative Energy Systems and/or any appurtenant structures shall be set back from all public roads a distance of not less than 1.1 times the Alternative Energy System's height, as measured from the nearest edge of the Alternative Energy System and/or any appurtenant structure to the right-of-way line of all public roads.
6. No Alternative Energy System shall be located, modified or constructed within the City of Reading unless a permit has been issued to the Facility Owner in accordance with the provisions of this Section of the Zoning Ordinance.

7. All new exterior Alternative Energy Systems within Historic and Conservation Districts must receive their Certificate of Appropriateness from the Historical Architectural Review Board prior to application for a permit.
8. All Alternative Energy Systems shall comply with all City of Reading noise regulations.

E. Special requirements for Wind Turbines

1. All wind turbines shall meet the following additional requirement:

- a. All Wind Turbines shall include automatic devices to address high-speed winds, such as mechanical brakes and over-speed controls and be equipped with a redundant braking system, which shall include both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.

2. Free Standing Wind Turbines will also meet these requirements:

- a. All Free standing wind turbines shall be set back from all lot lines and street rights-of-way a minimum distance equal to the total maximum height to the top of the extended blade. All wind turbine setbacks shall be measured from the center of the base of the turbine at ground level.
- b. If support wires are used, and they are not within a fence, they shall be marked near their base with reflectors, reflective tape or similar method.
- c. All installations shall coordinate with the Federal Aviation Administration and PennDOT's Bureau of Aviation regarding airport hazard zoning.
- d. The maximum total height above the ground level to the tip of the extended blade shall be 150 feet.
- e. New electrical wiring to the wind turbine shall be placed underground, to the maximum extent feasible.
- f. Wind Turbines shall not be climbable up to twelve (12) feet above ground surface. All access doors to wind turbines and electrical equipment may be fenced, as appropriate. All shall be locked to prevent entry by non-authorized persons.
- g. The minimum height of a Wind Turbine shall be fifteen (15) feet, as measured from the ground surface to the tip of the blade at its lowest turning movement.

3. Roof Mounted Wind Turbines. Roof Mounted Wind Turbines may extend a maximum of 25 feet above the maximum height limit in the applicable zoning district.

F. Special requirements for Geothermal Heat Pumps:

1. The owner of any geothermal system shall be responsible for all remediation efforts and costs necessitated as a result of a release from the system that impacts or threatens to impact ground

water or surface water. If the owner refuses to take corrective action, the City may take corrective action in accordance with the property maintenance code and all State and Federal regulations. All costs incurred by the municipality in doing so will be borne by the owner.

2. Closed Loop Geothermal Heat Pump Systems must meet these requirements:

- a. Be self-contained having no contact with ground water, surface water or the water table under 100 year flood conditions.
- b. All heat exchanging fluids within any Geothermal Heat Pump must be comprised either of saline, water or other type of non-hazardous fluid, the release of which would not pose any risk of impact to groundwater in excess of standards set forth in all applicable State and Federal regulations.
- c. The Geothermal Heat Pump may not be in contact with an aquifer or be sited within any aquifer's recharge zone.

3. Open Loop Geothermal Heat Pump Systems shall be reviewed on a case by case basis and the owner bears the burden of demonstrating no significant adverse impacts upon land or water resources.

G. Special requirements for Solar Energy Systems:

The following provisions shall specifically apply to Solar Energy Systems and appurtenant structures and/or facilities associated with their operation:

1. There is no restriction regarding visibility of solar panels, except in historic and conservation districts.
2. Solar energy panels shall be designed and located to minimize glare that could affect any occupied adjacent properties and/or any street right-of-way.
3. In accordance with section 600-918 relating to Green Incentives, solar installations may exceed building height restrictions in the applicable district by 15 feet, and signs by 10 feet, and certain parking installations are exempt from building coverage requirements.
4. Surface area of ground mounted solar energy systems shall not be counted as impervious lot coverage.

H. Special Requirements for Water Power Energy Systems:

The following provisions shall specifically apply to Water Power Energy Systems and appurtenant structures and/or facilities associated with their operation:

1. No Water Powered Energy System shall endanger or threaten native local wildlife including fish, amphibians and reptiles.
2. No Water Powered Energy System affecting current, cross section or flow of a waterway shall be approved without a permit or approval of the PA Department of Environmental Protection. Installations that may significantly alter the stream bed or directional flow of a stream, such as

small dams and their upstream/downstream races or "ponds" for in-stream turbines and overshot/undershot wheels, may be approved if properly permitted under state and federal law.

3. All Water Powered Energy Systems shall have safety disconnects of their paddles, wheels or turbines in case of flood or heavy water flow beyond the anticipated capacity of the Alternative Energy Facility.

