

I. Purpose

The purposes for which this “Solar Energy Facilities” Ordinance is passed are as follows:

- 1) To facilitate the siting, construction, installation and operation of solar energy facilities in Yadkin County in a manner that ensures the protection of the health, safety and general welfare of its citizens, while also avoiding adverse impacts to adjacent land uses and property owners.
- 2) To protect and enhance the economic viability and interests of the citizens and residents of Yadkin County who have made substantial financial investments in homes, businesses, and industry in Yadkin County.
- 3) To preserve the dignity and aesthetic quality of the environment of Yadkin County.
- 4) To preserve the physical integrity of land in close proximity to residential areas.
- 5) This Ordinance is not intended to abridge safety, health or environmental regulations contained in other applicable codes, standards, or ordinances. The provisions of this ordinance shall not be deemed to nullify any provisions of any state or federal law.
- 6) This Ordinance does not address residential solar use, or a solar array that is on a business, exclusively for onsite energy usage.

II. Permit Required

- 1) Solar Energy Facilities shall be subject to the requirements and permitting process of this Ordinance, in addition to other applicable local, state, and federal laws.
- 2) This Ordinance shall apply to all areas of Yakin County except those lands lying within the jurisdiction of any municipality, unless such municipality formally requests the County to enforce these regulations within the municipality’s area of jurisdiction.
- 3) Solar Energy Facilities must obtain a Zoning Permit from the Central Permitting Office prior to applying for Building Permits from the Central Permitting Office, in accordance with the procedures outlined in this Ordinance.
- 4) At no time shall the percentage of land permitted for all Solar Energy Facilities be more than five (5) percent of the total land in Yadkin County.
- 5) Solar Energy Facilities shall only be permitted in areas zoned Rural Agriculture (RA)

III. Definitions

As used in this Ordinance, the following terms shall have the meanings indicated. Words not defined in this Ordinance shall be given their ordinary and common meaning.

Abandonment: Any Solar Energy Facility that ceases to produce energy on a continuous basis for twelve

(12) months will be considered abandoned.

Accessory Equipment: Any equipment serving or being used in conjunction with a Solar Energy Facility. The term includes utility or transmission equipment, power supplies, generators, batteries, equipment buildings, and storage sheds, shelters, or similar structures.

Building: Any structure having a roof supported by columns or walls, and designated or intended for the shelter, support, enclosure or protection of persons, animals or chattels.

Concentrated Solar Power (CSP): See Thermal Solar Conversion.

Conservation Area: Such areas include natural areas protected by law, such as wetlands that meet the definition in the Clean Water Act 33 USC Sec. 1251 et seq.; shore land areas; water bodies; riparian buffers; populations of endangered or threatened species, or habitat for such species; archaeological sites, cemeteries, and burial grounds; important historic sites; other significant natural features and scenic view sheds; and existing trails or corridors that connect the tract to neighboring areas.

Decommissioning Plan: A document that details the planned shut down and removal of a Solar Energy Facility from operation or use.

Electrical Transmission Tower: A tall structure, usually a steel lattice tower, which was set up for the purpose of transmitting and receiving power, and is used to support high voltage overhead power lines.

Fence: A continuous barrier extending from the surface of the ground to a uniform height of not less than eight (8) feet from the ground at any given point, constructed to be wildlife permeable.

Gate: A door or other device attached to a fence which, when opened, provides a means of ingress and egress of persons and things for which it was intended, and which, when closed, forms a continuous barrier as part of the fence to which it is attached.

Improved Area: Area containing perimeter fencing, solar panels, electrical inverters, storage buildings and access roads.

NCDOT: North Carolina Department of Transportation

Photovoltaic Solar Conversion (PV): An active solar energy system in which sunlight is converted directly into electricity through the photovoltaic process of converting light (photons) into electricity (voltage).

Property Owner: The person(s), entity, or company having fee simple ownership of the property where the Solar Energy Facility is located.

Protected Building: All residential, commercial and institutional buildings within three hundred (300) feet of a Solar Energy Facility, excluding accessory buildings such as storage sheds.

Public Road: Any road or highway which is now or hereafter maintained by the North Carolina Dept. of Transportation as part of the State Highway System. Setbacks for improved areas shall be measured from the back of the road right-of-way.

