

## Article 11: Alternate Energy

### Section 1100: Purpose

The intent of these regulations is to preserve growth for business, residential and farming use activities above other interests and by doing so to help to ensure other permitted land uses in agriculturally zoned areas do not become detrimental to that primary concern and endeavor, either by intensity, incompatibility, or encroachment.

The property owner(s), including the owner(s) and lessee(s) of any wind or solar facilities located within or that overlap into any part of the Township shall abide by all regulations as set forth in the Ohio Revised Code, Clermont County Building Code and Williamsburg Township Zoning Resolutions.

This Article shall apply to all alternate energy facilities and structures as defined in this Article. No Wind Energy Conversion System, or private stand-alone solar panel, or commercial solar panel installation, or any components thereof shall be constructed, erected, installed, or located within Williamsburg Township, Clermont County until prior siting approval has been obtained pursuant to the Williamsburg Township Zoning Plan Development Resolution.

### Section 1101: The Power to Regulate Wind Energy Systems

Ohio Revised Code (ORC) section 519.213 confers power on the board of trustees or board of zoning appeals with respect to the location, erection, construction, reconstruction, change, alteration, maintenance, removal, use, or enlargement of any small wind farm, whether publicly or privately owned, or the use of land for that purpose, which regulations may be stricter than the regulations prescribed in rules adopted under division (B)(2) of section 4906.20 of the Revised Code.

#### A. Residential Wind Energy System (WES)

Residential wind energy systems shall be a conditional use in all zoning districts and shall be designed for, or capable of, operation at an aggregate capacity of less than five megawatts. A residential wind energy system shall be considered as an accessory use that is intended to primarily serve the needs of the consumer at that site. All proposed residential wind energy systems shall be subject to certain requirements as set forth below and after review by the Board of Zoning Appeals. Upon review by the Board of Zoning Appeals, additional restrictions or conditional uses may be added as warranted. No roof mounted residential wind turbines are allowed.

1. Minimum Parcel Size: Two Acres

2. Tower Height:

(a) For property sizes between 2 and 5 acres the tower height shall be limited to 65 feet including the highest point of the turbine blades.

(b) For property sizes of 5 acres or more, tower heights shall be limited to a height of 80 feet, including the highest point of the turbine blades, except as may be imposed by FAA regulations.

3. Clearance of Blade:

The minimum distance of the wind energy blade system shall not be less than 20 feet from the ground. No ground mounted blade sweep may extend over parking areas, driveways, property lines, or any type of building.

4. Set-Backs:

All towers must be located 1.5 times the tower height from any public right of way, property line and any inhabitable structure, provided that that setback also complies with any applicable fire setback requirements. Anchoring systems and all components of such systems shall not project to within 10 (ten) feet of any adjacent property or any right of way.

5. Automatic Over-speed Controls:

All wind energy conversion system shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the residential wind energy system. Turbine blade systems shall be rated to wind speeds of no less than 110 MPH measured at sea level.

6. Noise:

Residential wind energy systems shall not exceed 55 dBA, as measured at the closest property line to the tower. The level, however, may be exceeded during short-term events such as utility outages and/or severe windstorms.

7. Approved Wind Turbines:

Residential wind turbines must be approved by a small wind certification program recognized by the American Wind Energy Association.

8. Compliance with FAA Regulations:

Residential wind energy systems must comply with applicable FAA regulations.

9. Utility Notification:

No residential wind 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, net metered customer-owned generator. Off-grid systems shall be exempt from this requirement.

B. Utility Grid Wind Energy Systems (UGWES)

1. Compliance with the Federal Aviation Administration:

The applicant shall comply with all applicable Federal Aviation Administration (FAA) requirements. If lighting is required by the FAA the light shall not be strobe lighting or any other intermittent white lighting fixtures, unless expressly required by the FAA. Such intermittent lighting shall be alternated with steady red lights at night if acceptable.

2. Climb Protection:

All UGWES towers must be unclimbable by design or protected by anti-climbing devices.

3. Parcel Size:

Minimum of 20 acres

4. Setbacks:

- a. All UGWES towers shall be set back a distance of not less than 1.5 times the UGWES tower height from any other building or structure. The distance for indicated setback shall be measured from the point of the other building or structure foundation closest to the UWES tower to the center of the UWES tower.