I. Application: The Facility Owner shall provide the following in connection with his/her application for an Alternative Energy Facility:

1. A full description of the proposed Alternative Energy System.
2. Architectural drawings of the system to be installed, all appurtenant structures and/or facilities associated with operation of the Alternative Energy System.
3. Dimensions and locations of all affected buildings and structures on the Applicant's real property and adjacent properties and any applicable setbacks.
4. Photographs to establish baseline conditions at the time of the application.
5. A statement of the estimated output of the proposed Alternative Energy System and where the energy will be utilized.
6. A letter of agreement with a Private Energy Utility Provider if the energy to be generated by the Alternative Energy System is to be conveyed off the Applicant's real property.
7. The application for any permit for an accessory solar or wind energy system shall include an acknowledgement that the issuing of said permit shall not, and does not, create in the property owner, its, his, her, or their successors and assigns in title or, create in the property itself: (a) the right to remain free of shadow and/or obstructions to solar or wind energy caused by development of adjoining or other property or the growth of any trees or vegetation on such property; or (b) the right to prohibit the development on or growth of any trees or vegetation on such property. Such acknowledgement shall be signed by the property owner.
8. All new exterior Alternative Energy Systems within Historic and Conservation Districts must submit their Certificate of Appropriateness from the Historical Architectural Review Board with their application.
9. Copies of any other permits that have been obtained from agencies with jurisdiction over the Alternative Energy System.

J. Installation, Maintenance and Removal Requirements

1. Installation.
 - a. No Alternative Energy System shall be located, modified or constructed within the City of Reading unless a permit has been issued to the Facility Owner in accordance with the provisions of this Section of the Zoning Ordinance.

b. For alternative energy system categories in which installer certification exists a certified installer shall be required for more complex installations, non-residential installations, or if recommended by the manufacturer.

2. Maintenance Obligations. The accessory alternative energy system must be clean and properly maintained in good, working order, and kept free from all hazards and unsafe conditions that are detrimental to the public health, safety and welfare. To the extent that an accessory alternative energy system constitutes an immediate threat to the public health, safety and welfare, the City is authorized to take all necessary steps to mitigate such public health, safety or welfare threat. All costs incurred by the City in doing so will be borne by the owner.

3. Best Practices Required. All Alternative Energy Systems are to be installed and maintained using best practices.

4. Corrective Action. In the case of a breakdown, malfunction, misuse or other situation involving an Alternative Energy System, it is the obligation of the Facility Owner and Operator to immediately initiate corrective action. If the Facility Owner and Operator refuse or are incapable of doing so, the City has the right to take corrective action at the expense of the Facility Owner and Operator.

5. Removal.

a. The Facility Owner or Operator shall, at his/her expense, completely remove any Alternative Energy System within twelve (12) months after the end of its useful life. The Alternative Energy System will be presumed to be at the end of its useful life if no energy is generated for a continuous period of twelve (12) months.

b. If the Facility Owner or Operator fails to complete removal during the prescribed period of twelve (12) months, the City may take such measures as necessary to complete removal in accordance with this Zoning Ordinance at the expense of the Facility Owner and Operator.

6. Existing Systems. All Alternative Energy Systems in place at the time this Ordinance is adopted shall be kept in clean, working order and meet the Maintenance, Corrective Action and Removal responsibilities in sections 2-6.

§ 600-2202. Definitions.

By adding the following definitions:

Alternative Energy: A source of energy generated from solar, water, wind, geothermal or similar sources, which is capable of providing energy and utilities for a permitted use.

Alternative Energy System: A system capable of converting solar, water, wind, and/or geothermal energy into viable energy sources including utilities for a permitted use. Such facilities may include, without limitation, solar panels, wind turbines, geothermal heat pumps, water turbines and/or other compatible alternative energy systems.

Applicant: A person or entity filing an application under this Ordinance.

Best Practices: Current industry standards of construction and maintenance for a technology. Best Practices are not for purposes of this Ordinance defined as State of the Art, which is acknowledged to often be prohibitively expensive and to involve standards that are constantly changing.

Free Standing Alternative Energy System: A system that is not physically mounted, attached and/or connected (except utility and energy transfer connections) to a permitted principal building. All such facilities shall be considered a separate or accessory structure that has the ability to convert and convey energy to the principal use in accordance with all pertinent zoning, utility and building code requirements.

Geothermal Heat Pump: An energy system utilized for heating and cooling purposes through a series of heat-exchanging pipes or tubes integrated into the ground, groundwater or surface water with a heat-exchanging media that flows through a loop system.

Occupied Building: A building located on a parcel of land utilized as a permitted use in accordance with the provisions of the City of Reading Zoning Ordinance.

Private Energy and Utility Provider: A principal use owned, operated and/or maintained by a private or independent utility company for the purpose of providing energy within a defined service area or grid system in accordance with the provisions established by the Public Utility Commission and the Public Utility Code.

Solar Energy System: A system that converts solar energy into thermal or electrical energy, where the solar energy is collected through solar cells, film, modules and/or panels and then transferred to a battery or an inverter (DC to AC power), which can be utilized as an electrical source or transferred into the utility grid system.

Wind Turbine: A wind energy conversion system that converts wind energy into electricity through the use of a generator, which may include a nacelle (shroud/cover), rotor, tower, transformer pad, blades, spirals, helixes and/or supporting energy apparatus.

Water Power: The generation of electricity or mechanical energy by the use of water motion, which may include overshoot or undershot waterwheels, turbines, and other devices, including all associated equipment/facilities.