Repair: The replacement of existing work with the same kind of material used in the existing work, not including additional work that would change the structural safety of the structure or that would affect or change required existing facilities, or that would be in violation of a provision of law or this local Ordinance. The term “Repair” shall not apply to any change in construction.

Residence: A building used as a dwelling for one or more families or persons.

SEF Owner / SEF Operator: The person(s), entity, or company that engages in or runs a Solar Energy Facility.

Solar Array: An active solar energy system that converts sunlight into electricity using either Thermal or Photovoltaic methods. Such a system has multiple solar collectors, and might include transformers, generators, batteries, and other appurtenant structures and/or facilities.

Solar Collector or Solar Panel: A device that converts sunlight into electricity using either Thermal or Photovoltaic methods.

Solar Energy Facility (SEF): A commercial electricity generating facility (PV or CSP), the primary purpose of which is to supply electricity. This consists of one or more solar arrays and other accessory structures, equipment, and buildings, including substations, battery storage, electrical infrastructure, generators, transmission lines, and other appurtenant structures and/or facilities. Also known as “Solar Farms”.

State: The State of North Carolina.

Thermal Solar Conversion: An active solar energy system that converts sunlight into electricity by using mirrors or lenses to collect and concentrate heat to a small area in order to drive a heat engine, usually a conventional steam generator. For a commercial application this is called Concentrated Solar Power (CSP).

Utility Pole: A structure owned and/or operated by a public utility, municipality, electric membership corporation, or rural electric cooperative that is designed specifically for and used to carry lines, cables, or wires for telephone, cable television, or electricity, or to provide lighting.

IV. Permit Requirements

- 1) Before a Building Permit may be submitted for an SEF, a Solar Energy Facility Development Permit must first be approved by the Board of Adjustment.
- 2) Permit Application: Throughout the permit process, the Applicant shall promptly notify the County Planner of any changes to the information contained in the permit application. Applications must be submitted 30 days prior to the next scheduled Board of Adjustment meeting. Changes that do not materially alter the initial site plan may be administratively accepted. The completed application for a SEF shall consist of nine (9) paper copies, one digital copy on a USB flash drive in PDF format; all of which must contain at least the following:
 - a. Summary: A narrative overview of the SEF, including its generating capacity.

- b. Inventory: A tabulation describing the: number, specifications and type of each proposed solar array, including their generating capacity. Dimensions and respective manufacturers. Accessory buildings and accessory equipment.
- c. Vicinity Map: Identification of the property on which the proposed SEF will be located. Sketch vicinity map showing relationship between SEF and the surrounding area.
- d. Site Plan:
 - i. A site plan (with nine copies) must always be submitted with the application at least 30 days before the next scheduled board of adjustment meeting.
 - ii. Recordable boundary survey showing the shape and dimensions of the lot on which the proposed structures are to be erected along with a north reference and graphic scale, name and seal of the surveyor, property zoning classification, fire district, and town limit lines if applicable, and of all internal divisions, such as manufactured home spaces or industrial park leased areas, with each division numbered;
 - iii. Dimensions and names of all internal road and turnout locations;
 - iv. Dimensions and descriptions of all easements;
 - v. Vicinity map and township;
 - vi. Tax parcel identification number and total acreage;
 - vii. Owner's name, address and telephone number, adjoining properties, and owners with deed references, as well as the location of structures on adjoining properties;
 - viii. The location of said lot with respect to adjacent rights-of-way;
 - ix. The shapes, dimensions, and locations of each solar array, buildings, out buildings, loading areas, storage areas (indoors and outdoors); any existing and proposed utilities, underground power lines, substation(s) and accessory equipment, accessory buildings, and structures, and other facilities associated with the use, existing and proposed; and required setbacks;
 - x. Topography of the site (contour lines no greater than five feet), natural features (streams, lakes, ponds, rocky outcrops, wooded areas, marshes, floodplains, and any other site of interest), historic sites, and cemeteries;
 - xi. All property lines within 300 feet of the property lines of the proposed site.
 - xii. Each array's setback distance from the closest SEF boundary, the setback of improved areas from each property line, and the separation distance between the SEF boundary and each protected building.
 - xiii. Electrical cabling from the SEF to the substation(s), and from the substation(s) to where the electricity will leave the site, and associated transmission lines.
- e. Maintenance Plan:
 - i. Equipment Inspections and Maintenance. The Applicant shall detail inspection and maintenance procedures that will be taken to keep the SEF operating quietly, efficiently, and not polluting land, water, or air.
 - ii. Fence Maintenance. The Applicant shall detail inspection and maintenance procedures that will be taken to keep fencing and gates in good condition until the facility is decommissioned.