- b. All UGWES towers shall be set back a distance of at least 1.5 times the UGWES combined tower height and highest point of the turbine blades from the right of way. The distance for the indicated setback shall be measured from the edge of the right of way to the center of the UGWES tower foundation.
- c. UGWES towers shall be set back a distance of at least 1.5 times the combined tower height and highest point of the turbine blades from any property line.

5. Signage:

A sign of no less than four square feet must be displayed in an easily noticed area from a public roadway indicating the property address and toll-free telephone number, answered by a person twenty-four hours per day, seven days per week, for emergency calls. No UGWES tower or any part thereof, no fence surrounding the UGWES site, or any building or structure located upon the UGWES site may include or display any advertising sign, banner, insignia, graphics or lettering.

6. Wind Access Buffer:

A wind access buffer of a minimum of nine hundred (900) feet must be observed to protect the wind rights of landowners adjacent to, but not participating in, the permitted project.

7. Birds:

A qualified professional such as an ornithologist, shall conduct an avian habitat study, [equivalent to: Tier 3 evaluation under Land Base Wind Energy guidelines and Stage 2 Eagle Conservation plan guidance](#), as part of the siting approval application process, to determine if the installation of the UGWES project will have a substantial adverse impact on birds.

8. Shadow Flicker:

Site plan and other documents and drawings shall show mitigation measures to minimize potential impacts from shadow flicker. Shadow flicker shall not exceed 30 hours per rolling year.

## 9. Compliance with Other Standards:

All power and communication lines running between UGWES towers, any adjacent structures, and to electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the Williamsburg Township Board of Zoning Appeals in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.

## Section 1102: Regulations - Solar Energy

### A. Small Scale - Systems with the primary intent of providing power for the site where such system is located.

Solar Panels, either free-standing or roof mounted, shall be permitted as an accessory use in all districts with zoning requirements related to visual appearance and appropriate safeguards.

1. Site Approval Application: In all districts, the applicant shall submit to the Zoning Administrator, along with a zoning permit application, the following information:

- a) Maps, plans and/or detailed sketches showing the proposed location of the proposed solar panels.
- b) Measurements from property lines and the public-right-of-way.

2. In the all zoning Districts all solar panels exceeding two square feet in area are prohibited in any front yard, on any face of a primary building or structure facing a street unless integrated with the ordinary construction of said building or structure except roof-mounted solar panels as set forth below.

3. Disposal of solar panels considered hazardous waste must follow the Federal Resource Conservation and Recovery Act of 1976.

4. Ground mounted solar panels shall:

- a) Be considered an accessory use.
- b) Be located in the rear yards
- c) A variance granted by the Board of Zoning Appeals is required for ground mounted solar energy equipment which does not meet established setback requirements for accessory use.

- d) Have valid permits from the Clermont County Building Department and the Williamsburg Township Zoning Administrator.
- e) Shall not exceed 60 (sixty) inches maximum height as measured from the ground to the top of the highest part of the panel. Panels with height greater than this maximum require a variance granted by the Board of Zoning Appeals
- f) The minimum set back distance from the property lines for solar equipment shall be per the zoning district.
  
- g) Shall meet isolation distances required for underground utilities and septic systems. Any required modifications will be at the expense of the owner after receiving the appropriate approvals.
- h) Screening shall be a minimum of 6 feet. The solar systems shall be fully screened from adjoining properties and adjacent roadways using natural topography or by installation of an evergreen buffer.
- i) Parcel size minimum of 2 acres.

5. Roof mounted solar panels shall:

- a) Not to be installed without a valid permit from the Clermont County Building Department.
- b) Solar panels installed on a building or structure with a sloped roof surface shall not project vertically above the peak of the roof to which it is attached, extend over the roof edge or project more than five (5) feet above a flat roof installation.
- c) In the Residential and Business Districts roof mounted solar panels shall be located on a rear or side facing roof, as viewed from any adjacent street, unless such installation is proven to be ineffective or impossible. The removal of potential obstructions such as interceding vegetation shall not be sufficient cause for permitting a front facing installation.
- d) Roof mounted solar panels shall not increase the total height of the structure above the maximum allowable height of the structure on which it is located, in accordance with the applicable zoning regulations.

