

Time frame; Once Conditional Use is approved, applicant will have 365 days (1 year) to apply for zoning permit. This should allow ample time to acquire state approvals.
Fees may be waived or modified only upon the consideration and action of Darke County Commissioners. Fees will be considered/set on an annual basis.

Section 520; RENEWABLE ENERGY SYSTEMS

Requirements for Accessory Solar Energy Systems

It is the purpose of this regulation to accommodate the safe, effective and efficient use of accessory solar energy system(s) installed to reduce the on-site consumption of utility-supplied electricity. An accessory solar energy system shall be considered a conditional use in any district provided all requirements and regulations as set forth below are met. Accessory Solar Energy System is used for the production of electrical energy from energy collected by the sun including solar energy collectors, power generation facilities, facilities for storing and transforming energy, and any other appurtenant facilities, which is designed to supply power to principal use(s) on the lot.

No person shall cause, allow or maintain the use of an accessory solar energy system without first having obtained a zoning permit from the zoning inspector.

REQUIREMENTS FOR ACCESSORY/PERSONAL SOLAR ENERGY SYSTEMS (0 to 1 MW)

All accessory solar energy systems shall meet the following requirements:

1. Does not exceed 1 Megawatt (MW).
2. A ground and/or a roof mounted solar energy system is permitted in all zoning districts as an accessory to a principal use.
3. A solar energy system shall not be used for the generation of power for the sale of energy to other users, although this provision shall not be interpreted to prohibit the sale of excess power generated to the local utility company.
4. A solar energy system connected to the utility grid shall provide written authorization from the local utility company acknowledging and approving such connection.
5. A roof/structure mounted solar energy system:
 - a) Shall be mounted parallel to established roof line or no greater than a 40-degree pitch based on a structural engineer's report, from level or flat.
 - b) Shall not extend beyond the perimeter (or edge of roof) of the structure on which it is located.
 - c) May be mounted to a principal or accessory structure.

- d) Combined height of the solar energy system and structure to which it is mounted may not exceed the maximum building height allowed in that zoning district for the type of structure to which it is attached.
- 6. Solar energy systems shall be designed and located in order to minimize reflective glare toward any inhabited structure on adjacent properties as well as adjacent street right of ways.
- 7. Solar energy systems shall not be constructed until all applicable zoning and building permits have been approved and issued.
- 8. Solar energy systems and all solar energy equipment that are no longer functioning or no longer used for their intended purposes shall be completely removed from the property within twelve (12) months from the date they are no longer producing electricity, become damaged, discontinued or broken unless evidence can be presented to the Township for the reason of delay of the delay and that repairs are planned within a reasonable time frame. Approval to delay removal of the system or equipment will be at the discretion of the Township Trustees. Any earth disturbance as a result of the removal of the ground mounted solar energy system shall be graded and reseeded **as soon as practical but not to exceed 9 months.**
- 9. A site plan shall be submitted at the time of application and shall include:
 - a) Property lines and physical dimensions of the site and location of structures on property.
 - b) Location of solar energy system(s) on the structure in which it is located and all related equipment.
 - c) Elevation of the proposed solar energy system(s) at its maximum tilt.
 - d) Manufacturer's specification, including make, model and picture.
 - e) Scaled drawing, no smaller than 1"-100'.
- 10. **Owner must check with and obtain required permits before install.**

SETBACK REQUIREMENTS IN ALL DISTRICTS (FREE STANDING);

Accessory/Personal Solar Energy Systems

- a) Front: **100 feet from the edge of the road right-of-way** in all districts.
- b) Side: **50 feet from parcel line** in all districts.
- c) Rear: **50 feet from parcel line in all Districts.**

REGULATIONS FOR SMALL COMMERCIAL SOLAR ENERGY PRODUCTION FACILITIES (1-50 MW)

It is the purpose of this regulation to accommodate the safe, effective and efficient use of the small solar energy production facilities principally designed to produce greater levels of electrical energy, either for consumers with higher energy demand levels such as farms or industrial uses, or designed primarily to produce energy to be supplied directly to the electrical grid. A principal

solar energy production facility shall be considered a conditional use in all zoning districts except residential, provided all requirements and regulations as set forth below are met. A Small Solar Energy Facility is used for the production of electrical energy from energy collected by the sun including solar energy collectors, power generation facilities, facilities for storing and transforming energy, other appurtenant facilities and any transmission lines, which is developed for the purpose of supplying or distributing electrical energy to users, a customer or customers.

No person shall cause, allow or maintain the use of a small commercial solar energy production facility without first having obtained a zoning permit from the zoning inspector.