- iii. Landscaping. The Applicant shall detail inspection and maintenance procedures that will be taken to keep the required vegetative buffer and planting area maintained, including keeping vegetation healthy, neat and orderly in appearance, and free of litter and debris. The Applicant shall detail maintenance procedures for keeping grasses or other ground cover trimmed or mowed.
 - iv. Road Maintenance. The Applicant shall detail inspection and maintenance procedures that will be taken to keep private roads and driveways serving the SEF graded, free of potholes, and passable in all weather.
 - f. Miscellaneous:
 - i. Certification that the proposal is for an International Electrical Congress (IEC) solar array that is designed to meet all North Carolina Building Codes.
 - ii. Certification that the solar arrays pass the Environmental Protection Agency's Toxicity Characteristic Leaching Procedure (TCLP) test.
 - iii. Signed copies of all original leases/easements and agreements for the SEF.
 - iv. Copies of any required state and federal permits, licenses, etc. This shall include permits and/or approvals issued by the North Carolina Utilities Commission.
 - v. Other relevant studies, reports, certifications, and approvals as may be reasonably requested by the Planning Board to ensure compliance with this Ordinance.
- 3) Decommissioning Plan: A Decommissioning Plan signed by the applicant or any subsequent assigns for decommissioning and the property owner addressing the following shall be submitted with the Permit Application:
- a. Anticipated life of the SEF.
 - b. Defined conditions upon which decommissioning will be initiated (i.e. end of land lease, no power production for 12 months, etc.)
 - c. Removal of all non-utility owned equipment, conduit, structures, fencing, solar panels, roads, and foundations.
 - d. Restoration of property to condition prior to development of the SEF.
 - e. Timeframe for completion of decommissioning activities, not to exceed one year.
 - f. Description and copy of any lease or any other agreement with the property owner regarding decommissioning.
 - g. Name and address of person or party responsible for decommissioning.
 - h. Plans and schedule for updating the Decommissioning Plan.
 - i. A verifiable means of determining if the decommissioning plan needs to be activated due to cessation of use for 365 days, such as a letter from the electric utility stating that it will notify the Central Permitting Office within ten (10) business days if electricity is not received from an array within the SEF for 365 days.
 - j. Before final Solar Energy Facility Development Permit is issued, provide evidence that the Decommissioning Plan was recorded with the Register of Deeds to the County Planner or his/her designee.
 - k. Estimated decommissioning costs including contingency costs of at least 25% (in current dollars), as provided by an appropriately experienced, North Carolina licensed Engineer, under seal.
 - l. The decommissioning plan shall be updated every five years and recorded with the register of deeds.
 - m. The decommissioning plan submitted is binding on all heirs and assigns.

4) Performance Guarantee:

- a. Prior to the issuance of a Solar Energy Facility Building Permit, the Applicant must provide the county with a form of surety equal to 125 percent of the entire cost of decommissioning under the plan, as estimated by a North Carolina licensed Engineer under seal, approved by the County Manager and County Attorney, either through cash, a surety performance bond, irrevocable letter of credit, or other instrument readily convertible into cash at face value, either with the County or in escrow with a financial institution designated as an official depository of the County. The form of surety shall be provided by each new owner of the SEF.

Surety performance bonds must renew automatically, include a minimum 90-day notice to the County prior to cancellation, and be from a company on the U.S. Department of Treasury's Listing of Certified Companies. Irrevocable letters of credit must be for the entire estimated life of the SEF.