B. Utility Grid Solar Energy Systems (UGSES)

For the purposes of this article, a UGSES shall only be permitted as a Planned Development (PD).

#### 1. Lighting:

- a) During construction shall be limited to 6:00 a.m. to 7:00 p.m. lighting should be angled inward and downward to eliminate glare on adjacent properties.
- b) Special considerations are provided for emergency and safety lighting.
- c) Post construction lighting will be limited to important and emergency areas (entrances, exits, buildings) at any time and at other areas as needed for repairs etc.
- d) Downlighting is to be used and in no case shall illumination extend beyond the perimeter of the solar facility.
- e) Lighting shall not impact or interfere with traffic on roads or properties adjoining or bordering the solar facility.

#### 2. Noise:

- a) Noise associated with construction and operation shall be maintained at minimal levels. Construction shall only be conducted between the hours of 6:00 a.m. to 7:00 p.m. Monday through Saturday.
- b) The use of pile driving equipment is prohibited within 600 (six hundred) feet of any structure or private or public water system unless pile driving monitoring equipment is utilized to evaluate vibration.

#### 3. Erosion and Sediment Control:

- a) Should be in compliance with Clermont County Water Management and Sediment Control Regulations.

#### 4. Setbacks:

- a) All aspects and components of the facility shall meet the minimum setback requirement of three hundred (300) feet. This is in addition to the buffer vegetation requirement for streams and bodies of water.

## 5. Buffers:

- a) A vegetative buffer shall be installed and maintained around the entire circumference of the facility and its components to reduce the visual impact on the surrounding property owners. In areas where there is not at least fifty (50) feet of a native timber buffer, a barrier consisting of a minimum of a double row of evergreens, with a beginning height of six feet and an anticipated height of thirty (30) to forty (40) feet shall be planted by six months subsequent to the completion of construction. The property owner shall replace any dead or diseased tree in the buffer in a timely manner. All landscaping shall be approved by the township.
- b) buffer vegetation of at least one hundred fifty (150) feet is required on either side of a stream, wetland or other bodies of open water. This vegetation buffer shall not include any plant listed as a prohibited noxious weed by Rule 901:5-37-01 of the Ohio Administrative Code.

## 6. Signage:

- a) A sign of no less than four square feet must be displayed in an easily noticed area from a public roadway at all entrances, viewable at a reasonable distance. Indicating the property address and a toll-free phone number answered by a person twenty-four hours per day, seven days per week, for emergency calls and information inquires. No UGSES panel or any part thereof, no fence surrounding the UGSES site, or any building or structure located upon the UGSES site may include or display any advertising sign, banner, insignia, graphics or lettering.
- b) Appropriate signage shall be placed at the entrance and perimeter of the solar field. The height, area and material are to be established through the Planned Development process.

## 7. Height of Panels:

- a) The height of the solar panels shall not exceed 12 (twelve) feet when oriented at its maximum tilt.
- b) Solar energy components shall contain an anti-reflective coating,



8. Maintenance/Reclamation of Obsolete or Damaged Panels:

- a) Solar panel collection systems and all solar equipment shall be completely removed from the property within 3 (three) months from the date they are not producing electricity, or are damaged.
- b) Any earth disturbance shall be graded and reseeded.
- c) Soil testing shall be conducted to assess chemical leaching from damaged panels in compliance with the Ohio EPA spill hotline. Documentation of clean-up procedure and result of retesting must be submitted to Williamsburg Township.

9. General Site Requirements:

- a) Damaged or inoperable drainage tiles will be repaired prior to construction by the landowner and developer/owner. Repairs will be documented in a report provided to the landowner and township trustees with the location, nature and satisfactory completion of repairs.
- b) The landowner and owner/operator shall be responsible for all drainage tiles.
- c) The township trustees reserve the right to have representation present during repairs. Repairs shall follow County water management and soil regulations. Notification shall be given to Williamsburg Township 48 hours prior to commencing repairs.

10. Safety:

- a) All UGSES platforms must be unclimbable by design or protected by anti-climbing devices.
- b) The property shall be maintained by the landowner, owner and developer. It is to be kept free of hazards including but not limited to: faulty wiring, loose fastenings and the creation of unsafe conditions or detriment to the public health and safety.