All small commercial solar energy production facilities shall meet the following requirements:

1. A rated production of 1 Megawatt (MW) and not exceed 50 MW.
2. The proposed solar energy project must be located on at least five (5) acres of land.
3. For purposes of determining lot coverage, the total surface area of all ground mounted and freestanding solar collectors including cells, panels, and water collector devices shall be considered impervious. Panels mounted on the roof of any building shall be subject to the maximum height regulations as specified with the underlying zoning district.
4. All on-site utility and transmission lines shall, to the extent feasible, be placed underground.
5. All solar energy systems shall be designed and located in order to minimize reflective glare towards any inhabited building on adjacent properties as well as adjacent street right of ways.
6. A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.
7. The proposed solar energy project is not located adjacent to, or within, the control zone of any airport **or private landing strip.**
8. All mechanical equipment of solar energy systems including any structure for batteries or storage cells, shall be completely enclosed by a non-climbable eight (8) foot high fence with a self-locking gate, and provide screening in accordance with Screening Regulations found within this section of the zoning code.
9. Setback requirements from parcel lines and adjacent zoning districts shall be the same as set forth in the zoning district in which the solar energy project is located per attached schedule found within this section of the zoning code.
10. Solar energy systems and all solar energy equipment that are no longer functioning or used for their intended purposes shall be completely removed from the property within twelve (12) months from the date they are not producing electricity, become damaged, discontinued or broken unless evidence can be presented to the Township for the reason of delay and that repairs are planned within a reasonable time frame. Approval to delay removal of the system or equipment will be at the discretion of the Township Trustees.

Any earth disturbance as a result of the removal of the ground mounted solar energy system shall be graded and reseeded within **as soon as practical not to exceed 9 months**.

11. A site plan shall be submitted at the time of application and shall include:
 - a) Property lines and physical dimensions of the site.
 - b) Located outside of all maintained drainage ditches, with notations made on the site plan if a ditch passes through the development area.
 - c) Location of solar energy system(s) and all related equipment, setbacks from property lines and any structures on the property.
 - d) Notations of any designated floodplains and located outside of those designated areas.
 - e) Notations of setbacks from the Greenville Scenic River as defined by the State of Ohio, if located within the general area of the river.
 - f) Letter from the Darke County Health Department stating location will not interfere with any septic or sewer system located on the property or adjoining properties where the Small-Scale Energy Facility will be located.
 - g) Location of any required signage.
 - h) Elevation of proposed solar energy system(s) at its maximum tilt.
 - i) Manufacturer's specifications, including make, model and picture.
 - j) Scaled drawing no smaller than 1" = 100'.
12. Darke County Board of Appeals will require documented product compliance with EU REACH regulations, EU SCIP Database, EU RoHS 2 Directive, EU POPs Regulations, China RoHS 2 Regulation, Asbestos Regulations and California's Perchlorate Contamination Prevention Act.
13. The applicant is to review the plans with and obtain letters from the Darke County Engineer and from the Darke County Soil & Water Conservation relative to the project's impact on soil and drainage of surface water and field tile system for the project area and the surrounding area, **and then follow the recommendations to address the impacts identified**.
14. The applicant will submit an **Emergency Action Plan**, to deal with specific training that may be required by fire and EMS personal.
15. Any size drainage tile within the project area must be maintained and repaired within 30 days of notification or becoming aware of the damage or failure.
16. Require all associated contractors submit an access plan to local township trustees, highlighting all affected township roads.
17. Noxious weed as defined under ORC 901:5-37-01 must be controlled as outlined under ORC codes: 971.33-971.35, 731.51-731.53, and 5579.05A-5579.07.
18. Invasive non-native plants, must be controlled, including but not limited to; Amur Honeysuckle, Asian Bittersweet, Autumn Olive, Canada Thistle, Common Buckthorn, Common Cutleaved Teasel, Common Reed Grass, Eurasian Water-Milfoil, European Buckthorn, Garlic Mustard,

Japanese Honeysuckle, Japanese Knotweed, Morrow Bush Honeysuckle, Multiflora Rose, Narrow-leaved and hybrid Cattail, Purple Loosestrife, Reed Canary Grass, Russian-olive, Smooth Brome, Tartarian Bush Honeysuckle, and Tree-of-Heaven.

19. Height not to exceed zoning requirements for structures applicable to the zoning district the facility is located within.

Wind Energy Production

Purpose

The intent and purpose of these regulations is to accommodate wind energy systems in appropriate locations, while protecting the agricultural-based economy, public health, safety and welfare, and to provide a review and permitting process for wind energy systems to ensure compliance with the provisions of the requirements and standards established herein.