- b. This surety shall be retained by the County to cover the cost of the decommissioning requirements herein. Following initial submittal of the surety, the cost calculation for decommissioning shall be reviewed every five (5) years, and the surety adjusted accordingly based upon an updated estimate of a North Carolina licensed Engineer under seal, of the estimated decommissioning costs. Failure to comply with any requirement of this section shall result in the immediate termination and revocation of all prior approvals and permits; further, the County shall be entitled to make immediate demand upon, and/or retain any proceeds of, the surety, which shall be used for decommissioning and/or removal of the Solar Energy Facility, even if still operational.

5) Abandonment: An SEF that ceases to produce energy on a continuous basis for twelve (12) months will be considered abandoned unless the current responsible party (or parties) with ownership interest in the SEF provide substantial evidence (updated every 6 months after 12 months of no energy production) to the County Planner of the intent to maintain and reinstate the operation of that facility. It is the responsibility of the responsible party (or parties) to remove all equipment and facilities and restore the parcel to its condition prior to development of the SEF:

- a. Upon determination of abandonment, the County Planner shall notify the party (or parties) responsible they must remove the SEF and restore the site to its condition prior to development of the SEF within 365 days of notice.
- b. If the responsible party (or parties) fails to comply, the County may remove or cause to have removed the SEF, sell any removed materials, and restore the site to the condition it was in prior to development of the SEF, using the Performance Guarantee provided by subsection 4 above. If necessary, the County Planner may initiate judicial proceedings or take any other steps legally authorized against the responsible parties to recover the costs required to remove the SEF and restore the site to a condition prior to development.

V. Design Standards.

1) Setback and Separation Requirements

- a. The fence which secures the SEFs improved areas shall be setback at least one hundred twenty five (125) feet from the center of all public roadways, with the exception of divided US Highways and Interstates where it shall be at least fifty (50) feet from the edge of the right of way. The fence shall be at least twenty-five (25) feet along all property lines not on a public roadway. Solar arrays and other equipment shall be setback at least twenty-five (25) feet from the interior fence line of the SEF. SEFs shall be separated by a minimum distance of three hundred (300) feet from all residential, commercial, and institutional buildings, with the exception of accessory buildings such as storage sheds. Such minimum setbacks for a SEF shall be measured from the required fence of the facility.
- b. The property owner of an affected building may, for itself but not on behalf of another protected building, waive all or any portion of the separation requirements set forth herein. The one hundred twenty (125) foot setback distance from the center of all public roadways, with the exception of divided US Highways and Interstates where it shall be at least fifty (50) feet from the edge of the right of way. The fence shall be at least twenty-five (25) feet along all property lines not on a public roadway would still apply in the event of a waiver. Said waiver shall be in writing and shall be in the form of an easement, with the SEF as the servient estate and the protected building as the dominant estate. The waiver/easement shall state any conditions or site plan modifications to the regulated use mutually agreed upon by the SEF, the owner of the protected building, and the County Planner as consideration for the granting of the easement. In no event shall any conditions or site plan modifications decrease the SEFs responsibilities under this Ordinance. The waiver shall be signed and acknowledged by the record owners of the fee interest of the protected building and by the owner of the fee interest of the SEF, and, if different, by all of the property owners of the property on which the SEF is located. The waiver shall further be signed by the County Planner, whose signature shall serve as a certification that the requirements of the waiver and easement have been met.
- c. Following recordation in the Yadkin County Register of Deeds, the separation requirements of this subsection between said protected building and the SEF shall be deemed amended to conform to the provisions of the waiver. The easement granted by said waiver shall be appurtenant to and run with the land and shall be binding on the parties, their heirs, successors, and assigns; provided, that the same shall by its express provisions terminate at such time as the SEF ceases to have a valid North Carolina Utilities Commission Permit for the operation of the SEF which is the subject of the waiver.

2) Fencing

- a. A fence shall be required around the entire perimeter of the SEF to secure its improved areas. The location of the fence shall be determined by the required setbacks and

separation requirements outlined in the previous section. All solar arrays and other equipment must be located inside the required fence. The fence must be a minimum of eight (8) feet in height and shall be constructed of wildlife permeable material. Barbed wire shall run along the top of the fence for the entire perimeter of the fence for security purposes. The gate for ingress and egress to the SEF must be locked for security purposes.