11. Parking Lot Applications: Exceptions to setbacks, the buffer and maximum solar panel height requirements for parking lot applications shall be addressed as part of the PD.

### C. Review Process:

#### 1. Compliance with Other Standards:

- a) If applicable, all solar facilities must meet or exceed the standards and regulations of all other local, state, or federal governmental agency with the authority to regulate such facilities.
- b) All facilities must meet or exceed standards as noted in the Fire Code.

### Section 1103: Application Process – Utility Scaled Alternative Energy Systems

A Utility Grid Wind Energy System (UGWES) as well as a Utility Grid Solar Energy System (UGSES) are designed and built to commercially provide electricity to the electric utility grid. These systems shall only be permitted as a Planned Unit Development.

**There shall not be any Utility Scale Alternative Energy Systems built within 1 mile of East Fork State Park or within 1 mile of State Route 32 Corridor.**

**To prevent creating energy systems greater than 50-megawatt, combined energy systems are not permitted.**

#### A. Site Approval Application:

The applicant must apply for an application consistent with Section 604 Review Procedures for PUD/PD with the applicable fees, to the Zoning Administrator for review.

1. Utility interconnection data and a copy of written notification to the utility company of the proposed connection.
2. Specific information: all components of the respective alternative energy systems, for UGWES: the type, size, height, rotor material, rated power output, performance, safety, and noise characteristics of each Wind Turbine Generator (WTG) model, tower and electrical transmission equipment. All electrical components and equipment used to mount panels.
3. A soil boring report.
4. Any additional information as normally required by the Township as part of this Zoning Resolution.
5. Prior to receiving site approval under this Resolution, the applicant, owner, and/or operator shall include and submit for review, a Decommissioning Plan to ensure that the UGWES and UGSES and all facilities in the project are properly decommissioned after their useful life.
6. Applications will not be processed until appropriate non-refundable fees including those expenses incurred by the Williamsburg Township Zoning Commission, The Williamsburg

Township Board of Zoning Appeals and the Williamsburg Township Board of Trustees are submitted with a complete application.

7. Road Use Maintenance Agreement: Prior to the start of construction, the applicant and/or owner/operator shall enter into a Road Use Maintenance Agreement (RUMA) with the Clermont County Board of Commissioners and the Williamsburg Township Trustees to assure repairs to public roads which may be damaged by the construction of the project.

B. In Case of Bankruptcy:

1. All property owner(s), entity owner(s) and leasers of any wind or solar facilities located with-in or that over-lap into any part of Williamsburg Township shall provide a bond(s) naming the Williamsburg Township Fiscal Office as a holder/barer to ensure the properties included shall be returned to its' original agricultural and previous land state or better.
2. For maintaining the purpose of these bonds, the original or re-evaluation and cost analysis shall be conducted every three years by a licensed engineer(s) with proper training and experience in construction and decommissioning of the applicable commencing on the first day of construction. All bonds issued shall be updated for the purpose stated above. Re-issued bond(s) value(s) shall not be less than the previous bond and shall remain in the possession/barer of the Williamsburg Township Fiscal Officer.
3. Bonds related to decommissioning cost estimates shall not include costs to offset for resale or salvage values of equipment and materials. The applicant shall reimburse the township for an independent, third-party review and analysis by a licensed engineer regarding construction plans, initial cost analysis and decommissioning cost estimates for re-issued bonds every three years.
4. Bond(s) are to be completed within ninety (90) days of the original construction start date and within ninety (90) days of the re-evaluated cost issuance period.

C. Emergency Services:

Local Fire Department: The applicant, owner or operator shall submit to the local Fire Department a copy of the site plan. All electrical equipment associated with and necessary for the operation of the facility shall comply will all provisions of the National Electric Code (NEC), Ohio Commercial Building Code. Use of above ground lines are to be kept to a minimum.