General Requirements for small wind turbines are as follows:

1. Small wind turbines and other wind-powered generators, as defined in Definitions Section Below, are limited to a rated capacity of not more than 50kw.
2. Small wind turbines and other wind-powered generators powering an electric generator shall service only one residential structure per parcel.
3. A small wind energy project, including tower, shall comply with all applicable state construction and electrical codes, and the national electrical code, and must be installed by personnel licensed by the State of Ohio to install small wind turbines.
4. The owner of a small wind turbine or other wind-powered generator must take reasonable steps to prevent and eliminate any interference with the transmission and reception of electromagnetic communications, including but not limited to: microwave, radio, telephone, cellular, and television signals.
5. Small wind turbine or other wind-powered generators must be on a freestanding tower or other approved reinforced structure. The use of additional supports including guide wires is prohibited.
6. The applicant shall provide proof of notification to adjacent property owners as required by the Ohio Revised Code Section 519.211 (telecommunications towers) and shall conform to Ohio Revised Code Section 519.213.
7. A minimum distance between the ground and any protruding blades is 15 feet as measured at the lowest point of the arc of the blades to a point no lower than the average grade in and around the immediate tower area.

8. The proposed small wind turbine and other wind-powered generator shall maintain a clear fall zone of no less than 125% of the total height of the structure from any property line, current or future structure, and public or private road right-of-way.
9. Residential, Commercial or Industrial rooftop and/or combination units (utility lights with generators etc.) are prohibited.
10. All wind turbine towers shall be enclosed with a six (8) foot high non-climbable and locked fence, unless the base of the tower is not climbable for a distance of twelve (12) feet from the lowest point. **Fence must be maintained and free of vegetation.**
11. **Proposed** upgrades, modifications, or improvements of any kind to an approved small wind turbine shall be reviewed and approved by township zoning inspector for compliance with the provisions of this section before such work can begin. Only modifications that adhere to the provisions contained herein shall be allowed.
12. No other use of the tower shall be permitted. This includes but is not limited to placement of signage, radio or cellular antennas or any other use not provided for at the time of approval. All signs, other than manufacturer or installer identification and other legally required signage are hereby prohibited.
13. Small wind turbines shall either be the stock color from the manufacturer or painted with an approved non-reflective, unobtrusive color that blends with the surrounding environment.
14. Abandoned small wind turbines shall be completely dismantled and removed from the property within six (6) months of its last use in producing electricity. Wind turbines taken out of service for indefinite but temporary reasons shall provide the township with proof of proper maintenance. Wind turbines without proper maintenance shall be considered abandoned by the township.

Definitions for Small Wind Turbines

Clear Fall Zone: the area, defined as the furthest distance from the tower base, in which a tower will fall in the event of a structural failure. Said measurement is to be based on the total height of the wind turbine.

Decibel (dba): a unit of relative loudness.

Electrical Generator: a device that produces electrical energy from a mechanical energy source.

Feeder Line: any power line that carries electrical power from one or more wind turbines or individual transformers associated with an individual wind tower.

Kilowatt (kw): a measurement of electricity, equal to 1,000 watts.

Net Metering: the process by which surplus energy generated by a customer, as measured by the difference between the electricity supplied by an electric service provider and the electricity generated by a customer in an applicable billing period, is fed back to the electric service provider with customer compensation.

Rotor Diameter: the diameter of the circle described by the moving rotor blades.

Shadow Flicker: shadow flicker occurs when the blades of the turbine rotor cast shadows that move across the ground and nearby structures.

Small Wind Turbines and other wind powered generators: is an electrical generating device which is installed on top of a tower or tall structure for the sole purpose of collecting kinetic (motion) energy from natural wind movement and converts the energy to electricity. Typical uses include a turbine rotary engine in which the kinetic energy is converted into mechanical energy by causing a bladed rotor to rotate.

Wind Turbine Total Height: the highest point, above ground level, reached by a rotor **blade** tip. Wind Turbine Tower: the vertical structures that support an electrical generator, rotor blades, or meteorological equipment. Wind Turbine Tower height: the total height of the tower, from the base, exclusive of rotor blades.

Setback Requirements in all districts;

(i) Small Commercial Solar Energy Facilities

- a) Front: 300-feet from edge of established road right-of-way in a A-1 District
50-feet for edge of road right-of-way in a B-1 or I-1 district.
- b) Side: 300-feet from a parcel line in A-1, B-1, & I-1 districts.
- c) Rear: 300-feet from a parcel line in A-1, B-1, & I-1 districts.