3) Vegetative Buffer

- a. A vegetative buffer shall be installed in front of the fence within the required setback of the SEF for the entire perimeter of the SEF. The vegetative buffer shall consist of a row of evergreen bushes, planted no more than eight (8) feet apart, which are at least six (6) feet tall at the time of planting, which will reach at maturity a minimum height of fifteen (15) feet within three (3) years of planting. The bushes may be trimmed, but to no lower than a height of fifteen (15) feet.
- b. The evergreen bushes must provide full screening from two (2) feet above ground level to the required fifteen (15) foot height. The evergreen bushes must grow to a minimum of eight (8) feet in width at the base, or the spacing between bushes must be reduced.
- c. The evergreen bushes should be installed according to established planting techniques, including establishing a well-prepared planting area. The vegetative buffer must be maintained, including keeping vegetation healthy, neat and orderly in appearance, and free of litter and debris. Species native to Western North Carolina are recommended. Where adequate vegetative screening exists on the parcel where the SEF is located, the existing vegetative buffer may be used to satisfy the requirements of this Section, with the approval of the Planning Board.

4) Ground cover

- a. Soil with adequate vegetative cover must be maintained under and around the panels in order to reduce runoff and erosion. Native grasses and wildflowers are encouraged to be used as ground cover for the SEF. Benefits of using native grasses and wildflowers include improved erosion control, pesticide avoidance, storm water infiltration, wildlife habitat, and reduced overall maintenance. In addition, native flowering plants provide a food source and habitat for wild native bees. Promoting habitat for native bees and other pollinators can have a positive ecological impact on disturbed sites, as well as, a positive economic impact on neighboring insect pollinated crops. Once established, these naturalized meadows are more drought tolerant and require little to no fertilization. See the NC Wildlife Resources Commission's publication titled, "Recommendations for Establishing Native Pollinator Habitat on Solar Farms in North Carolina" for more details.

5) Environmental Impacts

- a. SEFs must meet all requirements of the State of North Carolina and the Federal government, and provide copies of all required state and federal permits, including but

not limited to:

- i. Storm water Permit from the NC Dept. of Environmental Quality
- ii. Erosion and Sedimentation Control Permit from the NC Dept. of Environmental Quality
- iii. Certificate of Public Convenience and Necessity from the NC Utilities Commission

6) Roads

- a. The minimum right-of-way width of private roads and driveways serving the SEF shall be fifty (50) feet. Private roads and driveways shall be constructed to meet all of the North Carolina Department of Transportation's (NC DOT) design standards, except for applying crushed stone for paving. A Driveway Permit must be obtained from NC DOT, and a copy of said permits shall be provided to the County Planner. The SEF Owner shall be responsible for road maintenance, including keeping roads and driveways serving the SEF graded, free of potholes, and passable in all weather.

7) Lighting and Electrical Emissions

- a. The design and construction of SEFs shall not produce light emissions, either direct or indirect (reflective), that would interfere with pilot vision and/or traffic control operations as stated in the most recent Air Installation Compatible Use Zone (AICUZ) report, as well as low level military training routes as then utilized by any branch of the US Department of Defense. The design and construction of SEFs shall not produce electrical emissions that would interfere with aircraft communication systems or navigation equipment as stated in the most recent AICUZ report, as well as low level military training routes as then utilized by any branch of the United States Department of Defense.

8) Power Lines

- a. On site power lines between solar panels and inverters shall be placed underground and must meet all requirements of the North Carolina Electrical Code.

9) Solar Panel Height

- a. The height of solar panels shall not exceed the height of the required vegetative buffer, as identified in Section V(3).

VI. Permit Fees

- 1) A non-refundable application fee, as determined in the Yadkin County Fee Schedule, shall be submitted with each application for a Solar Energy Facility Development Permit.

VII. Board of Adjustment Decision.

- 1) The input of local citizens shall be solicited by the Board of Adjustment in at least one (1) public hearing on the Permit Application.

- 2) In order for the Board of Adjustment to grant a Solar Energy Facility Development Permit, all the requirements of this Ordinance must be satisfied. The Board of Adjustment shall have the authority to decide, based on majority vote, whether to grant approval of a Solar Energy Facility Development Permit.
- 3) A Solar Energy Facility Development Permit shall expire if construction has not begun within 365 days of issuance of the permit. A Solar Energy Facility Development Permit shall automatically expire if there are any changes in ownership, cessation of the corporation, partnership or transfer to another person. In this case, the new SEF owner(s) shall have sixty (60) days to submit a new Permit Application meeting the requirements of this Ordinance.