- a.) The applicant shall provide applicable training before, during and after construction for all emergency services for the Township and selected members of emergency service members in supporting Townships. The applicant shall provide a set of procedures and protocols for managing the risk of fire and for responding in the event of an emergency at the facility. The applicant shall conduct on-going regular training for the first responders during the operation of the facility on a regular basis, with intervals not to exceed 24 (twenty-four) months.
- b.) All means of shutting down the solar system will be clearly communicated to the fire chief and local emergency services. A final copy of the project summary, electrical schematic and site plan will be provided to the township fire chief.
- c.) Special equipment which may be required to ensure the safety of fire and rescue personnel when responding to an emergency at the facility shall be provided at no cost to the Township.
- d.) The applicant shall provide for and maintain a reasonable means of access for emergency services. Lock boxes and keys (or an equivalent) shall be provided at locked entrances for emergency personnel access. Warning signage shall be placed on electrical equipment and entrances to accessory buildings.
- e.) The Photovoltaic/Solar panels shall not contain harmful chemicals such as cadmium or amorphous silicon, Prior to construction, the applicant shall provide written panel specifications to include composition, toxicological information and physical and chemical properties of all panels used in the facility. Only biodegradable cleansers and water shall be used to clean the panels.
- f.) Re-evaluation of state-of-the-art equipment and appropriate trainings shall take place at intervals not to exceed 24 (twenty-four) months.

#### D. Decommissioning Plan:

Any Utility Scaled Alternative Energy System which is not used for six consecutive months shall be deemed abandoned and shall be dismantled and removed from the property at the expense of the company /owner. The company/owner has forty-five (45) days from the date of the notice of abandonment to start the decommissioning process.

- a.) The decommissioning plan, as had been submitted at the time of application, shall be submitted to the Clermont County Building Department with the application of the building permit.
- b.) The plan shall include provisions for removal of all ground mounted installations, structures, equipment security barriers and transmission lines.
- c.) Restoration, stabilization of soil and vegetation to minimize erosion. The township may permit landscaping or designated below grade foundations to remain to minimize erosion.
- d.) Plan ensuring financial resources will be available to fully decommission the site.
- e.) Disposal of structures and/or foundations shall meet the provisions of the Clermont County Building Department and the requirements of the state and federal regulations for solid waste and/or hazardous waste disposal.
- f.) A valid demolition permit from the Clermont County Building Department shall also be required before removal of any towers, debris, access roads, electrical cabling, or structures.

## Definitions

### **Access Roads**

Provide construction and service access to each wind turbine.

### **Adverse Visual Impact**

An unwelcome visual intrusion that diminishes the visual quality of an existing landscape.

### **Anemometer**

The instrument for measuring and recording the speed of the wind.

### **Anemometer Tower**

A free-standing or guyed structure, which includes all accessory facilities on which an anemometer is mounted for the purposes of documenting whether a site has wind resources sufficient for the operation of a wind turbine generator. May also be referred to as a meteorological tower.

### **Combined Energy System**

Energy systems that are located on the same parcel or parcels of land that are within 2 miles of another energy system.

### **Decibel**

A logarithmic unit of measurement that expresses the magnitude of sound pressure and sound intensity.

### **Db(A)**

The sound pressure level in decibels. Refers to the “a” weighted scale defined by the American National Standards Institute (ANSI). A method for weighting the frequency spectrum to mimic the human ear.

### **Megawatt**

A unit used to measure power, equal to one million watts.

### **SCADA Tower**

A freestanding tower containing instrumentation that is designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system.

### **Shadow Flicker**

The effect caused by the sun's casting shadows from moving wind turbine blades.

### **Utility Grid Solar Energy System**

A Utility Grid Solar Energy System is defined as an energy generation facility or area of land principally used to convert solar energy to electricity for resale at a profit.

### **Utility Grid Wind Energy System**

A Utility Grid Wind Energy System is defined as an energy generation facility primarily consisting of Wind Turbines principally used to convert wind energy to electricity for resale at a profit.

### **Wetlands**

Lands on which water covers the soil or is present either at or near the surface of the soil or within the root zone, all year or for varying periods of time during the year, including during the growing season.

### **Wind Access Buffer**

The distance from adjacent landowners' properties to the nearest wind turbine generator. In a Utility Grid Wind Energy System, this term also applies to the distance between any two or more wind turbine generators.

### **Wind Energy Conversion Systems**

Wind Turbines and associated facilities for generating electric power from wind with an interconnection to the common electrical grid, or an on-site single building, or a series of buildings.

### **Utility Grid Solar Energy System (UGSES)**

Is designed and built to commercially provide electricity to the electric utility grid.