(ii) Wind Energy Production

- a) No less than **the standard property line setback plus** 125% of the total height from the peak of the turbine blade when fully extended vertically from any property line, current or future structure, and public or private road right-of-way

LANDSCAPING AND SCREENING REQUIREMENTS SMALL SOLAR ENERGY PRODUCTION FACILITIES (1-50 MW)

All portions of the zoning lot not covered by permitted structures or pavement shall be landscaped with grass, trees, shrubbery and other appropriate ground cover or landscaping material. All trees and shrubbery shall be planted so that it will not obstruct the view of drivers

at driveway entrances or road intersections at the time of planting or in the future. Landscaping and screening must be in compliance with the following:

Screening When Abutting a Residential District. When a lot in any Commercial or Industrial District abuts a Residential District screening and buffering along the entire length of the common boundary shall be provided in accordance with the following regulations.

1. Width of Buffer. The area within the setback between the Residential District and a non-residential district shall be established and maintained as the buffer.
2. Screening. Screening within the buffer shall consist of one (1) or a combination of two (2) or more of the following:
 - a) A dense vegetative planting incorporating trees and/or shrubs of a variety that shall be equally effective in winter and summer and that will form a six (6) foot high screen within three (3) years of planting.
 - b) A non-living opaque structure such as a solid masonry wall, or a solid fence that is at least six (6) feet in height but no higher than eight (8) feet and is compatible with the principal structure.
 - c) A maintained, landscaped earthen-mound at least 5 feet wide, that is not less than four (4) feet or more than six (6) feet in height and has ten (10) shrubs per every 100 linear feet in length.
 - d) Maintenance of the existing natural vegetation that, in its natural state, forms a sufficient screen with a height not less than six (6) feet.
3. Placement of Screening. The location of the wall, fence, or vegetation shall be placed within the buffer to maximize the screening effect as determined by the **County Commissioners** or **County Board of Appeals**. The buffer plan shall be specific to the type of option to be used.
4. Landscape Plan Required. A landscaped plan shall be submitted for all proposed Small Solar Energy Facility development. The landscaped plan shall indicate compliance with the above landscaping and screening requirements.
 - a. The landscape plan shall be implemented within six (6) months of the completion of each building or phase of development. A building phase or parking area shall be considered complete the day it is first used for the purpose intended.
 - b. Changes to the landscape plan shall be approved by the Zoning Inspector prior to completion.
5. Maintenance and Replacement. Landscaping shall be maintained by the property owner or agent to assure absorption of rainfall, and to prevent erosion from rapid runoff of surface water and shall not obstruct the view of traffic exiting the property. Any landscaping material that is a required element of an approved landscaped plan that dies or is destroyed shall be replaced within six (6) months.

Penalties for Non-Compliance

1. If it is discovered that any installation has occurred prior to approval by the Darke County Board of Zoning Appeals, then the following will apply.
 - a. All construction must cease upon the zoning inspector being informed of the non-compliance with this zoning regulation. After a verbal warning, a certified mail notification letter will be sent to the land owner detailing the non-conformance with the Darke County Zoning Resolution, steps necessary for construction to continue, applicability and calculation of the accruing fine (as detailed under part d. below) and a demand for response within 10 days of receipt of the notification letter to avoid referral to the county prosecutor.
 - b. All plans must be submitted as required by this regulation for approval by Darke County Board of Appeals.
 - c. All plans submitted for construction must be in conformance with all setbacks, restrictions and other requirements set forth in this regulation. If construction has already commenced prior to approval and found not to be in conformance, then it must be removed or modified to be in full conformance with this zoning regulation after approval. If no approval is granted, all prior construction must be removed.
 - d. A fine of \$1000/day of non-compliance with the zoning regulation will be assessed to the owner of the property on which such construction has taken place. The fine will be calculated as follows: The number of days including and between the day that construction of the structure or components has begun without the required permit up until the day that the structure has been permitted and brought to conformance with this zoning regulation multiplied times \$1000 shall be the fine assessed. In the case that approval is not granted, then the daily fine will continue to accrue until the unpermitted structures or components are removed.
 - e. At end-of-life;
 - (i) Parcels will be reclaimed to pre-installation conditions, unless otherwise negotiated with board of appeals.
 - (ii) Performance Bond will be required, based on a third party's estimate of negotiated clean-up costs.
 - (iii) A fine of \$1000/day of non-compliance with the zoning regulation will be assessed to the owner of the property until issues are satisfactorily addressed.
 - (iv) Zoning inspector or trustees may establish end-of-life based on lack of or stopping site maintenance.
 - f. A notification letter documenting this fine shall be sent via certified mail and payable to the Darke County Commissioners within 10 days of receipt of the notification.

- g. Compliance to the Darke County Zoning Resolution will be the responsibility of the controlling entity or the controlling land owner if owner of the renewable energy system reneges on responsibilities.