VIII. Appeals

- 1) If the Board of Adjustment denies the Solar Energy Facility Development Permit, it shall enter the reason for its action in the minutes of the meeting at which the action is taken.
- 2) No appeal may be taken from the action of the Board of Adjustment in granting or denying a Solar Energy Facility Development Permit, except through the county superior court within 30 days of the decision, or forever be barred.

IX. Variances

A Variance from the provisions of this Ordinance may be authorized by the Board of Adjustment, provided that all of the following criteria are met:

- 1) Unnecessary hardship would result from the strict application of the Ordinance. It shall not be necessary to demonstrate that, in the absence of the Variance, no reasonable use can be made of the property.
- 2) The hardship results from conditions that are peculiar to the property, such as location, size, or topography. Hardships resulting from personal circumstances, as well as hardships resulting from conditions that are common to the neighborhood or the general public, may not be the basis for granting a Variance.
- 3) The hardship did not result from actions taken by the applicant or property owner. The act of purchasing property with knowledge that circumstances exist that may justify the granting of a Variance shall not be regarded as a self-created hardship.
- 4) The requested Variance is consistent with the spirit, purpose, and intent of the Ordinance, such that public safety is secured, and substantial justice is achieved.

X. Enforcement and Penalties for Violations

- 1) The Enforcement Officer shall be the County Planner or his/her designee. The Enforcement Officer shall review site plans and make appropriate recommendations to the Board of

Adjustment.

- 2) The Enforcement Officer shall visit the SEFs regulated by this chapter as needed, and if the facility does not conform to this Ordinance shall discuss with the SEF Owner and/or SEF Operator the steps needed to bring the SEF into compliance. If these steps are not taken, the enforcement officer shall notify the SEF Owner in writing of the steps that must be taken to bring the facility into compliance.
- 3) If the SEF Owner or SEF Operator still fails to bring the facility into compliance with this Ordinance, the enforcement officer, after consultation with the County Manager and County Attorney, shall initiate the necessary steps to enforce the Ordinance in accordance with Section X(4) of this Ordinance. The Enforcement Officer shall also assist the SEF Owners and/or SEF Operators in making plans to comply with this Ordinance.
- 4) This Ordinance may be enforced by an appropriate equitable remedy issued from a court of competent jurisdiction. It may be enforced by injunction and order of abatement. The County may apply for a mandatory or prohibitory injunction and order of abatement commanding the violator to correct any unlawful condition upon or cease the unlawful use of the property. The County may request an order of abatement as part of a judgment in the case, and may request the court to close, demolish or remove buildings or other structures or take any other action that is necessary to bring the SEF into compliance with this Ordinance. The Ordinance may be enforced by any one or more of the remedies authorized herein.
- 5) Violation shall be a Class 1 Misdemeanor. Any person, firm, corporation, or other entity who constructs, maintains or operates, or who controls the maintenance of a SEF in violation of this Ordinance shall be guilty of a misdemeanor and subject to prosecution, and if convicted, shall be punished by a fine not to exceed \$200 per day, or by imprisonment not to exceed two years, or both, in the discretion of the court. Each day that said SEF is constructed, maintained or operated in violation of this Ordinance shall constitute a separate and distinct offense.

XI. Applicability

- 1) This Ordinance shall apply to all SEFs proposed or constructed after its effective date. Modifications to an existing SEF that increases the area shall be subject to this ordinance. At no time shall modifications, whether at once or cumulatively, increase the original footprint of the SEF by more than seven (7) percent. This Ordinance shall apply to all areas of Yadkin County except those lands lying within the jurisdiction of any municipality, unless such municipality formally requests the County to enforce these regulations within the municipality's area of jurisdiction.

XII. Severability

- 1) Should any provision of this Ordinance be declared by any court, administrative body, or board, or any other governmental body or board, to be unconstitutional, invalid, preempted, void, or otherwise inapplicable for any reason, such decision shall not affect the validity of this Ordinance as a whole or any part thereof other than the part so decided to be unconstitutional, invalid, preempted, void, or otherwise inapplicable.

